Spring 2015

# Nebraska State Accountability (NeSA)

## Reading, Mathematics and Science

# Technical Report Appendices

September 2015

Prepared by Data Recognition Corporation

DATA RECOGNITION
DRC
CORPORATION

# Appendix A: NeSA-R Test Blueprint

| Nebraska State Accountability - Reading (NeSA-R) Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 3 | | | | | |
| **Gr3 Vocabulary** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 3.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| ***LA 3.1.5.a*** *Apply word structure elements, known words, and word patterns to determine meanings (e.g., contractions, plurals, possessives, basic parts of speech, compounds, syllables)* | 1 | 4-6 | 0 | 0 | 4-6 |
| *LA 3.1.5.b* *Relate new grade level vocabulary to prior knowledge and use in new situations* | Assessed at the local level | | | | |
| ***LA 3.1.5.c*** *Apply context clues (e.g., word, phrase, and sentence clues, re-reading) and text features (e.g., table of contents, maps, charts, font/format styles) to help infer meaning of unknown word* | 2 | 2-3 | 2-3 | 0 | 4-6 |
| ***LA 3.1.5.d*** *Identify semantic relationships (e.g., patterns and categories, synonyms, antonyms, homonyms, multiple meanings)* | 1 | 4-6 | 0 | 0 | 4-6 |
| *LA 3.1.5.e* *Identify meaning using print and digital reference materials (e.g., dictionary, glossary)* | Assessed at the local level | | | | |
| *LA 3.1.5.f* *Locate words in reference materials (e.g., alphabetical order, guide words)* | Assessed at the local level | | | | |
| **Gr3 Comprehension** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 3.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.** | | | | | |
| ***LA 3.1.6.a*** *Identify author purpose(s) (e.g., explain, entertain, inform, persuade) to support text comprehension* | 3 | 0 | 0-1 | 1-2 | 1-3 |
| ***LA 3.1.6.b*** *Identify elements of narrative text (e.g., characters, setting, plot, point of view)* | 1 | 4-6 | 0 | 0 | 4-6 |
| ***LA 3.1.6.c*** *Retell and summarize narrative text including characters, setting, and plot with supporting details* | 2 | 1-2 | 3-4 | 0 | 4-6 |

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| ***LA 3.1.6.d***<br>*Identify literary devices and explain the ways in which language is used (e.g., simile, alliteration, onomatopoeia, imagery, rhythm)* | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***LA 3.1.6.e***<br>*Retell and summarize the main idea from informational text using supporting details* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 3.1.6.f***<br>*Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast)* | 2 | 1-2 | 2-3 | 0 | 3-5 |
| ***LA 3.1.6.g***<br>*Apply knowledge of text features to locate information and gain meaning from a text (e.g., table of contents, maps, charts, illustrations, headings, captions, font/format styles)* | 2 | 1-3 | 2-3 | 0 | 3-6 |
| ***LA 3.1.6.h***<br>*Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)* | 2 | 0 | 1-3 | 0 | 1-3 |
| *LA 3.1.6.i*<br>*Use narrative or informational text to develop a multi-cultural perspective* | Assessed at the local level | | | | |
| ***LA 3.1.6.j***<br>*Generate and/or answer literal, inferential, and critical questions, supporting answers using prior knowledge and literal and inferential information from the text* | 3 | 1-2 | 1-2 | 1-2 | 3-6 |
| *LA 3.1.6.k*<br>*Identify and explain purpose for reading (e.g., information, pleasure, understanding)* | Assessed at the local level | | | | |
| *LA 3.1.6.l*<br>*Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading* | Assessed at the local level | | | | |
| *LA 3.1.6.m*<br>*Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct* | Assessed at the local level | | | | |
| *LA 3.1.6.n*<br>*Make and confirm/modify predictions before, during, and after reading (e.g., captions, headings, character traits, personal experience)* | Assessed at the local level | | | | |
| *LA 3.1.6.o*<br>*Use examples and details in a text to make inferences about a story or situation* | Assessed at the local level | | | | |
| *LA 3.1.6.p*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

| Nebraska State Accountability - Reading (NeSA-R)<br>Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 4 | | | | | |
| **Gr4 Vocabulary** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 4.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| **LA 4.1.5.a**<br>*Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., parts of speech, plurals, possessives, suffixes, prefixes, base and root words)* | 1 | 4-6 | 0 | 0 | 4-6 |
| LA 4.1.5.b<br>*Relate new grade level vocabulary to prior knowledge and use in new situations* | Assessed at the local level | | | | |
| **LA 4.1.5.c**<br>*Apply context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions) to infer meaning of unknown words* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| **LA 4.1.5.d**<br>*Identify semantic relationships (e.g., patterns and categories, homographs, homophones, synonyms, antonyms, multiple meanings)* | 1 | 4-6 | 0 | 0 | 4-6 |
| LA 4.1.5.e<br>*Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)* | Assessed at the local level | | | | |
| **Gr4 Comprehension** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 4.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.** | | | | | |
| ***LA 4.1.6.a***<br>*Identify author purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author perspective (e.g., beliefs, assumptions, biases) influences text* | 3 | 0 | 0-1 | 1-2 | 1-3 |
| ***LA 4.1.6.b***<br>*Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)* | 2 | 2-3 | 2-3 | 0 | 4-6 |
| ***LA 4.1.6.c***<br>*Summarize narrative text including characters, setting, and plot with supporting details* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 4.1.6.d***<br>*Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)* | 2 | 1-2 | 1-2 | 0 | 2-4 |

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|---|---|---|---|---|---|
| ***LA 4.1.6.e***<br>*Retell and summarize the main idea from informational text using supporting details* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 4.1.6.f***<br>*Recognize and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 4.1.6.g***<br>*Apply knowledge of text features to locate information and gain meaning from a text (e.g., glossary, maps, charts, tables, graphs, illustrations, headings, subheadings, captions, font/format styles)* | 2 | 1-3 | 2-3 | 0 | 3-6 |
| ***LA 4.1.6.h***<br>*Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks)* | 2 | 0 | 1-3 | 0 | 1-3 |
| *LA 4.1.6.i*<br>*Use narrative or informational text to develop a multi-cultural perspective* | Assessed at the local level | | | | |
| ***LA 4.1.6.j***<br>*Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text* | 3 | 1-2 | 1-2 | 1-2 | 3-6 |
| *LA 4.1.6.k*<br>*Identify and explain purpose for reading (e.g., information, pleasure, understanding)* | Assessed at the local level | | | | |
| *LA 4.1.6.l*<br>*Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading* | Assessed at the local level | | | | |
| *LA 4.1.6.m*<br>*Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct* | Assessed at the local level | | | | |
| *LA 4.1.6.n*<br>*Make and confirm/modify predictions before, during, and after reading (e.g., title, topic sentences, font, key words, foreshadowing clues)* | Assessed at the local level | | | | |
| *LA 4.1.6.o*<br>*Use examples and details in a text to make inferences about a story or situation* | Assessed at the local level | | | | |
| *LA 4.1.6.p*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

# Nebraska State Accountability - Reading (NeSA-R)
## Table of Specifications
### Grade 5

| Gr5 Vocabulary | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **LA 5.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| ***LA 5.1.5.a*** *Apply knowledge of word structure elements, known words, and word patterns to determine meaning (e.g., affixes, abbreviations, parts of speech, word origins)* | 1 | 4-6 | 0 | 0 | 4-6 |
| *LA 5.1.5.b* *Relate new grade level vocabulary to prior knowledge and use in new situations* | Assessed at the local level | | | | |
| ***LA 5.1.5.c*** *Select and apply context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, captions, maps) to determine meaning of unknown words in a variety of text structures* | 2 | 1-2 | 3-4 | 0 | 4-6 |
| ***LA 5.1.5.d*** *Identify semantic relationships (e.g., multiple meanings, metaphors, similes, idioms, analogies)* | 1 | 2-4 | 0 | 0 | 2-4 |
| *LA 5.1.5.e* *Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)* | Assessed at the local level | | | | |
| **Gr5 Comprehension** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **LA 5.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.** | | | | | |
| ***LA 5.1.6.a*** *Identify author purpose(s) (e.g., explain, entertain, inform, persuade) and recognize how author perspective (e.g., beliefs, assumptions, biases) influences text* | 3 | 0 | 0-1 | 1-2 | 1-3 |
| ***LA 5.1.6.b*** *Identify and analyze elements of narrative text (e.g., character development, setting, plot, theme)* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 5.1.6.c*** *Summarize narrative text including characters, setting, plot, and theme with supporting details* | 2 | 1-2 | 3-4 | 0 | 4-6 |
| ***LA 5.1.6.d*** *Identify literary devices and explain the ways in which language is used (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)* | 2 | 1-2 | 1-2 | 0 | 2-4 |

| | | | | | |
|---|---|---|---|---|---|
| ***LA 5.1.6.e***<br>*Summarize and analyze the main idea from informational text using supporting details* | 2 | 1-2 | 3-4 | 0 | 4-6 |
| ***LA 5.1.6.f***<br>*Understand and apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 5.1.6.g***<br>*Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***LA 5.1.6.h***<br>*Describe the defining characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)* | 2 | 0 | 1-3 | 0 | 1-3 |
| *LA 5.1.6.i*<br>*Recognize the social, historical, cultural, and biographical influences in a variety of genres* | Assessed at the local level | | | | |
| *LA 5.1.6.j*<br>*Use narrative and informational text to develop a national and globalmulti-cultural perspective* | Assessed at the local level | | | | |
| ***LA 5.1.6.k***<br>*Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources* | 3 | 1-2 | 2-4 | 1-2 | 4-8 |
| *LA 5.1.6.l*<br>*Select text for a particular purpose (e.g., information, pleasure, answer a specific question)* | Assessed at the local level | | | | |
| *LA 5.1.6.m*<br>*Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading* | Assessed at the local level | | | | |
| *LA 5.1.6.n*<br>*Self-monitor comprehension by recognizing when meaning is disrupted and apply strategies to clarify, confirm, or correct* | Assessed at the local level | | | | |
| *LA 5.1.6.o*<br>*Use examples and details to make inferences or logical predictions while previewing and reading text* | Assessed at the local level | | | | |
| *LA 5.1.6.p*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

# Nebraska State Accountability - Reading (NeSA-R)
## Table of Specifications

Grade 6

| Gr6 Vocabulary | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **LA 6.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| ***LA 6.1.5.a*** *Determine the meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies* | 1 | 4-6 | 0 | 0 | 4-6 |
| *LA 6.1.5.b* *Relate new grade level vocabulary to prior knowledge and use in new situations* | Assessed at the local level | | | | |
| ***LA 6.1.5.c*** *Select and apply knowledge of context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, charts) to determine meaning of unknown words in a variety of text structures* | 2 | 1-2 | 3-4 | 0 | 4-6 |
| ***LA 6.1.5.d*** *Identify semantic relationships (e.g., metaphors, similes, idioms, analogies, comparisons)* | 1 | 2-4 | 0 | 0 | 2-4 |
| *LA 6.1.5.e* *Determine meaning using print and digital reference materials (e.g., dictionary, thesaurus, glossary)* | Assessed at the local level | | | | |
| **Gr6 Comprehension** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 6.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.** | | | | | |
| ***LA 6.1.6.a*** *Explain how author's purpose and perspective affect the meaning and reliability of the text* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| ***LA 6.1.6.b*** *Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)* | 2 | 1-3 | 2-3 | 0 | 3-6 |
| ***LA 6.1.6.c*** *Summarize narrative text using understanding of characters, setting, sequence of events, plot, and theme* | 2 | 1-2 | 2-4 | 0 | 3-6 |

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|---|---|---|---|---|---|
| ***LA 6.1.6.d***<br>*Interpret and explain the author's use of literary devices (e.g., simile, metaphor, alliteration, onomatopoeia, imagery, rhythm)* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| ***LA 6.1.6.e***<br>*Summarize, analyze, and synthesize informational text using main idea and supporting details* | 3 | 1-2 | 1-2 | 2-3 | 4-7 |
| ***LA 6.1.6.f***<br>*Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion)* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 6.1.6.g***<br>*Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, maps, charts, tables, graphs, headings, subheadings)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***LA 6.1.6.h***<br>*Distinguish between the defining characteristics of different narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, and essays)* | 2 | 0 | 1-3 | 0 | 1-3 |
| *LA 6.1.6.i*<br>*Describe the social, historical, cultural, and biographical influences in a variety of genres* | Assessed at the local level | | | | |
| *LA 6.1.6.j*<br>*Use narrative and informational text to develop a national and global multi-cultural perspective* | Assessed at the local level | | | | |
| ***LA 6.1.6.k***<br>*Generate and/or answer literal, inferential, critical, and interpretive questions, supporting answers using prior knowledge and literal and inferential information from the text and additional sources* | 3 | 1-2 | 2-4 | 1-2 | 4-8 |
| *LA 6.1.6.l*<br>*Select text for a particular purpose (e.g., information, pleasure, answer a specific question)* | Assessed at the local level | | | | |
| *LA 6.1.6.m*<br>*Build and activate prior knowledge in order to identify text to self, text to text, and text to world connections before, during, and after reading* | Assessed at the local level | | | | |
| *LA 6.1.6.n*<br>*Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct* | Assessed at the local level | | | | |
| *LA 6.1.6.o*<br>*Use examples and details to make inferences or logical predictions while previewing and reading text* | Assessed at the local level | | | | |
| *LA 6.1.6.p*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

# Nebraska State Accountability - Reading (NeSA-R)
## Table of Specifications
### Grade 7

| Gr7 Vocabulary | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **LA 7.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| ***LA 7.1.5.a*** *Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies* | 1 | 3-5 | 0 | 0 | 3-5 |
| *LA 7.1.5.b* *Relate new grade level vocabulary to prior knowledge and use in new situations.* | Assessed at the local level | | | | |
| ***LA 7.1.5.c*** *Select and apply knowledge of context clues (e.g., word, phrase, sentence and paragraph clues, re-reading) and text features (e.g., glossary, headings, subheadings, index, tables, maps, graphs, charts) appropriate to a particular text to determine meaning of unknown words* | 2 | 1-2 | 3-5 | 0 | 4-7 |
| ***LA 7.1.5.d*** *Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| *LA 7.1.5.e* *Determine meaning using print and digital reference materials* | Assessed at the local level | | | | |
| **Gr7 Comprehension** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 7.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension** | | | | | |
| ***LA 7.1.6.a*** *Analyze the meaning, reliability, and validity of the text considering author's purpose and perspective* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| ***LA 7.1.6.b*** *Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, theme)* | 2 | 2-4 | 2-4 | 0 | 4-8 |
| ***LA 7.1.6.c*** *Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony)* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| ***LA 7.1.6.d*** *Summarize, analyze, and synthesize informational text using main idea and supporting details* | 3 | 0 | 2-3 | 2-3 | 4-6 |

| | | | | | |
|---|---|---|---|---|---|
| ***LA 7.1.6.e***<br>*Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support)* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 7.1.6.f***<br>*Apply knowledge of text features to locate information and gain meaning from a text (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***LA 7.1.6.g***<br>*Explain and make inferences based on the characteristics of narrative and informational genres (e.g., textbooks, myths, fantasies, science fiction, drama, periodicals, essays)* | 2 | 0 | 1-3 | 0 | 1-3 |
| *LA 7.1.6.h*<br>*Explain the social, historical, cultural, and biographical influences in a variety of genres* | Assessed at the local level | | | | |
| *LA 7.1.6.i*<br>*Use narrative and informational text to develop a national and global multi-cultural perspective* | Assessed at the local level | | | | |
| ***LA 7.1.6.j***<br>*Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing prior knowledge, information from the text and additional sources, to support answers* | 3 | 2-3 | 2-3 | 1-2 | 5-8 |
| *LA 7.1.6.k*<br>*Select text for a particular purpose (e.g., understand, interpret, enjoy, solve problems, form an opinion, answer a specific question, discover models for own writing)* | Assessed at the local level | | | | |
| *LA 7.1.6.l*<br>*Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading* | Assessed at the local level | | | | |
| *LA 7.1.6.m*<br>*Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct* | Assessed at the local level | | | | |
| *LA 7.1.6.n*<br>*Use examples and details to make inferences or logical predictions while previewing and reading text* | Assessed at the local level | | | | |
| *LA 7.1.6.o*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

# Nebraska State Accountability - Reading (NeSA-R)
## Table of Specifications
### Grade 8

| Gr8 Vocabulary | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **LA 8.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| ***LA 8.1.5.a*** *Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies* | 1 | 3-5 | 0 | 0 | 3-5 |
| *LA 8.1.5.b* *Relate new grade level vocabulary to prior knowledge and use in new situations* | Assessed at the local level | | | | |
| ***LA 8.1.5.c*** *Select a context clue strategy to determine meaning of unknown word appropriate to text (e.g., restatement, example, gloss, annotations, sidebar)* | 2 | 1-3 | 3-5 | 0 | 4-8 |
| ***LA 8.1.5.d*** *Analyze semantic relationships (e.g., figurative language, connotations, subtle distinctions)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| *LA 8.1.5.e* *Determine meaning using print and digital reference materials* | Assessed at the local level | | | | |
| **Gr8 Comprehension** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 8.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension** | | | | | |
| ***LA 8.1.6.a*** *Analyze the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources* | 3 | 0 | 0-1 | 1-2 | 1-3 |
| ***LA 8.1.6.b*** *Identify and analyze elements of narrative text (e.g., character development, setting, plot development, conflict, point of view, inferred and recurring themes)* | 2 | 1-2 | 3-5 | 0 | 4-7 |
| ***LA 8.1.6.c*** *Analyze author's use of literary devices (e.g., foreshadowing, personification, idiom, oxymoron, hyperbole, flashback, suspense, symbolism, irony, transitional devices)* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| ***LA 8.1.6.d*** *Summarize, analyze, and synthesize informational text using main idea and supporting details* | 3 | 0 | 3-5 | 2-3 | 5-8 |

| | | | | | |
|---|---|---|---|---|---|
| ***LA 8.1.6.e***<br>*Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare / contrast, fact / opinion, proposition / support)* | 2 | 0 | 4-6 | 0 | 4-6 |
| ***LA 8.1.6.f***<br>*Analyze and evaluate information from text features (e.g., index, annotations, maps, charts, tables, graphs, headings, subheadings, lists)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***LA 8.1.6.g***<br>*Analyze and make inferences based on the characteristics of narrative and informational genres* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| *LA 8.1.6.h*<br>*Analyze a variety of genres for the social, historical, cultural, and biographical influences* | Assessed at the local level | | | | |
| *LA 8.1.6.i*<br>*Use narrative and informational text to develop a national and global multi-cultural perspective* | Assessed at the local level | | | | |
| ***LA 8.1.6.j***<br>*Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing and synthesizing prior knowledge, information from the text and additional sources, to support answers* | 3 | 1-2 | 2-3 | 1-2 | 4-7 |
| *LA 8.1.6.k*<br>*Select text for a particular purpose (e.g., understand, interpret, enjoy, solve problems, form an opinion, answer a specific question, discover models for own writing)* | Assessed at the local level | | | | |
| *LA 81.6.l*<br>*Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading* | Assessed at the local level | | | | |
| *LA 8.1.6.m*<br>*Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct* | Assessed at the local level | | | | |
| *LA 8.1.6.n*<br>*Make complex or abstract inferences or predictions by synthesizing information while previewing and reading text* | Assessed at the local level | | | | |
| *LA 8.1.6.o*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

# Nebraska State Accountability - Reading (NeSA-R)
## Table of Specifications
### Grade 11

| Gr12 Vocabulary | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **LA 12.1.5 Vocabulary: Students will build literary, general academic, and content specific grade level vocabulary.** | | | | | |
| ***LA 12.1.5.a*** *Determine meaning of words through structural analysis, using knowledge of Greek, Latin, and Anglo-Saxon roots, prefixes, and suffixes to understand complex words, including words in science, mathematics, and social studies* | 1 | 2-4 | 0 | 0 | 2-4 |
| *LA 12.1.5.b* *Relate new grade level vocabulary to prior knowledge and use in new situations.* | Assessed at the local level | | | | |
| ***LA 12.1.5.c*** *Independently apply appropriate strategy to determine meanings of unknown words in text* | 2 | 1-2 | 2-4 | 0 | 3-6 |
| ***LA 12.1.5.d*** *Use semantic relationships to evaluate, defend, and make judgments* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| *LA 12.1.5.e* *Determine meaning using print and digital reference materials* | Assessed at the local level | | | | |
| **Gr12 Comprehension** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **LA 12.1.6 Comprehension: Students will extract and construct meaning using prior knowledge, applying text information, and monitoring comprehension while reading grade level text.** | | | | | |
| ***LA 12.1.6.a*** *Evaluate the meaning, reliability, and validity of the text considering author's purpose, perspective, and information from additional sources* | 3 | 0 | 1-2 | 1-2 | 2-4 |
| ***LA 12.1.6.b*** *Analyze and evaluate elements of narrative text (e.g., characterization, setting, plot development, internal and external conflict, inferred and recurring themes, point of view, tone, mood)* | 3 | 0 | 2-3 | 1-2 | 3-5 |
| ***LA 12.1.6.c*** *Analyze the function and critique the effects of the author's use of stylistic and literary devices (e.g., allusion, symbolism, irony, foreshadowing, flashback, metaphor, personification, epiphany, oxymoron, dialect, tone, mood, transitional devices)* | 3 | 0 | 2-3 | 1-2 | 3-5 |

| | | | | | |
|---|---|---|---|---|---|
| ***LA 12.1.6.d***<br>*Summarize, analyze, synthesize, and evaluate informational text* | 3 | 0 | 3-4 | 2-3 | 5-7 |
| ***LA 12.1.6.e***<br>*Apply knowledge of organizational patterns found in informational text (e.g., sequence, description, cause and effect, compare/contrast, fact/opinion, proposition/support, concept definition, question/answer)* | 2 | 1-2 | 3-6 | 0 | 4-8 |
| ***LA 12.1.6.f***<br>*Analyze and evaluate information from text features (e.g., index, annotations, photographs, charts, tables, graphs, headings, subheadings, lists)* | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***LA 12.1.6.g***<br>*Analyze and evaluate inferences based on the characteristics of narrative and informational genres and provide evidence from the text to support understanding* | 3 | 1-2 | 1-2 | 0 | 2-4 |
| *LA 12.1.6.h*<br>*Critique the effects of historical, cultural, political, and biographical influences in a variety of genres* | Assessed at the local level | | | | |
| *LA 12.1.6.i*<br>*Use narrative and informational text to develop a national and global multi-cultural perspective* | Assessed at the local level | | | | |
| ***LA 12.1.6.j***<br>*Generate and/or answer literal, inferential, critical, and interpretive questions, analyzing, synthesizing, and evaluating prior knowledge, information from the text* | 3 | 1-2 | 2-3 | 1-2 | 4-7 |
| *LA 12.1.6.k*<br>*Select a text for a particular purpose (e.g., understand a specific viewpoint, enjoy, solve problems, form an opinion, discover models for own writing, predict outcomes,* | Assessed at the local level | | | | |
| *LA 12.1.6.l*<br>*Build and activate prior knowledge in order to clarify text, deepen understanding, and make connections while reading* | Assessed at the local level | | | | |
| *LA 12.1.6.m*<br>*Self-monitor comprehension for accuracy and understanding when errors detract from meaning by applying appropriate strategies to self-correct* | Assessed at the local level | | | | |
| *LA 12.1.6.n*<br>*Make complex or abstract inferences or predictions by synthesizing information while previewing and reading text* | Assessed at the local level | | | | |
| *LA 12.1.6.o*<br>*Respond to text verbally, in writing, or artistically* | Assessed at the local level | | | | |

# Appendix B: NeSA-M Test Blueprint

| Nebraska State Accountability - Mathematics (NeSA-M) Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 3 | | | | | |
| | | | | | |
| NUMBER SENSE | | | | | |
| **Gr3 Number System** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.1.1 Students will represent and show relationships among positive rational numbers within the base-ten number system.** | | | | | |
| *MA 3.1.1.a Read and write numbers to one-hundred thousand.* | Assessed at the local level | | | | |
| *MA 3.1.1.b Count by multiples of 5 to 200* | Assessed at the local level | | | | |
| *MA 3.1.1.c Count by multiples of 10 to 400* | Assessed at the local level | | | | |
| *MA 3.1.1.d Count by multiples of 100 to 1000* | Assessed at the local level | | | | |
| ***MA 3.1.1.e Demonstrate multiple equivalent representations for numbers up to 10,000*** | 1 | 3-5 | 0 | 0 | 3-5 |
| *MA 3.1.1.f Demonstrate multiple equivalent representations for decimals numbers through the tenths place.* | Assessed at the local level | | | | |
| ***MA 3.1.1.g Compare and order whole numbers through the thousands*** | 1 | 4-6 | 0 | 0 | 4-6 |
| ***MA 3.1.1.h Find parts of whole and parts of a set for 1/2, 1/3, or 1/4*** | 2 | 0-1 | 3-5 | 0 | 3-6 |
| ***MA 3.1.1.i Round a given number to tens, hundreds, or thousands*** | 1 | 1-3 | 0 | 0 | 1-3 |
| **Gr3 Operations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.1.2 Students demonstrate the meaning of multiplication with whole numbers.** | | | | | |
| ***MA 3.1.2.a Represent multiplication as repeated addition using objects, drawings, words, and symbols*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 3.1.2.b Use objects, drawings, words, and symbols to explain the relationship between multiplication and division* | Assessed at the local level | | | | |
| *MA.3.1.2.c Use drawings, words and symbols to explain the meaning of the factors and product in a multiplication sentence* | Assessed at the local level | | | | |
| ***MA.3.1.2.d Use drawings, words, and symbols to explain the meaning of multiplication using an array*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr3 Computation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *MA 3.1.3.a Compute whole number multiplication facts 0-10 fluently* | Assessed at the local level | | | | |
| *MA 3.1.3.b Add and subtract through four-digit whole numbers with regrouping* | Assessed at the local level | | | | |
| *MA 3.1.3.c Select and apply the appropriate methods of computation when problem solving with four-digit whole numbers through the thousands* | Assessed at the local level | | | | |
| **Gr3 Estimation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |
| *MA 3.1.4.a Estimate the two-digit product of whole number multiplication and check the reasonableness* | Assessed at the local level | | | | |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr3 Characteristics** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.2.1 Students will identify characteristics and describe properties of two-dimensional shapes and three-dimensional objects.** | | | | | |
| ***MA 3.2.1.a Identify the number of sides, angles, and vertices of two-dimensional shapes*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 3.2.1.b Identify congruent two-dimensional figures given multiple two-dimensional shapes*** | 1 | 1-2 | 0 | 0 | 1-2 |
| *MA 3.2.1.c Identify lines, line segments, rays, and angles* | Assessed at the local level | | | | |
| *MA 3.2.1.d Describe attributes of solid shapes* | Assessed at the local level | | | | |
| **Gr3 Coordinate Geometry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.2.2 Students will identify distances on a number line.** | | | | | |
| *MA 3.2.2.a Draw a number line and plot points* | Assessed at the local level | | | | |
| ***MA 3.2.2.b Determine the distance between two whole number points on a number line*** | 1 | 1-3 | 0 | 0 | 1-3 |
| **Gr3 Transformations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.2.3 Students will draw all lines of symmetry.** | | | | | |
| *MA 3.2.3.a Draw all possible lines of symmetry in two-dimensional shapes* | Assessed at the local level | | | | |
| **Gr3 Spatial Modeling** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.2.4 Students will create two-dimensional shapes and three-dimensional objects.** | | | | | |
| *MA 3.2.4.a Sketch and label lines, rays, line segments, and angles* | Assessed at the local level | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *MA 3.2.4.b Build three-dimensional objects* | Assessed at the local level | | | | |
| **Gr3 Measurement** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.2.5 Students will apply appropriate procedures and tools to determine measurements using customary and metric units.** | | | | | |
| *3.2.5.a Select and use appropriate tools to measure perimeter of simple two-dimensional shapes* | Assessed at the local level | | | | |
| *MA 3.2.5.b Count mixed coins and bills greater than $1.00* | Assessed at the local level | | | | |
| *MA 3.2.5.c Identify time of day* | Assessed at the local level | | | | |
| *MA 3.2.5.d State multiple ways for the same time using 15 minute intervals* | Assessed at the local level | | | | |
| ***MA 3.2.5.e Identify the appropriate customary unit for measuring length, weight, and capacity/volume*** | 1 | 2-4 | 0 | 0 | 2-4 |
| *MA 3.2.5.f Measure length to the nearest 1/2 inch and centimeter* | Assessed at the local level | | | | |
| ***MA 3.2.5.g Compare and order objects according to length using centimeters and meters*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr3 Relationships** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.3.1 Students will represent relationships.** | | | | | |
| ***MA 3.3.1.a Identify, describe, and extend numeric and non-numeric patterns*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 3.3.1.b Identify patterns using words, tables, and graphs* | Assessed at the local level | | | | |
| **Gr3 Modeling in Context** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.3.2 Students will create and use models to represent mathematical situations.** | | | | | |
| ***MA 3.3.2.a Model situations that involve the addition and subtraction of whole numbers using objects, number lines, and symbols*** | 3 | 0 | 1-2 | 1-2 | 2-4 |
| *MA 3.3.2.b Describe and model quantitative change involving subtraction* | Assessed at the local level | | | | |
| **Gr3 Procedures** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.3.3 Students will identify and apply properties of whole numbers to solve equations involving addition and subtraction.** | | | | | |
| *MA 3.3.3.a Use symbolic representation of the identity property of addition* | Assessed at the local level | | | | |
| ***MA 3.3.3.b Solve simple one-step whole number equations involving addition and subtraction*** | 1 | 2-4 | 0 | 0 | 2-4 |

| | | | | | |
|---|---|---|---|---|---|
| *MA 3.3.3.c Explain the procedure(s) used in solving simple one-step whole number equations involving addition and subtraction* | Assessed at the local level | | | | |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr3 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.4.1 Students will organize, display, compare, and interpret data.** | | | | | |
| ***MA 3.4.1.a Represent data using horizontal and vertical bar graphs*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 3.4.1.b Use comparative language to describe the data* | Assessed at the local level | | | | |
| ***MA 3.4.1.c Interpret data using horizontal and vertical bar graphs*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr3 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.4.2 Mastery not expected at this level** | | | | | |
| **Gr3 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 3.4.3 Students will find and describe experimental probability.** | | | | | |
| *MA 3.4.3.a Perform simple experiments and describe outcomes as possible, impossible, or certain* | Assessed at the local level | | | | |

# Nebraska State Accountability - Mathematics (NeSA-M)
# Table of Specifications

## Grade 4

### NUMBER SENSE

| Gr4 Number System | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **MA 4.1.1 Students will represent and show relationships among positive rational numbers within the base-ten number system.** | | | | | |
| *MA 4.1.1.a Read and write numbers through the millions* | Assessed at the local level | | | | |
| ***MA 4.1.1.b Demonstrate multiple equivalent representations for decimal numbers through the hundredths place*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 4.1.1.c Compare and order whole numbers and decimals through the hundredths place*** | 1 | 2-4 | 0 | 0 | 2-4 |
| *MA 4.1.1.d Classify a number as even or odd* | Assessed at the local level | | | | |
| ***MA 4.1.1.e Represent a fraction as parts of a whole, and/or parts of a set*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 4.1.1.f Use visual models to find equivalent fractions*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 4.1.1.g Determine the size of a fraction relative to one half using equivalent forms* | Assessed at the local level | | | | |
| ***MA 4.1.1.h Locate fractions on a number line*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 4.1.1.i Round a whole number to millions* | Assessed at the local level | | | | |
| **Gr4 Operations** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 4.1.2 Students will demonstrate the meaning of division with whole numbers.** | | | | | |
| ***MA 4.1.2.a Use drawings, words, and symbols to explain the meaning of division*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr4 Computation** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **4.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |
| *MA 4.1.3.a Compute whole number division facts 0-10 fluently* | Assessed at the local level | | | | |
| ***MA 4.1.3.b Add and subtract decimals to the hundredth place*** | 1 | 1-2 | 0 | 0 | 1-2 |
| ***MA 4.1.3.c Multiply two-digit whole numbers*** | 1 | 1-3 | 0 | 0 | 1-3 |

| | | | | | |
|---|---|---|---|---|---|
| *MA 4.1.3.d Divide a three-digit number by a one digit divisor with and without a remainder* | Assessed at the local level | | | | |
| ***MA 4.1.3.e Mentally compute multiplication and division involving powers of 10*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 4.1.3.f Select and apply the appropriate method of computation when problem solving*** | 2 | 0-1 | 3-4 | 0 | 3-5 |
| **Gr4 Estimation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **4.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |
| *MA 4.1.4.a Estimate the three-digit product and the two-digit quotient of whole number multiplication and division and check the reasonableness* | Assessed at the local level | | | | |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr4 Characteristics** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.2.1 Students will classify two-dimensional shapes and three-dimensional objects.** | | | | | |
| ***MA 4.2.1.a Identify two- and three- dimensional shapes according to their sides and angle properties*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 4.2.1.b Classify an angle as acute, obtuse, and right*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 4.2.1.c Identify parallel, perpendicular, and intersecting lines*** | 1 | 1-2 | 0 | 0 | 1-2 |
| *MA 4.2.1.d Identify the property of congruency when dealing with plane geometric shapes* | Assessed at the local level | | | | |
| **Gr4 Coordinate Geometry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.2.2 Students will describe locations using coordinate geometry.** | | | | | |
| ***MA 4.2.2.a Identify the ordered pair of a plotted point in first quadrant by its location*** | 1 | 1-2 | 0 | 0 | 1-2 |
| **Gr4 Transformations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.2.3 Students will identify simple transformations.** | | | | | |
| *MA 4.2.3.a Given two congruent geometric shapes, identify the transformation applied to an original shape to create a transformed shape* | Assessed at the local level | | | | |
| **Gr4 Spatial Modeling** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.2.4 Students will use geometric models to solve problems.** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *MA 4.2.4.a Given a geometric model, use it to solve a problem* | Assessed at the local level | | | | |
| **Gr4 Measurement** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.2.5 Students will apply appropriate procedures and tools to estimate and determine measurement using customary units and metric units.** | | | | | |
| *MA 4.2.5.a Select and use appropriate tools to measure perimeter of polygons* | Assessed at the local level | | | | |
| ***MA 4.2.5.b Identify time to the minute on an analog clock*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 4.2.5.c Solve problems involving elapsed time*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 4.2.5.d Identify the appropriate metric unit for measuring length, weight, and capacity/volume*** | 1 | 2-4 | 0 | 0 | 2-4 |
| *MA 4.2.5.e Estimate and measure length using customary and metric units* | Assessed at the local level | | | | |
| *MA 4.2.5.f Measure weight and temperature using customary units* | Assessed at the local level | | | | |
| ***MA 4.2.5.g Compute simple unit conversions for length within a system of measurement*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr4 Relationships** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.3.1 Students will represent and analyze relationships.** | | | | | |
| *MA 4.3.1.a Describe, extend, and apply rules about numeric patterns* | Assessed at the local level | | | | |
| *MA 4.3.1.b Represent and analyze a variety of patterns using words, tables, and graphs* | Assessed at the local level | | | | |
| ***MA 4.3.1.c Use ≤ and ≥ symbols to compare quantities*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 4.3.1.d Select appropriate operational and relational symbols to make a number sentence true*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr4 Modeling in Context** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.3.2 Students will create and use models to represent mathematical situations.** | | | | | |
| *MA 4.3.2.a Model situations that involve the multiplication of whole numbers using number lines and symbols* | Assessed at the local level | | | | |
| *MA 4.3.2.b Describe and model quantitative change involving quantitative change involving multiplication* | Assessed at the local level | | | | |
| **Gr4 Procedures** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |

| | | | | | |
|---|---|---|---|---|---|
| **MA 4.3.3 Students will identify and apply properties of whole numbers to solve equations involving multiplication and division.** | | | | | |
| *MA 4.3.3.a Represent the idea of a variable as an unknown quantity using a letter or a symbol* | Assessed at the local level | | | | |
| *MA 4.3.3.b Use symbolic representation of the identity property of multiplication* | Assessed at the local level | | | | |
| ***MA 4.3.3.c Use symbolic representations of the commutative property of multiplication*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 4.3.3.d Solve simple one-step whole number equations*** | 1 | 2-4 | 0 | 0 | 2-4 |
| *MA 4.3.3.e Explain the procedures(s) used in solving simple one-step whole number equations* | Assessed at the local level | | | | |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr4 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.4.1 Students will organize, display, compare, and interpret data.** | | | | | |
| *MA 4.4.1.a Represent data using bar dot/line plots* | Assessed at the local level | | | | |
| ***MA 4.4.1.b Compare different representations of the same data*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 4.4.1.c Interpret data and draw conclusions using dot/line plots*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 4.4.1.d Find the mode and range for a set of whole numbers* | Assessed at the local level | | | | |
| *MA 4.4.1.e Find the whole number mean for a set of whole numbers* | Assessed at the local level | | | | |
| **Gr4 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.4.2 Students will construct predictions based on data.** | | | | | |
| ***MA 4.4.2.a Make predictions based on data to answer questions from tables and bar graphs*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr4 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 4.4.3 Students will find, describe, and compare experimental probabilities.** | | | | | |
| *MA 4.4.3.a Perform simple experiments and compare the degree of likelihood* | Assessed at the local level | | | | |

| Nebraska State Accountability - Mathematics (NeSA-M)<br>Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 5 | | | | | |
| | | | | | |
| NUMBER SENSE | | | | | |
| **Gr5 Number System** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.1.1 Students will represent and show relationships among positive rational numbers.** | | | | | |
| ***MA 5.1.1.a Demonstrate multiple equivalent representations for whole numbers and decimals through the thousandths place*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 5.1.1.b Compare and order whole numbers, fractions, and decimals through the thousandths place*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 5.1.1.c Identify and name fractions in their simplest form and find common denominators for fractions*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 5.1.1.d Recognize and generate equivalent forms of commonly used fractions, decimals, and percents*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 5.1.1.e Classify a number as prime or composite*** | 1 | 1-2 | 0 | 0 | 1-2 |
| ***MA 5.1.1.f Identify factors and multiples of any whole number*** | 1 | 1-2 | 0 | 0 | 1-2 |
| *MA 5.1.1.g Round whole numbers and decimals to any given place* | Assessed at the local level | | | | |
| **Gr5 Operations** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.1.2 Students will demonstrate the meaning of arithmetic operations with whole numbers.** | | | | | |
| *MA 5.1.2.a Use words and symbols to explain the meaning of the identity properties for addition and multiplication* | Assessed at the local level | | | | |
| *MA 5.1.2.b Use words and symbols to explain the meaning of the commutative and associative properties of addition and multiplication* | Assessed at the local level | | | | |
| ***MA 5.1.2.c Use words and symbols to explain the distributive property of multiplication over addition*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr5 Computation** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |
| ***MA 5.1.3.a Add and subtract positive rational numbers*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 5.1.3.b Select, apply, and explain the appropriate method of computation when problem solving*** | 2 | 0-1 | 3-4 | 0 | 3-5 |

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|---|---|---|---|---|---|
| *MA 5.1.3.c Multiply decimals* | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 5.1.3.d Divide a decimal by a whole number* | 1 | 1-3 | 0 | 0 | 1-3 |
| **Gr5 Estimation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |
| *MA 5.1.4.a Estimate the sums and differences of positive rational numbers to check the reasonableness of such results* | 2 | 0-1 | 1-2 | 0 | 1-3 |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr5 Characteristics** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.2.1 Students will describe relationships among two-dimensional shapes and three-dimensional objects.** | | | | | |
| *MA 5.2.1.a Identify the number of edges, faces, and vertices of triangular and rectangular prisms* | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 5.2.1.b Justify congruence of two-dimensional shapes* | Assessed at the local level | | | | |
| *MA 5.2.1.c Justify the classification of two-dimensional shapes* | Assessed at the local level | | | | |
| *MA 5.2.1.d Identify degrees on a circle* | 1 | 1-2 | 0 | 0 | 1-2 |
| **Gr5 Coordinate Geometry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **5.2.2 Students will identify locations using coordinate geometry.** | | | | | |
| *MA 5.2.2.a Plot the location of an ordered pair in the first quadrant* | 1 | 1-2 | 0 | 0 | 1-2 |
| **Gr5 Transformations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.2.3 Students will identify simple transformations.** | | | | | |
| *MA 5.2.3.a Perform one-step transformations on two-dimensional shapes* | Assessed at the local level | | | | |
| **Gr5 Spatial Modeling** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **5.2.4 Students will create and use geometric models to solve problems.** | | | | | |
| *MA 5.2.4.a Build or sketch a geometric model to solve a problem* | Assessed at the local level | | | | |
| *MA 5.2.4.b Sketch congruent shapes* | Assessed at the local level | | | | |
| *MA 5.2.4.c Build rectangular prisms using cubes* | Assessed at the local level | | | | |
| **Gr5 Measurement** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |

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|---|---|---|---|---|---|
| **MA 5.2.5 Students will apply appropriate procedures, tools, and formulas to determine measurements using customary units and metric units.** | | | | | |
| *MA 5.2.5.a Select and use appropriate tools to measure perimeter and angles* | Assessed at the local level | | | | |
| ***MA 5.2.5.b Identify correct unit (customary or metric) to the measurement situation*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 5.2.5.c Estimate and measure length with customary units to the nearest 1/4 inch* | Assessed at the local level | | | | |
| *MA 5.2.5.d Measure capacity/volume with customary units* | Assessed at the local level | | | | |
| *MA 5.2.5.e Measure weight (mass) and temperature using metric units* | Assessed at the local level | | | | |
| ***MA 5.2.5.f Determine the area of rectangles and squares*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr5 Relationships** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.3.1 Students will represent, analyze, and generalize relationships.** | | | | | |
| *MA 5.3.1.a Describe, extend, apply rules, and make generalizations about numeric and geometric patterns* | Assessed at the local level | | | | |
| *MA 5.3.1.b Create and analyze numeric patterns using words, tables, and graphs* | Assessed at the local level | | | | |
| *MA 5.3.1.c Communicate relationships using expressions and equations* | Assessed at the local level | | | | |
| **Gr5 Modeling in Context** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.3.2 Students will create, use, and compare models representing mathematical situations.** | | | | | |
| ***MA 5.3.2.a Model situations that involve the addition, subtraction, and multiplication of positive rational numbers using words, graphs, and tables*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 5.3.2.b Represent a variety of quantitative relationships using tables and graphs* | Assessed at the local level | | | | |
| *MA 5.3.2.c Compare different models to represent mathematical situations* | Assessed at the local level | | | | |
| **Gr5 Procedures** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.3.3 Students will apply properties of simple positive rational numbers to solve one-step equations.** | | | | | |
| *MA 5.3.3.a Explain the addition property of equality* | Assessed at the local level | | | | |

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|---|---|---|---|---|---|
| ***MA 5.3.3.b Use symbolic representations of the associative property*** | 2 | 0 | 1-2 | 0 | 1-2 |
| ***MA 5.3.3.c Evaluate numerical expressions by using parentheses with respect to order of operations*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 5.3.3.d Evaluate simple algebraic expressions involving addition and subtraction*** | 2 | 0 | 1-2 | 0 | 1-2 |
| ***MA 5.3.3.e Solve one-step addition and subtraction equations involving common positive rational numbers*** | 1 | 1-2 | 0 | 0 | 1-2 |
| *MA 5.3.3.f Identify and explain the properties of equality used in solving one-step equations involving common positive rational numbers* | Assessed at the local level | | | | |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr5 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.4.1 Students will organize, display, compare, and interpret data.** | | | | | |
| ***MA 5.4.1.a Represent data using line plots*** | 2 | 0 | 1-2 | 0 | 1-2 |
| ***MA 5.4.1.b Represent the same set of data in different formats*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 5.4.1.c Draw conclusions based on a set of data*** | 3 | 0 | 0-1 | 1-2 | 1-3 |
| *MA 5.4.1.d Find the mean, median, mode, and range for a set of whole numbers* | Assessed at the local level | | | | |
| *MA 5.4.1.e Generate questions and answers from data sets and their graphical representations* | Assessed at the local level | | | | |
| **Gr5 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.4.2 Students will construct predictions based on data.** | | | | | |
| *MA 5.4.2.a Make predictions based on data to answer questions from tables, bar graphs, and line graphs* | Assessed at the local level | | | | |
| **Gr5 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 5.4.3 Students will determine theoretical probabilities.** | | | | | |
| *MA 5.4.3.a Perform and record results of probability experiments* | Assessed at the local level | | | | |
| ***MA 5.4.3.b Generate a list of possible outcomes for a simple event*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 5.4.3.c Explain the likelihood of an event that can be represented by a number from 0 to 1*** | 1 | 1-3 | 0 | 0 | 1-3 |

| Nebraska State Accountability - Mathematics (NeSA-M)<br>Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 6 | | | | | |
| | | | | | |
| NUMBER SENSE | | | | | |
| **Gr6 Number System** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.1.1 Students will represent and show relationships among positive rational numbers and integers.** | | | | | |
| *MA 6.1.1.a Show equivalence among common fractions and non-repeating decimals and percents* | Assessed at the local level | | | | |
| ***MA 6.1.1.b Compare and order positive and negative integers*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 6.1.1.c Identify integers less than 0 on a number line* | Assessed at the local level | | | | |
| ***MA 6.1.1.d Represent large numbers using exponential notation*** | 1 | 1-2 | 0 | 0 | 1-2 |
| ***MA 6.1.1.e Identify the prime factorization of numbers*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 6.1.1.f Classify numbers as natural, whole, or integer* | Assessed at the local level | | | | |
| **Gr6 Operations** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.1.2 Students will demonstrate the meaning of arithmetic operations with positive fractions and decimals.** | | | | | |
| ***MA 6.1.2.a Use drawings, words, and symbols to explain the meaning of addition and subtraction of fractions*** | 2 | 0-1 | 1-3 | 0 | 1-4 |
| ***MA 6.1.2.b Use drawings, words and symbols to explain the meaning of addition and subtraction of decimals*** | 2 | 0-1 | 1-3 | 0 | 1-4 |
| **Gr6 Computation** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |
| ***MA 6.1.3.a Multiply and divide positive rational numbers*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 6.1.3.b Select and apply the appropriate method of computation when problem solving*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| **Gr6 Estimation** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |

| | | | | | |
|---|---|---|---|---|---|
| **MA 6.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |
| ***MA 6.1.4.a Use appropriate estimation methods to check the reasonableness of solutions for problems involving positive rational numbers*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr6 Characteristics** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.2.1 Students will compare and contrast properties among two-dimensional shapes and three-dimensional objects.** | | | | | |
| *MA 6.2.1.a Justify the classification of three-dimensional objects* | Assessed at the local level | | | | |
| **Gr6 Coordinate Geometry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.2.2 Students will label points using coordinate geometry.** | | | | | |
| ***MA 6.2.2.a Identify the ordered pair of a plotted point in the coordinate plane*** | 1 | 1-3 | 0 | 0 | 1-3 |
| **Gr6 Transformations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.2.3 Students will use and describe results of transformations on geometric shapes.** | | | | | |
| *MA 6.2.3.a Perform and describe positions and orientation of shapes under single transformations not on a coordinate plane* | Assessed at the local level | | | | |
| **Gr6 Spatial Modeling** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.2.4 Students will use visualization of geometric models to solve problems.** | | | | | |
| ***MA 6.2.4.a Identify two-dimensional drawings of three-dimensional objects*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| **Gr6 Measurement** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.2.5 Students will apply appropriate procedures, tools, and formulas to determine measurements.** | | | | | |
| *MA 6.2.5.a Estimate and measure length with customary and metric units to the nearest 1/16 inch and mm* | Assessed at the local level | | | | |
| *MA 6.2.5.b Measure volume/capacity using the metric system* | Assessed at the local level | | | | |
| *MA 6.2.5.c Convert length, weight, and liquid capacity from one unit to another within the same system* | Assessed at the local level | | | | |
| ***MA 6.2.5.d Determine the perimeter of polygons*** | 2 | 1-2 | 1-2 | 0 | 2-4 |

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|---|---|---|---|---|---|
| ***MA 6.2.5.e Determine the area of parallelograms and triangles*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***MA 6.2.5.f Determine the volume of rectangular prisms*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr6 Relationships** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.3.1 Students will represent, analyze, and use relationships to make generalizations.** | | | | | |
| ***MA 6.3.1.a Describe and create simple algebraic expressions from words and tables*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 6.3.1.b Use a variable to describe a situation with an equation*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 6.3.1.c Identify relationships as increasing, decreasing, or constant* | Assessed at the local level | | | | |
| **Gr6 Modeling in Context** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.3.2 Students will create, use, and interpret models of quantitative relationships.** | | | | | |
| ***MA 6.3.2.a Model contextualized problems using various representations*** | 2 | 2-3 | 2-3 | 0 | 4-6 |
| *MA 6.3.2.b Represent a variety of quantitative relationships using symbols and words* | Assessed at the local level | | | | |
| **Gr6 Procedures** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.3.3 Students will apply properties to solve equations.** | | | | | |
| *MA 6.3.3.a Explain the multiplication property of equality* | Assessed at the local level | | | | |
| ***MA 6.3.3.b Evaluate numerical expressions containing multiple operations with respect to order of operations*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 6.3.3.c Evaluate simple algebraic expressions involving multiplication and division*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 6.3.3.d Solve one-step equations involving positive rational numbers*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 6.3.3.e Identify and explain the properties of equality used in solving one-step equations*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr6 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.4.1 Students will organize, display, compare, and interpret data.** | | | | | |
| *MA 6.4.1.a Represent data using stem and leaf plots, histograms, and frequency charts* | Assessed at the local level | | | | |

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|---|---|---|---|---|---|
| ***MA 6.4.1.b Compare and interpret data sets and their graphical representations*** | 2 | 0-1 | 3-4 | 0 | 3-5 |
| ***MA 6.4.1.c Find the mean, median, mode, and range for a set of data*** | 1 | 2-4 | 0 | 0 | 2-4 |
| *MA 6.4.1.d Compare the mean, median, mode, and range from two sets of data* | Assessed at the local level | | | | |
| **Gr6 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.4.2 Students will construct predictions based on data.** | | | | | |
| MA 6.4.2.a *Make predictions based on data and create questions to further investigate the quality of the predictions* | Assessed at the local level | | | | |
| **Gr6 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 6.4.3 Students will apply basic concepts of probability.** | | | | | |
| *MA 6.4.3.a Describe the theoretical probability of an event using a fraction, percentage, decimal, or ratio* | Assessed at the local level | | | | |
| ***MA 6.4.3.b Compute theoretical probabilities for independent events*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 6.4.3.c Find experimental probability for independent events*** | 1 | 1-3 | 0 | 0 | 1-3 |

| Nebraska State Accountability - Mathematics (NeSA-M)<br>Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 7 | | | | | |
| | | | | | |
| NUMBER SENSE | | | | | |
| **Gr7 Number System** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.1.1 Students will represent and show relationships among rational numbers.** | | | | | |
| ***MA 7.1.1.a Show equivalence among fractions, decimals, and percents*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 7.1.1.b Compare and order rational numbers*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 7.1.1.c Represent large numbers using scientific notation*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 7.1.1.d Classify numbers as natural, whole, integer, or rational* | Assessed at the local level | | | | |
| *MA 7.1.1.e Find least common multiple and greatest common divisor given two numbers* | Assessed at the local level | | | | |
| **Gr7 Operations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.1.2 Students will demonstrate the meaning of arithmetic operations with positive fractions, decimals, and integers.** | | | | | |
| *MA 7.1.2.a Use drawings, words, and symbols to explain the meaning of multiplication and division of fractions* | Assessed at the local level | | | | |
| *MA 7.1.2.b Use drawings, words, and symbols to explain the meaning of multiplication and division of decimals* | Assessed at the local level | | | | |
| *MA 7.1.2.c Use drawings, words, and symbols to explain the addition and subtraction of integers* | Assessed at the local level | | | | |
| **Gr7 Computation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |
| ***MA 7.1.3.a Compute accurately with integers*** | 1 | 2-3 | 0 | 0 | 2-3 |
| ***MA 7.1.3.b Select, apply, and explain the method of computation when problem solving using integers and positive rational numbers*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***MA 7.1.3.c Solve problems involving percent of numbers*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| **Gr7 Estimation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |

| | | | | | |
|---|---|---|---|---|---|
| **MA 7.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |
| ***MA 7.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving integers and positive rational numbers*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr7 Characteristics** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.2.1 Students will describe, compare, and contrast properties and relationships of geometric shapes and objects.** | | | | | |
| *MA 7.2.1.a Identify and describe similarity of two-dimensional shapes using side and angle measurement* | Assessed at the local level | | | | |
| *MA 7.2.1.b Name line, line segment, ray, and angle* | Assessed at the local level | | | | |
| **Gr7 Coordinate Geometry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.2.2 Students will specify locations and describe relationships using coordinate geometry.** | | | | | |
| ***MA 7.2.2.a Plot the location of an ordered pair in the coordinate plane*** | 1 | 1-2 | 0 | 0 | 1-2 |
| *MA 7.2.2.b Identify the quadrant of a given point in the coordinate plane* | Assessed at the local level | | | | |
| ***MA 7.2.2.c Find the distance between points along horizontal and vertical lines of a coordinate plane*** | 1 | 1-2 | 0 | 0 | 1-2 |
| **Gr7 Transformations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.2.3 Students will use transformations and symmetry to analyze geometric shapes.** | | | | | |
| *MA 7.2.3.a Identify lines of symmetry for a reflection* | Assessed at the local level | | | | |
| ***MA 7.2.3.b Perform and describe positions and orientation of shapes under a single transformation on a coordinate plane*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr7 Spatial Modeling** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.2.4 Students will use visualization to create geometric models in solving problems.** | | | | | |
| *MA 7.2.4.a Identify the shapes that make up the three-dimensional object* | Assessed at the local level | | | | |
| *MA 7.2.4.b Create two-dimensional representations of three-dimensional objects to visualize and solve problems* | Assessed at the local level | | | | |
| *MA 7.2.4.c Draw angles to given degree* | Assessed at the local level | | | | |

| Gr7 Measurement | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **MA 7.2.5 Students will select and apply appropriate procedures, tools, and formulas to determine measurements.** | | | | | |
| *MA 7.2.5.a Measure angles to the nearest degree* | Assessed at the local level | | | | |
| ***MA 7.2.5.b Determine the area of trapezoids and circles, and the circumference of circles*** | 2 | 1-2 | 2-3 | 0 | 3-5 |
| *MA 7.2.5.c Recognize the inverse relationship between the size of a unit and the number of units used when measuring* | Assessed at the local level | | | | |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr7 Relationships** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 7.3.1 Students will represent and analyze relationships using algebraic symbols.** | | | | | |
| ***MA 7.3.1.a Describe and create algebraic expressions from words, tables, and graphs*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 7.3.1.b Use a variable to describe a situations with an inequality*** | 2 | 0 | 1-2 | 0 | 1-2 |
| *MA 7.3.1.c Recognize and generate equivalent forms of simple algebraic expressions* | Assessed at the local level | | | | |
| **Gr7 Modeling in Context** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 7.3.2 Students will create, use, and interpret models of quantitative relationships.** | | | | | |
| ***MA 7.3.2.a Model contextualized problems using various representations*** | 2 | 1-2 | 2-3 | 0 | 3-5 |
| *MA 7.3.2.b Represent a variety of quantitative relationships using algebraic expressions and one-step equations* | Assessed at the local level | | | | |
| **Gr7 Procedures** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 7.3.3 Students will apply properties to solve equations and inequalities.** | | | | | |
| *MA 7.3.3.a Explain additive inverse of addition* | Assessed at the local level | | | | |
| *MA 7.3.3.b Use symbolic representation of the distributive property* | Assessed at the local level | | | | |
| ***MA 7.3.3.c Given the value of the variable(s), evaluate algebraic expressions with respect to order of operations*** | 1 | 3-5 | 0 | 0 | 3-5 |
| ***MA 7.3.3.d Solve two-step equations involving integers and positive rational numbers*** | 2 | 0-1 | 1-3 | 0 | 2-4 |
| ***MA 7.3.3.e Solve one-step inequalities involving positive rational numbers*** | 2 | 0-1 | 2-3 | 0 | 2-4 |

| | | | | | |
|---|---|---|---|---|---|
| *MA 7.3.3.f Identify and explain the properties used in solving two-step equations* | Assessed at the local level | | | | |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr7 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.4.1 Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.** | | | | | |
| ***MA 7.4.1.a Analyze data sets and interpret their graphical representations*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 7.4.1.b Find and interpret mean, median, mode, and range for sets of data*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 7.4.1.c Explain the difference between a population and a sample* | Assessed at the local level | | | | |
| *MA 7.4.1.d List biases that may be created by various data collection processes* | Assessed at the local level | | | | |
| *MA 7.4.1.e Formulate a question about a characteristic that can be answered by simulation or a survey* | Assessed at the local level | | | | |
| **Gr7 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.4.2 Students will evaluate predictions and make inferences based on data.** | | | | | |
| *MA 7.4.2.a Determine if data collected from a sample can be used to make predictions about a population* | Assessed at the local level | | | | |
| **Gr7 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 7.4.3 Students will apply and interpret basic concepts of probability.** | | | | | |
| ***MA 7.4.3.a Find the probability of independent compound events*** | 2 | 0 | 1-2 | 0 | 1-2 |
| ***MA 7.4.3.b Compare and contrast theoretical and experimental probabilities*** | 2 | 0 | 1-2 | 0 | 1-2 |

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| Grade 8 | | | | | |
| | | | | | |
| NUMBER SENSE | | | | | |
| **Gr8 Number System** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.1.1 Students will represent and show relationships among real numbers.** | | | | | |
| ***MA 8.1.1.a Compare and order real numbers*** | 2 | 0 | 1-2 | 0 | 1-2 |
| *MA 8.1.1.b Demonstrate relative position of real numbers on the number line* | Assessed at the local level | | | | |
| ***MA 8.1.1.c Represent small numbers using scientific notation*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 8.1.1.d Classify numbers as natural, whole, integer, rational, irrational, or real*** | 1 | 1-2 | 0 | 0 | 1-2 |
| **Gr8 Operations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.1.2 Students will demonstrate the meaning of arithmetic operations with integers.** | | | | | |
| *MA 8.1.2.a Use drawings, words, and symbols to explain the meaning of addition, subtraction, multiplication, and division of integers* | Assessed at the local level | | | | |
| *MA 8.1.2.b Use words and symbols to explain the zero property of multiplication* | Assessed at the local level | | | | |
| *MA 8.1.2.c Use words and symbols to explain why division by zero is undefined* | Assessed at the local level | | | | |
| **Gr8 Computation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |
| ***MA 8.1.3.a Compute accurately with rational numbers*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 8.1.3.b Evaluate expressions involving absolute value of integers*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 8.1.3.c Calculate squares of integers, the square roots of perfect squares, and the square roots of whole numbers using technology* | Assessed at the local level | | | | |
| ***MA 8.1.3.d Select, apply, and explain the method of computation when problem solving using rational numbers*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 8.1.3.e Solve problems involving ratios and proportions*** | 2 | 0-1 | 2-3 | 0 | 2-4 |

| Gr8 Estimation | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **MA 8.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |
| ***MA 8.1.4.a Use estimation methods to check the reasonableness of solutions for problems involving rational numbers*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr8 Characteristics** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 8.2.1 Students will describe, compare, and contrast characteristics, properties, and relationships of geometric shapes and objects.** | | | | | |
| *MA 8.2.1.a Identify and describe similarity of three-dimensional objects* | Assessed at the local level | | | | |
| *MA 8.2.1.b Compare and contrast relationships between similar and congruent objects* | Assessed at the local level | | | | |
| ***MA 8.2.1.c Identify geometric properties of parallel lines cut by a transversal and related angles*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 8.2.1.d Identify pairs of angles*** | 1 | 2-4 | 0 | 0 | 2-4 |
| ***MA 8.2.1.e Examine the relationships of the interior angles of a triangle*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr8 Coordinate Geometry** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 8.2.2 Students will specify locations and describe spatial relationships using coordinate geometry.** | | | | | |
| ***MA 8.2.2.a Use coordinate geometry to represent and examine the properties of rectangles and squares using horizontal and vertical segments*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr8 Transformations** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 8.2.3 Students will perform transformations and use them to analyze the orientation and size of geometric shapes.** | | | | | |
| *MA 8.2.3.a Identify the similarity of dilated shapes* | Assessed at the local level | | | | |
| *MA 8.2.3.b Perform and describe positions and sizes of shapes under dilations* | Assessed at the local level | | | | |
| **Gr8 Spatial Modeling** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **MA 8.2.4 Students will use visualization, spatial reasoning, and geometric modeling to solve problems.** | | | | | |

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| *MA 8.2.4.a Draw geometric objects with specified properties* | Assessed at the local level | | | | |
| **Gr8 Measurement** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.2.5 Students will select and apply appropriate procedures, tools, and formulas to determine measurements.** | | | | | |
| *MA 8.2.5.a Use strategies to find the perimeter and area of complex shapes* | Assessed at the local level | | | | |
| *MA 8.2.5.b Determine surface area and volume of three-dimensional objects* | Assessed at the local level | | | | |
| ***MA 8.2.5.c Apply the Pythagorean theorem to find missing lengths in right triangles and to solve problems*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 8.2.5.d Use scale factors to find missing lengths in similar shapes*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 8.2.5.e Convert between metric and standard units of measurement, given conversion factors* | Assessed at the local level | | | | |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr8 Relationships** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.3.1 Students will represent and analyze relationships using algebraic symbols.** | | | | | |
| *MA 8.3.1.a Represent and analyze a variety of patterns with tables, graphs, words, and algebraic equations* | Assessed at the local level | | | | |
| ***MA 8.3.1.b Describe relationships using algebraic expressions, equations, and inequalities*** | 2 | 0-1 | 2-4 | 0 | 2-5 |
| *MA 8.3.1.c Identify constant slope from tables and graphs* | Assessed at the local level | | | | |
| **Gr8 Modeling in Context** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.3.2 Students will create, use, and interpret models of quantitative relationships.** | | | | | |
| ***MA 8.3.2.a Model contextualized problems using various representations*** | 3 | 0 | 2-3 | 1-2 | 3-5 |
| *MA 8.3.2.b Represent a variety of quantitative relationships using algebraic expressions and two-step/one-step variable equations* | Assessed at the local level | | | | |
| **Gr8 Procedures** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.3.3 Students will apply properties to solve equations and inequalities.** | | | | | |
| *MA 8.3.3.a Explain the multiplicative inverse* | Assessed at the local level | | | | |

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|---|---|---|---|---|---|
| ***MA 8.3.3.b Evaluate numerical expressions containing whole number exponents*** | 2 | 1-3 | 1-2 | 0 | 2-5 |
| ***MA 8.3.3.c Solve multi-step equations involving rational numbers*** | 2 | 0-1 | 2-4 | 0 | 2-5 |
| ***MA 8.3.3.d Solve two-step inequalities involving rational numbers*** | 2 | 0-1 | 2-4 | 0 | 2-5 |
| *MA 8.3.3.e Identify and explain the properties used in solving two-step inequalities and multi-step equations* | Assessed at the local level | | | | |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr8 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.4.1 Students will formulate questions that can be addressed with data, and then organize, display, and analyze the relevant data to answer their questions.** | | | | | |
| *MA 8.4.1.a Represent data using circle graphs and box plots with and without the use of technology* | Assessed at the local level | | | | |
| ***MA 8.4.1.b Compare characteristics between sets of data or within a given set of data*** | 3 | 0 | 1-2 | 1-2 | 2-4 |
| *MA 8.4.1.c Find, interpret, and compare measures of central tendency (mean, median, and mode) and the quartiles for sets of data* | Assessed at the local level | | | | |
| ***MA 8.4.1.d Select the most appropriate unit of central tendency for sets of data*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 8.4.1.e Identify misrepresentation and misinterpretation of data represented in circle graphs and box plots*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| **Gr8 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.4.2 Students will evaluate predictions and make inferences based on data.** | | | | | |
| *MA 8.4.2.a Evaluate predictions to formulate new questions and plan new studies* | Assessed at the local level | | | | |
| *MA 8.4.2.b Compare and contrast two sets of data to make inferences* | Assessed at the local level | | | | |
| **Gr8 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 8.4.3 Students will apply and interpret basic concepts of probability.** | | | | | |
| ***MA 8.4.3.a Identify complementary events and calculate their probabilities*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 8.4.3.b Compute probabilities for independent compound events*** | 2 | 0-1 | 1-2 | 0 | 1-3 |

| Nebraska State Accountability - Mathematics (NeSA-M) Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 11 | | | | | |
| NUMBER SENSE | | | | | |
| **Gr11 Number System** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.1.1 Students will represent and show relationships among real numbers.** | | | | | |
| *MA 12.1.1.a Demonstrate multiple equivalent forms of irrational numbers* | Assessed at the local level | | | | |
| *MA 12.1.1.b Compare, contrast, and apply the properties of numbers and the real number system, including the rational, irrational, imaginary and complex numbers* | Assessed at the local level | | | | |
| **Gr11 Operations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.1.2 Students will demonstrate the meaning and effects of arithmetic operations with real numbers.** | | | | | |
| *MA 12.1.2.a Use drawings, words, and symbols to explain the effects of such operations as multiplication and division, and computing positive powers and roots on the magnitude of quantities* | Assessed at the local level | | | | |
| *MA 12.1.2.b Use drawings, words, and symbols to explain that the distance between two numbers on the number line is the absolute value of their difference* | Assessed at the local level | | | | |
| **Gr11 Computation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.1.3 Students will compute fluently and accurately using appropriate strategies and tools.** | | | | | |
| ***MA 12.1.3.a Compute accurately with real numbers*** | 1 | 1-2 | 0 | 0 | 1-2 |
| ***MA 12.1.3.b Simplify exponential expressions*** | 2 | 0 | 1-2 | 0 | 1-2 |
| *MA 12.1.3.c Multiply and divide numbers using scientific notation* | Assessed at the local level | | | | |
| *MA 12.1.3.d Select, apply, and explain the method of computation when problem solving using real numbers* | Assessed at the local level | | | | |
| **Gr11 Estimation** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.1.4 Students will estimate and check reasonableness of answers using appropriate strategies and tools.** | | | | | |

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| ***MA 12.1.4.a Use estimation methods to check the reasonableness of real number computations and decide if the problem calls for an approximation or an exact number*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 12.1.4.b Distinguish relevant from irrelevant information, identify missing information and either find what is needed or make appropriate estimates* | Assessed at the local level | | | | |
| GEOMETRIC/MEASUREMENT CONCEPTS | | | | | |
| **Gr11 Characteristics** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.2.1 Students will analyze characteristics, properties, and relationships among geometric shapes and objects.** | | | | | |
| *12.2.1.a Identify and explain the necessity of and give examples of definitions and theorems* | Assessed at the local level | | | | |
| *MA 12.2.1.b Analyze properties and relationships among classes of two and three dimensional geometric objects using inductive reasoning and counterexamples* | Assessed at the local level | | | | |
| *MA 12.2.1.c State and prove geometric theorems using deductive reasoning* | Assessed at the local level | | | | |
| ***MA 12.2.1.d Apply geometric properties to solve problems*** | 2 | 0-1 | 3-4 | 0 | 3-5 |
| ***MA 12.2.1.e Identify and apply right triangle relationships*** | 2 | 0-1 | 2-4 | 0 | 2-5 |
| *MA 12.2.1.f Recognize that there are geometries, other than Euclidean geometry, in which the parallel postulate is not true* | Assessed at the local level | | | | |
| *MA 12.2.1.g Know the definitions and basic properties of a circle and use them to prove basic theorems and solve problems* | Assessed at the local level | | | | |
| **Gr11 Coordinate Geometry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.2.2 Students will use coordinate geometry to analyze and describe relationships in the coordinate plane.** | | | | | |
| ***MA 12.2.2.a Use coordinate geometry to analyze geometric situations*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| *MA 12.2.2.b Apply the midpoint formula* | Assessed at the local level | | | | |
| ***MA 12.2.2.c Apply the distance formula*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| ***MA 12.2.2.d Prove special types of triangles and quadrilaterals*** | 3 | 0 | 0-1 | 1-2 | 1-3 |
| **Gr11 Transformations** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.2.3 Students will apply and analyze transformations.** | | | | | |

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| *MA 12.2.3.a Explain and justify the effects of simple transformations on the ordered pairs of two-dimensional shapes* | Assessed at the local level | | | | |
| *MA 12.2.3.b Perform and describe multiple transformations* | Assessed at the local level | | | | |
| **Gr11 Spatial Modeling** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.2.4 Students will use visualization, spatial reasoning, and geometric modeling to solve problems.** | | | | | |
| *MA 12.2.4.a Sketch and draw appropriate representations of geometric objects using ruler, protractor, or technology* | Assessed at the local level | | | | |
| ***MA 12.2.4.b Use geometric models to visualize, describe, and solve problems*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| **Gr11 Measurement** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.2.5 Students will apply the units, systems, and formulas to solve problems.** | | | | | |
| *MA 12.2.5.a Use strategies to find surface area and volume of complex objects* | Assessed at the local level | | | | |
| *MA 12.2.5.b Apply appropriate units and scales to solve problems involving measurement* | Assessed at the local level | | | | |
| *MA 12.5.c Convert between various units of area ad volume, such as square feet to square yards* | Assessed at the local level | | | | |
| ***MA 12.2.5.d Convert equivalent rates*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| *MA 12.2.5.e Find arc length and area of sectors of a circle* | Assessed at the local level | | | | |
| *MA 12.2.5.f Determine surface area and volume of three-dimensional objects* | Assessed at the local level | | | | |
| *MA 12.2.5.g Know that the effect of a scale factor k on length, area and volume is to multiply each k, $k^2$ and $k^3$, respectively* | Assessed at the local level | | | | |
| ALGEBRAIC CONCEPTS | | | | | |
| **Gr11 Relationships** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.3.1 Students will generalize, represent, and analyze relationships using algebraic symbols.** | | | | | |
| ***MA 12.3.1.a Represent, interpret, and analyze functions with graphs, tables, and algebraic notation, and convert among these representations*** | 3 | 0 | 2-3 | 1-2 | 3-5 |
| *MA 12.3.1.b Identify domain and range of functions represented in either symbolic or graphical form* | Assessed at the local level | | | | |

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| ***MA 12.3.1.c Identify the slope and intercepts of a linear relationship from an equation or graph*** | 2 | 0-1 | 2-3 | 0 | 2-4 |
| ***MA 12.3.1.d Identify characteristics of linear and non-linear functions*** | 3 | 0 | 2-3 | 1-2 | 3-5 |
| *MA 12.3.1.e Graph linear and non-linear functions* | Assessed at the local level | | | | |
| ***MA 12.3.1.f Compare and analyze the rate of change by using ordered pairs, tables, graphs, and equations*** | 3 | 0 | 1-2 | 1-2 | 2-4 |
| *MA 12.3.1.g Graph and interpret linear inequalities* | Assessed at the local level | | | | |
| *MA 12.3.1.h Represent, interpret, and analyze functions and their inverses* | Assessed at the local level | | | | |
| *MA 12.3.1.i Determine if a relation is a function* | Assessed at the local level | | | | |
| **Gr11 Modeling in Context** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.3.2 Students will model and analyze quantitative relationships.** | | | | | |
| *MA 12.3.2.a Model contextualized problems using various representations* | Assessed at the local level | | | | |
| ***MA 12.3.2.b Represent a variety of quantitative relationships using linear equations and one variable inequalities*** | 3 | 0 | 0 | 2-4 | 2-4 |
| *MA 12.3.2.c Analyze situations to determine the type of algebraic relationship* | Assessed at the local level | | | | |
| *MA 12.3.2.d Model contextualized problems using various representations for non-linear functions* | Assessed at the local level | | | | |
| **Gr11 Procedures** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.3.3 Students will represent and solve equations and inequalities.** | | | | | |
| *MA 12.3.3.a Explain/apply the reflexive, symmetric, and transitive properties of equality* | Assessed at the local level | | | | |
| ***MA 12.3.3.b Simplify algebraic expressions involving exponents*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 12.3.3.c Add and subtract polynomials*** | 1 | 1-3 | 0 | 0 | 1-3 |
| ***MA 12.3.3.d Multiply and divide polynomials*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 12.3.3.e Factor polynomials* | Assessed at the local level | | | | |
| ***MA 12.3.3.f Identify and generate equivalent forms of linear equations*** | 1 | 1-3 | 0 | 0 | 1-3 |
| *MA 12.3.3.g Solve linear equations and inequalities including absolute value* | Assessed at the local level | | | | |
| *MA 12.3.3.h Identify and explain the properties used in solving equations and inequalities* | Assessed at the local level | | | | |

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| *MA 12.3.3.i Solve quadratic equations* | Assessed at the local level | | | | |
| *MA 12.3.3.j Add, subtract, and simplify rational expressions* | Assessed at the local level | | | | |
| *MA 12.3.3.k Multiply, divide, and simplify rational expressions* | Assessed at the local level | | | | |
| *MA 12.3.3.l Evaluate polynomial and rational expressions and expressions containing radicals and absolute values at specified values of their variables* | Assessed at the local level | | | | |
| *MA 12.3.3.m Derive and use the formulas for the general term and summation of finite arithmetic and geometric series* | Assessed at the local level | | | | |
| *MA 12.3.3.n Combine functions by composition, as well as by addition, subtraction, multiplication, and division* | Assessed at the local level | | | | |
| *MA 12.3.3.o Solve an equation involving several variables for one variable in terms of the others* | Assessed at the local level | | | | |
| *MA 12.3.3.p Analyze and solve systems of two linear equations in two variables algebraically and graphically* | Assessed at the local level | | | | |
| DATA ANALYSIS/PROBABILITY CONCEPTS | | | | | |
| **Gr11 Display and Analysis** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.4.1 Students will formulate a question and design a survey or an experiement in which data is collected and displayed in a variety of formats, then select and use appropriate statistical methods to analyze the data.** | | | | | |
| *MA 12.4.1.a Interpret data represented by the normal distribution and formulate conclusions* | Assessed at the local level | | | | |
| *MA 12.4.1.b Compute, identify, and interpret measures of central tendency (mean, median, mode) when provided a graph or data set* | Assessed at the local level | | | | |
| *MA 12.4.1.c Explain how sample size and transformations of data affect measures of central tendency* | Assessed at the local level | | | | |
| ***MA 12.4.1.d Describe the shape and determine the spread (variance, standard deviation) and outliers of a data set*** | 2 | 0 | 2-3 | 0 | 2-3 |
| *MA 12.4.1.e Explain how statistics are used or misused in the world* | Assessed at the local level | | | | |
| *MA 12.4.1.f Create scatter plots, analyze patterns, and describe relationships in paired data* | Assessed at the local level | | | | |
| *MA 12.4.1.g Explain the impact of sampling methods, bias, and the phrasing of questions asked during data collection and the conclusions that can rightfully be made* | Assessed at the local level | | | | |

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| *MA 12.4.1.h Explain the differences between randomized experiment and observational studies* | Assessed at the local level | | | | |
| **Gr11 Predictions and Inferences** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.4.2 Students will develop and evaluate inferences to make predictions.** | | | | | |
| *MA 12.4.2.a Compare data sets and evaluate conclusions using graphs and summary statistics* | Assessed at the local level | | | | |
| *MA 12.4.2.b Support inferences with valid arguments* | Assessed at the local level | | | | |
| *MA 12.4.2.c Develop linear equations for linear models to predict unobserved outcomes using regression line and correlation coefficient* | Assessed at the local level | | | | |
| *MA 12.4.2.d Recognize when arguments based on data confuse correlation with causation* | Assessed at the local level | | | | |
| **Gr11 Probability** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **MA 12.4.3 Students will apply and analyze concepts of probability.** | | | | | |
| *MA 12.4.3.a Construct a sample space and a probability distribution* | Assessed at the local level | | | | |
| ***MA 12.4.3.b Identify dependent and independent events and calculate their probabilities*** | 2 | 1-2 | 1-2 | 0 | 2-4 |
| ***MA 12.4.3.c Use the appropriate counting techniques to determine the probability of an event*** | 2 | 1-2 | 0-1 | 0 | 1-3 |
| ***MA 12.4.3.d Analyze events to determine if they are mutually exclusive*** | 2 | 0-1 | 1-2 | 0 | 1-3 |
| *MA 12.4.3.e Determine the relative frequency of a specified outcome of an event to estimate the probability of the outcome* | Assessed at the local level | | | | |

# Appendix C: NeSA-S Test Blueprint

| Nebraska State Accountability - Science (NeSA-S)<br>Table of Specifications | | | | | |
|---|---|---|---|---|---|
| Grade 5 | | | | | |
| | | | | | |
| Inquiry, The Nature of Science, and Technology | | | | | |
| **Grade 5 Abilities to do Scientific Inquiry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.1.1 Students will plan and conduct investigations that lead to the development of explanations.** | | | | | **8-13** |
| *SC 5.1.1.a Ask testable scientific questions* | 2 | | | | |
| *SC 5.1.1.b Plan and conduct investigations and identify factors that have the potential to impact an investigation* | 3 | | | | |
| *SC 5.1.1.c Select and use equipment correctly and accurately* | 1 | | | | |
| *SC 5.1.1.d Make relevant observations and measurements* | 2 | | | | |
| *SC 5.1.1.e Collect and organize data* | 2 | | | | |
| *SC 5.1.1.f Develop a reasonable explanation based on collected data* | 3 | | | | |
| *SC 5.1.1.g Share information, procedures, and results with peers and/or adults* | 2 | | | | |
| *SC 5.1.1.h Provide feedback on scientific investigations* | 3 | | | | |
| *SC 5.1.1.i Use appropriate mathematics in all aspects of scientific inquiry* | 2 | | | | |
| **Grade 5 Nature of Science** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.1.2 Students will describe how scientists go about their work.** | **Assessed at the local level** | | | | |
| *SC 5.1.2.a Recognize that scientific explanations are based on evidence and scientific knowledge* | 1 | | | | |
| *SC 5.1.2.b Recognize that new discoveries are always being made which impact scientific knowledge* | 1 | | | | |
| *SC 5.1.2.c Recognize many different people study science* | 1 | | | | |

| Grade 5 Technology | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **SC 5.1.3 Students will solve a simple design problem.** | **Assessed at the local level** | | | | |
| *SC 5.1.3.a Identify a simple problem* | 2 | | | | |
| *SC 5.1.3.b Propose a solution to a simple problem* | 2 | | | | |
| *SC 5.1.3.c Implement the proposed solution* | 3 | | | | |
| *SC 5.1.3.d Evaluate the implementation* | 3 | | | | |
| *SC 5.1.3.e Communicate the problem, design, and solution* | 2 | | | | |
| PHYSICAL SCIENCE | | | | | |
| **Grade 5 Matter** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.2.1 Students will explore and describe the physical properties of matter and its changes.** | | | | | **3-6** |
| *SC 5.2.1.a Identify mixtures and pure substances* | 1 | | | | |
| *SC 5.2.1.b Identify physical properties of matter (color, odor, elasticity, weight, volume)* | 1 | | | | |
| *SC 5.2.1.c Use appropriate metric measurements to describe physical properties* | 1 | | | | |
| *SC 5.2.1.d Identify state change caused by heating and cooling solids, liquids, and gasses* | 1 | | | | |
| **Grade 5 Force and Motion** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.2.2 Students will identify the influence of forces on motion.** | | | | | **3-5** |
| *SC 5.2.2.a Describe motion by tracing and measuring an object's position over a period of time (speed)* | 2 | | | | |
| *SC 5.2.2.b Describe changes in motion due to outside forces (push, pull, gravity)* | 1 | | | | |
| *SC 5.2.2 c Describe magnetic behavior in terms of attraction and repulsion* | 1 | | | | |
| **Grade 5 Energy** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.2.3 Students will observe and identify signs of energy transfer.** | | | | | **4-7** |
| *SC 5.2.3.a Recognize that sound is produced from vibrating objects; the sound can be changed by changing the vibration* | 1 | | | | |
| *SC 5.2.3.b Recognize that light travels in a straight line and can be reflected by an object (mirror)* | 1 | | | | |

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| *SC 5.2.3.c Recognize that light can travel through certain materials and not others (transparent, translucent, opaque)* | 1 | | | | |
| *SC 5.2.3.d Identify ways to generate heat (friction, burning, incandescent light bulb)* | 1 | | | | |
| *SC 5.2.3.e Identify materials that act as thermal conductors or insulators* | 1 | | | | |
| *SC 5.2.3.f Recognize that the transfer of electricity in an electrical circuit requires a closed loop* | 1 | | | | |
| LIFE SCIENCE | | | | | |
| **Grade 5 Life Science** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.3.1 Students will investigate and compare the characteristics of living things.** | | | | | **2-4** |
| *SC 5.3.1.a Compare and contrast characteristics of living and nonliving things* | 2 | | | | |
| *SC 5.3.1.b Identify how parts of plants and animals function to meet basic needs (e.g., leg of an insect helps an insect move, root of a plant helps the plant obtain water)* | 1 | | | | |
| **Grade 5 Heredity** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.3.2 Students will identify variations of inherited characteristics and life cycles.** | | | | | **2-4** |
| *SC 5.3.2.a Identify inherited characteristics of plants and animals* | 1 | | | | |
| *SC 5.3.2.b Identify the life cycle of an organism* | 1 | | | | |
| **SC 5.3.3 Students will describe relationships within an ecosystem.** | | | | | **4-7** |
| *SC 5.3.3.a Diagram and explain a simple food chain beginning with the Sun* | 2 | | | | |
| *SC 5.3.3.b Identify the role of producers, consumers, and decomposers in an ecosystem* | 1 | | | | |
| *SC 5.3.3.c Recognize the living and nonliving factors that impact the survival of organisms in an ecosystem* | 1 | | | | |
| *SC 5.3.3.d Recognize all organisms cause changes, some beneficial and some detrimental, in the environment where they live* | 1 | | | | |
| **SC 5.3.4 Students will describe changes in organisms over time.** | | | | | **1-2** |
| *SC 5.3.4.a Describe adaptations made by plants or animals to survive environmental changes* | 1 | | | | |

| EARTH AND SPACE SCIENCE | | | | | |
|---|---|---|---|---|---|
| **Grade 5 Earth in Space** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.4.1 Students will observe and describe characteristics, patterns, and changes in the sky.** | | | | | **1-2** |
| *SC 5.4.1.a Recognize that the observed shape of the Moon changes from day to day during a one month period* | 1 | | | | |
| *SC 5.4.1.b Recognize the motion of objects in the sky (the Sun, the Moon, stars) change over time in recognizable patterns* | 1 | | | | |
| **Grade 5 Earth Structures and Processes** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.4.2 Students will observe and describe Earth's materials, structure, and processes.** | | | | | **4-6** |
| *SC 5.4.2.a Describe the characteristics of rocks, minerals, soil, water, and the atmosphere* | 1 | | | | |
| *SC 5.4.2.b Identify weathering, erosion, and deposition as processes that build up or break down Earth's surface* | 1 | | | | |
| *SC 5.4.2.c Identify how Earth materials are used (fuels, building materials, sustaining plant life)* | 1 | | | | |
| **Grade 5 Energy in Earth's Systems** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.4.3 Students will observe and describe the effects of energy changes on Earth.** | | | | | **3-5** |
| *SC 5.4.3.a Describe the Sun's warming effect on the land and water* | 1 | | | | |
| *SC 5.4.3.b Observe, measure, and record changes in weather (temperature, wind direction and speed, precipitation)* | 2 | | | | |
| *SC 5.4.3.c Recognize the difference between weather, climate, and seasons* | 1 | | | | |
| **Grade 5 Earth's History** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 5.4.4 Students will describe changes in Earth.** | | | | | **1-3** |
| *SC 5.4.4.a Describe how slow processes (erosion, weathering, deposition) and rapid processes (landslides, volcanic eruptions, earthquakes) change Earth's surface* | 1 | | | | |

| Nebraska State Accountability - Science (NeSA-S)<br>Table of Specifications | | | | | |
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| Grade 8 | | | | | |
| | | | | | |
| Inquiry, The Nature of Science, and Technology | | | | | |
| **Grade 8 Abilities to do Scientific Inquiry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.1.1 Students will design and conduct investigations that will lead to descriptions of relationships between evidence and explanations.** | | | | | **8-13** |
| *SC 8.1.1.a Formulate testable questions that lead to predictions and scientific investigations* | 2 | | | | |
| *SC 8.1.1.b Design and conduct logical and sequential investigations including repeated trials* | 3 | | | | |
| *SC 8.1.1.c Determine controls and use dependent (responding) and independent (manipulated) variables* | 3 | | | | |
| *SC 8.1.1.d Select and use equipment appropriate to the investigation, demonstrate correct techniques* | 1 | | | | |
| *SC 8.1.1.e Make qualitative and quantitative observations* | 2 | | | | |
| *SC 8.1.1.f Record and represent data appropriately and review for quality, accuracy, and relevancy* | 3 | | | | |
| *SC 8.1.1.g Evaluate predictions, draw logical inferences based on observed patterns/relationships, and account for non-relevant information* | 3 | | | | |
| *SC 8.1.1.h Share information, procedures, results, and conclusions with appropriate audiences* | 2 | | | | |
| *SC 8.1.1.i Analyze and provide appropriate critique of scientific investigations* | 3 | | | | |
| *SC 8.1.1.j Use appropriate mathematics in all aspects of scientific inquiry* | 2 | | | | |
| **Grade 8 Nature of Science** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.1.2 Students will apply the nature of science to their own investigations.** | **Assessed at the local level** | | | | |
| *SC 8.1.2.a Recognize science is an ongoing process and the scientific community accepts and uses explanations until they encounter new experimental evidence not matching existing explanations* | 1 | | | | |
| *SC 8.1.2.b Describe how scientific discoveries influence and change society* | 2 | | | | |

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| *SC 8.1.2.c Recognize scientists from various cultures have made many contributions to explain the natural world* | 1 | | | | |
| **Grade 8 Technology** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.1.3 Students will solve a design problem which involves one or two science concepts.** | **Assessed at the local level** | | | | |
| *SC 8.1.3.a Identify problems for technical design* | 2 | | | | |
| *SC 8.1.3.b Design a solution or product* | 3 | | | | |
| *SC 8.1.3.c Implement the proposed design* | 3 | | | | |
| *SC 8.1.3.d Evaluate completed technological designs or products* | 3 | | | | |
| *SC 8.1.3.e Communicate the process of technical design* | 2 | | | | |
| *SC 8.1.3.f Distinguish between scientific inquiry (asking questions about the natural world) and technological design (using science to solve practical problems)* | 1 | | | | |
| *SC 8.1.3.g Describe how science and technology are reciprocal* | 1 | | | | |
| *SC 8.1.3.h Recognize that solutions have intended and unintended consequences* | 1 | | | | |
| *SC 8.1.3.i Compare and contrast the reporting of scientific knowledge and the reporting of technological knowledge* | 2 | | | | |
| PHYSICAL SCIENCE | | | | | |
| **Grade 8 Matter** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.2.1 Students will identify and describe the particulate nature of matter including physical and chemical interactions.** | | | | | **4-7** |
| *SC 8.2.1.a Compare and contrast elements, compounds, and mixtures* | 2 | | | | |
| *SC 8.2.1.b Describe physical and chemical properties of matter* | 2 | | | | |
| *SC 8.2.1.c Recognize most substances can exist as a solid, liquid, or gas depending on temperature* | 1 | | | | |
| *SC 8.2.1.d Compare and contrast solids, liquids, and gasses based on properties of these states of matter* | 2 | | | | |
| *SC 8.2.1.e Distinguish between physical and chemical changes (phase changes, dissolving, burning, rusting)* | 1 | | | | |
| *SC 8.2.1.f Recognize conservation of matter in physical and chemical changes* | 1 | | | | |

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| *SC 8.2.1.g Classify substances into similar groups based on physical properties* | 2 | | | | |
| **Grade 8 Force and Motion** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.2.2 Students will investigate and describe forces and motion.** | | | | | **3-6** |
| *SC 8.2.2.a Describe motion of an object by its position and velocity* | 2 | | | | |
| *SC 8.2.2.b Recognize an object that is not being subjected to a force will continue to move at a constant speed in a straight line or stay at rest (Newton's 1st law)* | 1 | | | | |
| *SC 8.2.2.c Compare the motion of objects related to the effects of balanced and unbalanced forces* | 2 | | | | |
| *SC 8.2.2.d Recognize that everything on or around Earth is pulled towards Earth's center by gravitational force* | 1 | | | | |
| **Grade 8 Energy** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.2.3 Students will identify and describe how energy systems and matter interact.** | | | | | **3-6** |
| *SC 8.2.3.a Recognize that vibrations set up wave-like disturbances that spread away from the source (sound, seismic, water waves)* | 1 | | | | |
| *SC 8.2.3.b Identify that waves move at different speeds in different materials* | 1 | | | | |
| *SC 8.2.3.c Recognize that light interacts with matter by transmission (including refraction), absorption, or scattering (including reflection)* | 1 | | | | |
| *SC 8.2.3.d Recognize that to see an object, light from the surface of the object must enter the eye; the color seen depends on the properties of the surface and the color of the available light sources* | 1 | | | | |
| *SC 8.2.3.e Recognize that heat moves from warmer objects to cooler objects until both reach the same temperature* | 1 | | | | |
| *SC 8.2.3.f Describe transfer of energy from electrical and magnetic sources to different energy forms (heat, light, sound, chemical)* | 1 | | | | |
| *SC 8.2.3.g Recognize all energy is neither created nor destroyed* | 1 | | | | |

| LIFE SCIENCE | | | | | |
|---|---|---|---|---|---|
| **Grade 8 Structure and Function of Living Systems** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.3.1 Students will investigate and describe the structure and function of living organisms.** | | | | | **4-7** |
| *SC 8.3.1.a Recognize the levels of organization in living organisms (cells, tissues, organs, organ systems, organisms)* | 1 | | | | |
| *SC 8.3.1.b Recognize that all organisms are composed of one or many cells; that these cells must grow, divide, and use energy; and that all cells function similarly* | 1 | | | | |
| *SC 8.3.1.c Recognize specialized cells perform specialized functions in multicellular organisms* | 1 | | | | |
| *SC 8.3.1.d Identify the organs and functions of the major systems of the human body and describe ways that these systems interact with each other* | 1 | | | | |
| *SC 8.3.1.e Describe how plants and animals respond to environmental stimuli* | 1 | | | | |
| **Grade 8 Heredity** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.3.2 Students will investigate and describe the relationship between reproduction and heredity.** | | | | | **1-3** |
| *SC 8.3.2.a Recognize that hereditary information is contained in genes within the chromosomes of each cell* | 1 | | | | |
| *SC 8.3.2.b Compare and contrast sexual and asexual reproduction* | 2 | | | | |
| **Grade 8 Flow of Matter and Energy in Ecosystems** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.3.3 Students will describe populations and ecosystems.** | | | | | **3-6** |
| *SC 8.3.3.a Diagram and explain the flow of energy through a simple food web* | 2 | | | | |
| *SC 8.3.3.b Compare the roles of producers, consumers, and decomposers in an ecosystem* | 2 | | | | |
| *SC 8.3.3.c Recognize that producers transform sunlight into chemical energy through photosynthesis* | 1 | | | | |
| *SC 8.3.3.d Determine the biotic and abiotic factors that impact the number of organisms an ecosystem can support* | 2 | | | | |
| *SC 8.3.3.e Recognize a population is all the individuals of a species at a given place and time* | 1 | | | | |

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| *SC 8.3.3.f Identify symbiotic relationships among organisms* | 1 | | | | |
| *SC 8.3.3.g Identify positive and negative effects of natural and human activity on an ecosystem* | 2 | | | | |
| **Grade 8 Biodiversity** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.3.4 Students will identify characteristics of organisms that help them survive.** | | | | | **2-4** |
| *SC 8.3.4.a Describe how an inherited characteristic enables an organism to improve its survival rate* | 2 | | | | |
| *SC 8.3.4.b Recognize the extinction of a species is caused by the inability to adapt to an environmental change* | 1 | | | | |
| *SC 8.3.4.c Use anatomical features of an organism to infer similarities among other organisms* | 2 | | | | |
| EARTH AND SPACE SCIENCE | | | | | |
| **Grade 8 Earth in Space** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.4.1 Students will investigate and describe Earth and the solar system.** | | | | | **2-4** |
| *SC 8.4.1.a Describe the components of the solar system (the Sun, planets, moons, asteroids, comets)* | 1 | | | | |
| *SC 8.4.1.b Describe the relationship between motion of objects in the solar system and the phenomena of day, year, eclipses, phases of the Moon and seasons* | 2 | | | | |
| *SC 8.4.1.c Describe the effects of gravity on Earth (tides) and the effect of gravity on objects in the solar system* | 2 | | | | |
| **Grade 8 Earth Structures and Processes** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.4.2 Students will investigate and describe Earth's structure, systems, and processes.** | | | | | **6-10** |
| *SC 8.4.2.a Describe the layers of Earth (core, mantle, crust, atmosphere)* | 1 | | | | |
| *SC 8.4.2.b Describe the physical composition of soil* | 1 | | | | |
| *SC 8.4.2.c Describe the mixture of gasses in Earth's atmosphere and how the atmosphere's properties change at different elevations* | 1 | | | | |
| *SC 8.4.2.d Describe evidence of Earth's magnetic field* | 1 | | | | |
| *SC 8.4.2.e Compare and contrast constructive and destructive forces (deposition, erosion, weathering, plate motion causing uplift, volcanoes, earthquakes) that impact Earth's surface* | 2 | | | | |
| *SC 8.4.2.f Describe the rock cycle* | 1 | | | | |

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| *SC 8.4.2.g Describe the water cycle (evaporation, condensation, precipitation)* | 1 | | | | |
| *SC 8.4.2.h Classify Earth materials as renewable or nonrenewable* | 2 | | | | |
| **Grade 8 Energy in Earth's Systems** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.4.3 Students will investigate and describe energy in Earth's systems.** | | | | | **2-4** |
| *SC 8.4.3.a Describe how energy from the Sun influences the atmosphere and provides energy for plant growth* | 1 | | | | |
| *SC 8.4.3.b Identify factors that influence daily and seasonal changes on Earth (tilt of the Earth, humidity, air pressure, air masses)* | 1 | | | | |
| *SC 8.4.3.c Describe atmospheric movements that influence weather and climate (air masses, jet stream)* | 1 | | | | |
| **Grade 8 Earth's History** | **DOK Level** | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 8.4.4 Students will use evidence to draw conclusions about changes in Earth.** | | | | | **1-3** |
| *SC 8.4.4.a Recognize that Earth processes we see today are similar to those that occurred in the past (uniformity of processes)* | 1 | | | | |
| *SC 8.4.4.b Describe how environmental conditions have changed through use of the fossil record* | 2 | | | | |

| Nebraska State Accountability - Science (NeSA-S)<br>Table of Specifications | | | | | |
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| Grade 11 | | | | | |
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| Inquiry, The Nature of Science, and Technology | | | | | |
| **Grade 11 Abilities to do Scientific Inquiry** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.1.1 Students will design and conduct investigations that lead to the use of logic and evidence in the formulation of scientific explanations and models.** | | | | | **8-13** |
| *SC 12.1.1.a Formulate a testable hypothesis supported by prior knowledge to guide an investigation* | 2 | | | | |
| *SC 12.1.1.b Design and conduct logical and sequential scientific investigations with repeated trials and apply findings to new investigations* | 3 | | | | |
| *SC 12.1.1.c Identify and manage variables and constraints* | 3 | | | | |
| *SC 12.1.1.d Select and use lab equipment and technology appropriately and accurately* | 1 | | | | |
| *SC 12.1.1.e Use tools and technology to make detailed qualitative and quantitative observations* | 1 | | | | |
| *SC 12.1.1.f Represent and review collected data in a systematic, accurate, and objective manner* | 3 | | | | |
| *SC 12.1.1.g Analyze and interpret data, synthesize ideas, formulate and evaluate models, and clarify concepts and explanations* | 3 | | | | |
| *SC 12.1.1.h Use results to verify or refute a hypothesis* | 2 | | | | |
| *SC 12.1.1.i Propose and/or evaluate possible revisions and alternate explanations* | 3 | | | | |
| *SC 12.1.1.j Share information, procedures, results, conclusions, and defend findings to a scientific community (peers, science fair audience, policy makers)* | 3 | | | | |
| *SC 12.1.1.k Evaluate scientific investigations and offer revisions and new ideas as appropriate* | 3 | | | | |
| *SC 12.1.1.l Use appropriate mathematics in all aspects of scientific inquiry* | 2 | | | | |
| **Grade 11 Nature of Science** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.1.2 Students will apply the nature of scientific knowledge to their own investigations and in the evaluation of scientific explanations.** | **Assessed at the local level** | | | | |

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| *SC 12.1.2.a Recognize that scientific explanations must be open to questions, possible modifications, and must be based upon historical and current scientific knowledge* | 1 | | | | |
| *SC 12.1.2.b Describe how society influences the work of scientists and how science, technology, and current scientific discoveries influence and change society* | 2 | | | | |
| *SC 12.1.2.c Recognize that the work of science results in incremental advances, almost always building on prior knowledge, in our understanding of the world* | 1 | | | | |
| *SC 12.1.2.d Research and describe the difficulties experienced by scientific innovators who had to overcome commonly held beliefs of their times to reach conclusions that we now take for granted* | 2 | | | | |
| **Grade 11 Technology** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.1.3 Students will solve a complex design problem.** | **Assessed at the local level** | | | | |
| *SC 12.1.3.a Propose designs and choose between alternative solutions of a problem* | 3 | | | | |
| *SC 12.1.3.b Assess the limits of a technological design* | 3 | | | | |
| *SC 12.1.3.c Implement the selected solution* | 3 | | | | |
| *SC 12.1.3.d Evaluate the solution and its consequences* | 3 | | | | |
| *SC 12.1.3.e Communicate the problem, process, and solution* | 2 | | | | |
| *SC 12.1.3.f Compare and contrast the reasons for the pursuit of science and the pursuit of technology* | 2 | | | | |
| *SC 12.1.3.g Explain how science advances with the introduction of new technology* | 1 | | | | |
| *SC 12.1.3.h Recognize creativity, imagination, and a good knowledge base are all needed to advance the work of science and engineering* | 1 | | | | |
| PHYSICAL SCIENCE | | | | | |
| **Grade 11 Matter** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.2.1 Students will investigate and describe matter in terms of its structure, composition and conservation.** | | | | | **4-7** |
| *SC 12.2.1.a Recognize bonding occurs when outer electrons are transferred (ionic) or shared (covalent)* | 1 | | | | |
| *SC 12.2.1.b Describe the energy transfer associated with phase changes between solids, liquids, and gasses* | 1 | | | | |

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| *SC 12.2.1.c Describe the three normal states of matter (solid, liquid, gas) in terms of energy, particle arrangement, particle motion, and strength of bond between molecules* | 1 | | | | |
| *SC 12.2.1.d Recognize a large number of chemical reactions involve the transfer of either electrons (oxidation/reduction) or hydrogen ions (acid/base) between reacting ions, molecules, or atoms* | 1 | | | | |
| *SC 12.2.1.e Identify factors affecting rates of chemical reactions (temperature, particle size, surface area)* | 1 | | | | |
| *SC 12.2.1.f Recognize the charges and relative locations of subatomic particles (neutrons, protons, electrons)* | 1 | | | | |
| *SC 12.2.1.g Describe properties of atoms, ions, and isotopes* | 1 | | | | |
| *SC 12.2.1.h Describe the organization of the periodic table of elements with respect to patterns of physical and chemical properties* | 1 | | | | |
| **Grade 11 Force and Motion** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.2.2 Students will investigate and describe the nature of field forces and their interactions with matter.** | | | | | **4-8** |
| *SC 12.2.2.a Describe motion with respect to displacement and acceleration* | 2 | | | | |
| *SC 12.2.2.b Describe how the law of inertia (Newton's 1st law) is evident in a real-world event* | 2 | | | | |
| *SC 12.2.2.c Make predictions based on relationships among net force, mass, and acceleration (Newton's 2nd law)* | 2 | | | | |
| *SC 12.2.2.d Recognize that all forces occur in equal and opposite pairs (Newton's 3rd law)* | 1 | | | | |
| *SC 12.2.e Describe how Newton's 3rd law of motion is evident in a real-world event* | 2 | | | | |
| *SC 12.2.2.f Describe gravity as a force that each mass exerts on another mass, which is proportional to the masses and the distance between them* | 2 | | | | |
| *SC 12.2.2.g Recognize that an attractive or repulsive electric force exists between two charged particles and that this force is proportional to the magnitude of the charges and the distance between them* | 1 | | | | |
| **Grade 11 Energy** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.2.3 Students will describe and investigate energy systems relating to the conservation and interaction of energy and matter.** | | | | | **4-8** |

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| *SC 12.2.3.a Describe mechanical wave properties (speed, wavelength, frequency, amplitude) and how waves travel through a medium* | 1 | | | | |
| *SC 12.2.3.b. Recognize that the energy in waves can be changed into other forms of energy* | 1 | | | | |
| *SC 12.2.3.c Recognize that light can behave as a wave (diffraction and interference)* | 1 | | | | |
| *SC 12.2.3.d Distinguish between temperature (a measure of the average kinetic energy of atomic or molecular motion) and heat (the quantity of thermal energy that transfers due to a change in temperature)* | 2 | | | | |
| *SC 12.2.3.e Compare and contrast methods of heat transfer and the interaction of heat with matter via conduction, convection, and radiation* | 2 | | | | |
| *SC 12.2.3.f Recognize that the production of electromagnetic waves is a result of changes in the motion of charges or by a changing magnetic field* | 1 | | | | |
| *SC 12.2.3.g Compare and contrast segments of the electromagnetic spectrum (radio, micro, infrared, visible, ultraviolet, x-rays, gamma) based on frequency and wavelength* | 2 | | | | |
| *SC 12.2.3.h Recognize that nuclear reactions (fission, fusion, radioactive decay) convert a fraction of the mass of interacting particles into energy, and this amount of energy is much greater than the energy in chemical interactions* | 1 | | | | |
| *SC 12.2.3.i Interpret the law of conservation of energy to make predictions for the outcome of an event* | 2 | | | | |
| *SC 12.2.3.j Identify that all energy can be considered to be either kinetic, potential, or energy contained by a field (e.g. electromagnetic waves)* | 1 | | | | |
| *SC 12.2.3.k Identify endothermic and exothermic reactions* | 1 | | | | |
| LIFE SCIENCE | | | | | |
| **Grade 11 Structure and Function of Living Systems** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.3.1 Students will investigate and describe the chemical basis of the growth, development, and maintenance of cells.** | | | | | **4-7** |
| *SC 12.3.1.a Identify the complex molecules (carbohydrates, lipids, proteins, nucleic acids) that make up living organisms* | 1 | | | | |
| *SC 12.3.1.b Identify the form and function of sub-cellular structures that regulate cellular activities* | 1 | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *SC 12.3.1.c Describe the cellular functions of photosynthesis, respiration, cell division, protein synthesis, transport of materials, and energy capture/release* | 2 | | | | |
| *SC 12.3.1.d Describe how an organism senses changes in its internal or external environment and responds to ensure survival* | 2 | | | | |
| **Grade 11 Heredity** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.3.2 Students will describe the molecular basis of reproduction and heredity.** | | | | | **3-6** |
| *SC 12.3.2.a Identify that information passed from parents to offspring is coded in DNA molecules* | 1 | | | | |
| *SC 12.3.2.b Describe the basic structure of DNA and its function in genetic inheritance* | 1 | | | | |
| *SC 12.3.2.c Recognize how mutations could help, harm, or have no effect on individual organisms* | 1 | | | | |
| *SC 12.3.2.d Describe that sexual reproduction results in a largely predictable, variety of possible gene combinations in the offspring of any two parents* | 2 | | | | |
| **Grade 11 Flow of Matter and Energy in Ecosystems** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.3.3 Students will describe, on a molecular level, the cycling of matter and the flow of energy between organisms and their environment.** | | | | | **1-3** |
| *SC 12.3.3.a Explain how the stability of an ecosystem is increased by biological diversity* | 2 | | | | |
| *SC 12.3.3.b Recognize that atoms and molecules cycle among living and nonliving components of the biosphere* | 1 | | | | |
| *SC 12.3.3.c Explain how distribution and abundance of different organisms in ecosystems are limited by the availability of matter and energy and the ability of the ecosystem to recycle materials* | 2 | | | | |
| *SC 12.3.3.d Analyze factors which may influence environmental quality* | 2 | | | | |
| **Grade 11 Biodiversity** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.3.4 Students will describe the theory of biological evolution.** | | | | | **2-5** |
| *SC 12.3.4.a Identify different types of adaptations necessary for survival (morphological, physiological, behavioral)* | 1 | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *SC 12.3.4.b Recognize that the concept of biological evolution is a theory which explains the consequence of the interactions of: (1) the potential for a species to increase its numbers, (2) the genetic variability of offspring due to mutation and recombination of genes, (3) a finite supply of the resources required for life, and (4) the ensuing selection by the environment of those offspring better able to survive and leave offspring* | 1 | | | | |
| *SC 12.3.4.c Explain how natural selection provides a scientific explanation of the fossil record and the molecular similarities among the diverse species of living organisms* | 2 | | | | |
| *SC 12.3.4.d Apply the theory of biological evolution to explain diversity of life over time* | 2 | | | | |
| EARTH AND SPACE SCIENCE | | | | | |
| **Grade 11 Earth in Space** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.4.1 Students will investigate and describe the known universe.** | | | | | **2-4** |
| *SC 12.4.1.a Describe the formation of the universe using the Big Bang Theory* | 1 | | | | |
| *SC 12.4.1.b Recognize that stars, like the Sun, transform matter into energy by nuclear reactions which leads to the formation of other elements* | 1 | | | | |
| *SC 12.4.1.c Describe stellar evolution* | 1 | | | | |
| **Grade 11 Earth Structures and Processes** | DOK Level | **DOK 1** | **DOK 2** | **DOK 3** | **Item Total** |
| **SC 12.4.2 Students will investigate the relationships among Earth's structure, systems, and processes.** | | | | | **3-5** |
| *SC 12.4.2.a Recognize how Earth materials move through geochemical cycles (carbon, nitrogen, oxygen) resulting in chemical and physical changes in matter* | 1 | | | | |
| *SC 12.4.2.b Describe how heat convection in the mantle propels the plates comprising Earth's surface across the face of the globe (plate tectonics)* | 2 | | | | |
| *SC 12.4.2.c Evaluate the impact of human activity and natural causes on Earth's resources (groundwater, rivers, land, fossil fuels)* | 2 | | | | |

| Grade 11 Energy in Earth's Systems | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
|---|---|---|---|---|---|
| **SC 12.4.3 Students will investigate and describe the relationships among the sources of energy and their efforts on Earth's systems.** | | | | | **3-5** |
| *SC 12.4.3.a Describe how radiation, conduction, and convection transfer heat in Earth's systems* | 1 | | | | |
| *SC 12.4.3.b Identify internal and external sources of heat energy in Earth's systems* | 2 | | | | |
| *SC 12.4.3.c Compare and contrast benefits of renewable and nonrenewable energy sources* | 2 | | | | |
| *SC 12.4.3.d Describe natural influences (Earth's rotation, mountain ranges, oceans, differential heating) on global climate* | 2 | | | | |
| **Grade 11 Earth's History** | DOK Level | DOK 1 | DOK 2 | DOK 3 | Item Total |
| **SC 12.4.4 Students will explain the history and evolution of Earth.** | | | | | **2-5** |
| *SC 12.4.4.a Recognize that in any sequence of sediments or rocks that has not been overturned, the youngest sediments or rocks are at the top of the sequence and the oldest are at the bottom (law of superposition)* | 1 | | | | |
| *SC 12.4.4.b Interpret Earth's history by observing rock sequences, using fossils to correlate the sequences at various locations, and using data from radioactive dating methods* | 2 | | | | |
| *SC 12.4.4.c Compare and contrast the physical and biological differences of the early Earth with the planet we live on today* | 2 | | | | |

# Appendix D: Confidentiality Agreement

## NEBRASKA DEPARTMENT OF EDUCATION

***NEBRASKA STATE ACCOUNTABILITY***

_____, _____
MONTH YEAR

## CONFIDENTIALITY AGREEMENT

TEST SECURITY IS OF THE UTMOST IMPORTANCE TO THE NEBRASKA DEPARTMENT OF EDUCATION. AS A PARTICIPANT IN THIS _____, YOU HAVE ACCESS TO TEST ITEMS THAT MUST BE REGARDED AS CONFIDENTIAL. **DO NOT REPRODUCE ANY MATERIALS, DIRECTLY OR INDIRECTLY, DISCLOSE THE CONTENTS OF THESE MATERIALS, OR DISCUSS THE MATERIALS OR ANY ISSUES THAT ARISE DURING THE MEETINGS WITH INDIVIDUALS OUTSIDE OF THE MEETING ITSELF.**

WE ARE CERTAIN THAT YOU SHARE OUR CONCERN FOR TEST SECURITY AND ASK THAT YOU ACKNOWLEDGE YOUR ADHERENCE TO THIS AGREEMENT BY SIGNING BELOW.

*LEGAL FIRST NAME* *MI* *LEGAL LAST NAME*

*SCHOOL*

*SIGNATURE* *DATE*

## Appendix E: Fairness in Testing Manual

# FAIRNESS IN TESTING

## Guidelines for Training

## Bias, Fairness, and Sensitivity Issues

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# INTRODUCTION

The most important part of the development of any new test is to ensure balanced treatment and control of potential bias, stereotyping, and insensitivity in the items or in the test-related materials. Data Recognition Corporation (DRC) understands that the presence of any type of bias in a test is undesirable not only from a civil rights point of view, but also from a measurement point of view. Issues of bias, fairness, and sensitivity in testing can have a direct impact on test scores. Our test developers are committed to the development of items and tests that are fair for all students. At every stage of the item and test development process, we employ procedures that are designed to ensure that our items and tests meet Standard 3.2 and 3.6 of the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014).

> Standard 3.2: Test developers are responsible for developing tests that measure the intended construct and for minimizing the potential for tests' being affected by construct-irrelevant characteristics, such this linguistic, communicative, cognitive, cultural, physical, or other characteristics.

> Standard 3.6: Where credible evidence indicates that test scores may differ in meaning for relevant subgroups in the intended examinee population, test developers and/or users are responsible for exaimimg the evidence for validity of score interpretations for intended uses for individuals from those subgroups. What constitutes a significan difference in subgroup scores and what actions are taken in response to scuh differences may be defined by applicable laws.

In meeting these standards, DRC employs a series of internal quality steps that we believe are among some of the best in the industry. We provide specific training for our test developers, item writers, and reviewers on how to write, review, revise, and edit items for issues of bias, fairness, and sensitivity, as well as for technical quality. Our training also includes an awareness of and sensitivity to issues of cultural diversity.

In addition to providing *internal* training in reviewing items in order to eliminate potential bias, we also provide *external* training to our clients, including state departments of education, review panels of minority experts, teachers, and other stakeholders. DRC understands the importance of having external panels with a wide variety of expertise in reviewing items and tests for potential bias. External panels of professionals provide a review of items for subtle forms of bias that often can be perceived only by individuals who possess a wide variety of appropriate expertise and represent specific constituencies.

This manual has been prepared to summarize DRC's guidelines for bias, fairness, and sensitivity, including how to eliminate language, symbols, words, phrases, and content that might be considered offensive by members of racial, ethnic, gender, or other groups. Our guidelines may be modified to meet client's requirements and/or state-specific guidelines.

# *DEFINITION OF BIAS*

While there are many definitions of bias, the following definition is provided on page 76 of the *Standards for Educational and Psychological Testing* (AERA, APA, NCME, 1999):

> The term *bias* in tests and testing refers to construct-irrelevant components that result in systematically lower or higher scores for identifiable groups of examinees. In other words, **bias is the presence of some characteristic of an item and/or test that results in two individuals of the same ability but from different subgroups performing differently on the item and/or test.** Therefore, it is most important that there are no ambiguities in the test items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries.

## TYPES OF BIAS

There are many types of bias. They include stereotyping and discriminating against people because of gender, regional or geographical differences, ethnicity or culture, socioeconomic or class status, religion, or age, as well as bias against other groups of people, including those with disabilities. Another form of bias involves the use of questions and/or activities in the items or on a test as a whole that are not relevant to the life experiences of the students responding to the items or test. A definition of each type of bias, along with samples, is provided below.

### STEREOTYPING

"Stereotype is an image formed by ascribing certain characteristics (e.g., physical, cultural, personal, occupational, historical) to all members of a group" (National Evaluation Systems, Inc. page 2). Stereotyping in test items and tests might include physical characteristics, intellectual characteristics, emotions, careers, activities, and domestic or social roles. In writing or reviewing test items, it is very important that all groups are portrayed fairly, without stereotyping. As a result, there should be a range of characteristics, careers, and social roles across all groups, and no one group should be characterized by any one particular attribute or characteristic. Following are examples of stereotyping.

| ***Stereotype*** | ***Examples*** |
|---|---|
| PHYSICAL CHARACTERISTICS | MALES ARE STRONG AND CAPABLE LEADERS.<br>Females are weak. |

**Stereotyping (continued)**

| | |
|---|---|
| | The elderly are feeble and sickly.<br>Children are healthy and full of energy.<br>The elderly are dependent upon others.<br>People with disabilities are dependent upon others.<br>Females worry about their hair. |
| Intellectual characteristics | Males do better in mathematics and science.<br>Females do better in reading and language arts.<br>Asian Americans excel in academics. |
| Emotions | Males are aggressive, courageous, and strong.<br>Females are weak, weepy, tender, and fearful. |

| ***Stereotyping*** | ***Examples*** |
|---|---|
| Careers | Females are nurses, teachers, and secretaries.<br>Males are doctors, principals, superintendents, lawyers, and skilled laborers (e.g., plumbers, construction workers, painters).<br>African-Americans are athletes.<br>Hispanics operate lawn care businesses.<br>Asian-Americans own dry cleaning businesses. |
| Activities | Females play with dolls and read books.<br>Females do domestic chores (e.g., clean house, cook, sew).<br>Females spend money.<br>Males play sports and work with tools.<br>Boys are rowdy.<br>Girls are quiet. |
| Domestic and/or Social Roles | Females are responsible for childcare.<br>Men work outside of the home and are the breadwinners. |
| Community | Asian-Americans live in ethnic neighborhoods.<br>African-Americans live in high-rise apartment buildings located in urban areas.<br>American Indians live on reservations. |
| Leadership | Men are leaders and rulers.<br>Women are followers.<br>Women are dependent on men.<br>Men are elected to political positions.<br>Females in leadership roles are aggressive and pushy. |

## GENDER BIAS

Gender bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that show members of either sex in stereotypical activities, emotions, occupations, characteristics, and/or situations. Gender bias also involves the use of demeaning labels.

*Examples of gender bias*

*TITLES AND SPECIFIC TERMS REFERRING TO HUMANITY AT LARGE, SUCH AS*

- Mankind
- Manhood
- Manpower
- Man of the hour
- Man-hours
- Man-made

Use of gender specific terms for occupations, such as

- Fireman
- Workman
- Chairman
- Policeman
- Mailman
- Salesman
- Insurance man
- Businessman
- Congressman

Use of pronouns that imply a stereotype, such as

- The nurse went to the hospital, and *she* was able to talk with the patient.
- The factory worker needed to earn more money for *his* family.
- When the lawyer delivered *his* closing remarks, the jury listened carefully.
- A politician must give a lot of speeches when *he* runs for office.





Use of phrases that identify genders in terms of their roles or occupations, such as

- Men and girls were invited to the lecture.
- The travelers took their wives and children with them.
- The happy couple was introduced as man and wife.

Use of phrases or words with an emphasis on marital status, such as

- Abraham Lincoln and Mrs. Lincoln attended the play.
- George Washington and Martha visited the new building.
- Dr. and Mrs. Jones attended the opening of the new warehouse.
- The admirable Dr. George Halstead and his wife, Maria, visited the library.

Use of words that identify genders in the salutation of a business letter, such as

- Dear Sir:
- Dear Madam:
- Dear Gentlemen:

Use of words or phases that are not parallel, such as

- The girls' restroom is down the hall, and the men's restroom is on the second floor.
- The boys' locker room door is painted green, and the women's locker room door is painted yellow.
- The men's department is on the right; the ladies' department is on the left.

Use of figures of speech, such as

- Old wives' tale
- Right-hand man
- Man versus nature
- The best man for the job
- The better half

Use of gender-specific terms or diminutive words, such as

- Sweet young thing
- Usherette
- Housewife
- Maid
- Cleaning lady
- Little woman
- Career girl
- Houseboy
- Steward

## Regional or Geographical Bias

Regional and/or geographical bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are not commonly used nationwide or within a particular region or state to which the test will be given. It also involves the use of terms that have different connotations in different parts of the country and/or geographical regions. It is important to note that some experiences may not be common to all students. For example, within a given geographic area not all students might be familiar with snow, so questions involving sleds and toboggans, for example, may well reflect a regional or geographical bias.

*Examples of regional or geographical bias*

- She ordered a new davenport (couch or sofa).
- Go get your toboggan (hat or type of sled).
- The students stood in line at the bubbler (water fountain or drinking fountain).
- Turn left at the berm (curb).
- Take the pike (road).

## Ethnic or Cultural Bias

Ethnic bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to a particular ethnic group or culture. In addition, no minority group should be portrayed as being uneducated or poor.

*Examples of ethnic or cultural bias*

- Maria was in the kitchen making tacos.
- The Chinese owned a laundry in our area.
- Native Americans are very close to nature.

*Terminology*

Terms that have a negative connotation or that reinforce negative judgments should also be avoided. Following is a list of **acceptable** terms.

- African-American
- Asian-American or Pacific Island American
- Latino, Mexican-American, Hispanic
- Tribal name (preferred), Native American, American Indian
- European-American

## Socioeconomic or Class Bias

Socioeconomic or class bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include activities, possessions, or ideas that may not be common to all students within a given area. For example, not all students in a given area own CD players or video games, nor do all students in a given area participate in certain sports activities, such as golf, snow skiing, or sailing. In addition, not all students in a given area take expensive vacations or attend expensive schools.

*Examples of socioeconomic or class bias*

- They were members of the country club.
- Boarding school.
- How many golf balls landed in the lake?
- The club members plan to go snow skiing over the holidays.
- My great aunt lives in a town house overlooking Lake Michigan.

## Religious Bias

Religious bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to a particular religious group.

*Examples of religious bias*

- The house on Smith Street is decorated for Halloween.
- There were several Christmas trees in the window.
- The students in the class will stand and say the *Pledge of Allegiance*.
- The high school students will be attending a rock-and-roll dance at the community center.

It is also important to note that no religious belief or practice should be portrayed as a universal norm or as inferior or superior to any other.

## Ageism (Bias Against a Particular Age Group)

There are other subtle forms of bias, including bias against the elderly or ageism. Ageism involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to the elderly or older persons (65 years or older). Ageism can also involve issues of bias with other age groups, including teenagers and young children.

It is important to note, however, that representing older persons or any age group fairly does not mean that the content of the items has to be revised or rewritten to seem unrealistic. Rather, as a whole, the items and the test should show older people or any age group in a variety of roles and activities whenever they appear naturally in the test content.

*Examples of ageism (bias against a particular age group)*

- Despite the fact that she was very old, she was able to walk down the stairs.
- The child's grandfather seemed senile.
- They were acting like typical irresponsible teenagers.

## Bias Against Persons with Disabilities

Another form of subtle bias involves issues of bias related to persons with disabilities. This type of bias involves items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries that include terms that are demeaning and/or offensive to persons with disabilities. It is important to note, however, that representing persons with disabilities does not mean that the content of the items has to be revised or rewritten to seem unrealistic. Rather, as a whole, the items and the test should show people with disabilities in a variety of roles and activities whenever they appear naturally in the test content.

*Examples of bias against persons with disabilities*

- After the car accident, the student was confined to a wheelchair.
- He became a successful writer despite his disability.
- She is a blind person.
- The student is handicapped.
- The child made great strides in overcoming her disability.

TYPES OF BIAS

**Bias Against Persons with Disabilities (continued)**

*Terminology*

Terms that have a negative connotation or that reinforce negative judgments (crippled, victim, afflicted, confined, etc.) should also be avoided. It is also important that no one with a disability should be pictured as helpless or portrayed as pitiful.

| *Do not use* | *Use* |
|---|---|
| Retarded | Developmentally delayed |
| Hard of hearing | Hearing impaired |
| Deaf and Dumb or Deaf-mute | Deaf or hard-of-hearing used accurately |
| Learning-disabled | Person with a learning disability |
| Handicap | Disability |
| | Visually-impaired or Blind used accurately |

# EXPERIENTIAL BIAS

The questions and activities reflected in the items or test, as a whole, should also be relevant to the life experiences of the students responding to the items. In other words, for a student to respond sensibly to the test questions, he or she must know what the question is about. In addition, culturally specific knowledge should be avoided, along with the use of difficult words and figures of speech.

*Examples of experiential bias*

- Pat knew she would win the race as she had an ace up her sleeve.
- Put the pedal to the metal and clean up your room.
- I needed change for the subway turnstile.
- The arroyos filled quickly during the storm.
- The super takes care of cleaning the foyer.

# MAINTAINING BALANCE

Bias may also occur as a result of having a lack of balance through underrepresentation of a particular ethnic group and/or gender. Therefore, whenever possible, tests and test-related materials should contain content that is balanced across ethnic groups and across gender. The content of the pool of items and/or test, as a whole, should also reflect cultural diversity. In order to achieve balance, the test developers at DRC review the pool of items or the test, as a whole, to determine whether or not there is an adequate representation of

- Females and males in both traditional and nontraditional roles
- Female and male names
- Minority groups in various environments and occupations
- Minority groups, including the use of names

The issue of fairness also involves content inclusiveness. Subtle forms of bias can result from omitting certain areas of information and/or from omitting certain topics. Wherever possible, the content should show people in everyday situations and groups should be depicted as fully integrated in the society, reflecting the diverse multicultural composition of society as a whole (NES, page 9).

# TOPICS TO AVOID

Because issues of bias, fairness, and sensitivity in testing can have a direct impact on the test scores, it is also important that sensitive and offensive topics be avoided. A topic might be considered offensive or controversial if it offends teachers, students, parents, or the community at large. This includes highly charged and controversial topics such as abortion, the death penalty, and evolution. Unacceptable content might also include less controversial topics, such as the use of tobacco or topics that could evoke unpleasant emotions on the part of a given student. In addition, topics that appear to promote or defend a particular set of values should be avoided. It is important to remember that the ability of the student to take the test should never be undermined. Following are examples of topics generally to be avoided.

*Examples of topics to be generally avoided*

- *ABORTION*
- Alcohol, including beer and wine
- Behaviors that are inappropriate, including stealing, cheating, lying, and other criminal and/or anti-social behaviors and activities
- Biographies of controversial figures whether or not they are still alive
- Birthdays
- Cancer and other diseases that might be considered fatal (HIV, AIDS)
- Criticism of democracy or capitalism
- Dangerous behavior
- Death of animals or animals dying or being mistreated
- Death, murder, and suicide
- Disasters, including tornadoes, hurricanes, etc. (unless treated as scientific subjects)
- Disrespect of any mainstream racial or religious group
- Double meanings of words that have sexually suggestive meanings
- Evolution
- Family experiences that may be upsetting, including divorce or loss of a job
- Feminist or chauvinistic topics
- Gambling
- Guns and gun control
- Holidays of religious origin (e.g., Halloween, Christmas, Easter)
- Junk food, including candy, gum, chips
- Left- or right-wing politics
- Luxuries (homes with swimming pools, expensive clothes, expensive vacations, and sports activities that typically require the purchase of expensive equipment such as snow skiing)
- Parapsychology

  - Physical, emotional, and/or mental abuse, including animal, child, and/or spousal abuse
- Religions, except in appropriate historical context; mythology, folk tales, and fables may contain religious elements as part of appropriately presented literary excerpts.
- Sex, including kissing and dating
- Slavery (unless presented in an historical context and presented appropriately)
- Tobacco
- Violence against a particular group of people or animals
- Rock music, including rap and heavy metal
- Wars
- Witchcraft, sorcery, or magic
- Words that might be problematic to a specific ethnic group

## SPECIAL CIRCUMSTANCES

In certain subject areas, a sensitive topic may be acceptable because the topic is a part of the course of study or may be required in order to measure the specific curriculum content standards and/or test objectives. For example, it may be appropriate to have test questions dealing with hurricanes. However, the questions should not focus unduly upon the destruction of property or the deaths of human beings. Other special circumstances include historical and literary contexts. A discussion of these special circumstances is provided below.

### *Historical Contexts*

In order to measure the content curriculum standards, social studies tests often include topics that might otherwise be deemed as controversial. For example, in a history test, the topic of slavery might be used. The student would know that such a controversial topic is used to access knowledge of a particular curriculum content standard and/or set of objectives and, therefore, the topic would not reflect the views of the test developer.

### *Literary Contexts*

Today's tests often require the use of authentic or previously published passages. As a result, sometimes a given passage or prompt might contain controversial material, including sentences, phrases, and/or words. If the overall passage or prompt is acceptable, it may be possible to edit and or delete the objectionable sentences, phrases, words, and/or references in order to eliminate the potential bias. In such cases, DRC test developers request permission from the publisher to make such edits and/or changes, and they would do so only if permission is granted.

# Points to Remember

When reviewing items (questions and responses), passages prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries for issues of bias, fairness, and sensitivity, the following questions should be asked.

1. Do the items (questions and responses), passages, prompts, stimulus materials, artwork, graphs, charts, and test-related ancillaries:

   Demean any religious, ethnic, cultural, or social group?
   Portray anyone or any group in a stereotypical manner?
   Contain any other forms of bias, including gender, regional or geographical, ethnic or cultural, socioeconomic or class, religious, age-related bias, or bias against persons with disabilities?

2. Are there any topics that might disadvantage a student for any reason?

3. Are there any culturally specific sets of knowledge, terms, difficult words and/or figures of speech that might disadvantage a group of students?

4. Are the questions and activities reflected in the items or test, as a whole, relevant to the life experiences of the students responding to the items?

5. As a whole, does the test or pool of items have a balance across ethnic groups and across genders, including an adequate representation of:

   Females and males in both traditional and nontraditional roles
   Female and male names
   Minority groups in various environments and occupations
   Minority groups, including the use of ethnic names

6. Wherever possible, does the content show minority groups in everyday situations and groups depicted as fully integrated in the society, reflecting the multicultural composition of society as a whole?

# Sample Review Form

**Name: _____**

**Date: _____**

**Subject Area: _____ Grade Level: _____**

| Item No. | Type of Bias | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Gender | Regional | Ethnic | Socio-economic | Religious | Age | Exper-iential | Other |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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**Comments:**

# References

American Educational Research Association, American Psychological Association, and National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

Haladyna, T. (1999). *Developing and validating multiple-choice test questions*. Mahwah, NJ: Lawrence Erlbaum.

Joint Committee on Testing Practices. (1988). *Code of fair testing practices in education.* Washington, DC: Joint Committee on Testing Practices.

McDivitt, P.J., Newsome, D., Shoffner, M., Wall, J., and Watts, R. (2002). *Applying the standards for educational and psychological testing: What teachers and counselors need to know*. Alexandria, VA: Association for Assessment in Counseling.

National Evaluation Systems, Inc. (1990). *Bias concerns in test development*. Amherst, MA: The National Evaluation Systems, Inc.

Osterlind, S.J. (1998). *Constructing test items: multiple-choice, constructed-response, performance, and other formats*, 2nd ed. AH Dordrecht, The Netherlands: Kluwer Academic Publishers.

Sandoval, J., Frisy, C.L., Geisinger, K.F., Scheuneman, J.D., and Grenier, J.R. Eds, (1998). *Test interpretation and diversity*. Washington, DC: American Psychological Association.

Sebranek, P., Meyer, V., and Kemper, D. (1996). *Writers Inc.: A handbook for writing and learning.* Lexington, MA: D.C. Heath and Company.

# Appendix F: Reading Key Verification and Foil Analysis

## Grade 3

Grade 3 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 658138 | C | 23013 | .70 | .08 | .08 | .70 | .14 | .00 | .00 | .45 | -.22 | -.21 | .45 | -.26 |
| OP | 658139 | A | 23013 | .60 | .60 | .06 | .21 | .13 | .00 | .00 | .42 | .42 | -.23 | -.25 | -.14 |
| OP | 658140 | C | 23013 | .53 | .18 | .11 | .53 | .17 | .00 | .00 | .42 | -.21 | -.23 | .42 | -.15 |
| OP | 658142 | D | 23013 | .65 | .05 | .19 | .10 | .65 | .00 | .00 | .41 | -.22 | -.19 | -.23 | .41 |
| OP | 658144 | B | 23013 | .75 | .09 | .75 | .05 | .11 | .00 | .00 | .51 | -.26 | .51 | -.26 | -.29 |
| OP | 658147 | A | 23013 | .81 | .81 | .08 | .05 | .05 | .00 | .00 | .44 | .44 | -.25 | -.24 | -.23 |
| OP | 658151 | B | 23013 | .70 | .07 | .70 | .11 | .12 | .00 | .00 | .48 | -.31 | .48 | -.17 | -.27 |
| OP | 658152 | D | 23013 | .87 | .04 | .02 | .06 | .87 | .00 | .00 | .38 | -.24 | -.15 | -.23 | .38 |
| OP | 658159 | C | 23013 | .78 | .15 | .04 | .78 | .03 | .00 | .00 | .39 | -.27 | -.20 | .39 | -.15 |
| OP | 658160 | D | 23013 | .75 | .06 | .06 | .13 | .75 | .00 | .00 | .36 | -.19 | -.21 | -.18 | .36 |
| OP | 658162 | A | 23013 | .49 | .49 | .17 | .25 | .09 | .00 | .00 | .29 | .29 | -.27 | -.05 | -.07 |
| OP | 658165 | C | 23013 | .70 | .11 | .11 | .70 | .08 | .00 | .00 | .39 | -.12 | -.23 | .39 | -.25 |
| OP | 658166 | B | 23013 | .58 | .26 | .58 | .12 | .04 | .00 | .00 | .38 | -.20 | .38 | -.17 | -.22 |
| OP | 658167 | A | 23013 | .62 | .62 | .07 | .09 | .22 | .00 | .00 | .47 | .47 | -.24 | -.16 | -.29 |
| OP | 658170 | C | 23013 | .79 | .02 | .11 | .79 | .08 | .00 | .00 | .34 | -.19 | -.11 | .34 | -.29 |
| OP | 658171 | D | 23013 | .67 | .17 | .07 | .09 | .67 | .00 | .00 | .30 | -.11 | -.19 | -.18 | .30 |
| OP | 658172 | D | 23013 | .74 | .11 | .03 | .11 | .74 | .00 | .00 | .43 | -.24 | -.21 | -.24 | .43 |
| OP | 658173 | C | 23013 | .76 | .07 | .05 | .76 | .12 | .00 | .00 | .44 | -.16 | -.25 | .44 | -.28 |
| OP | 658175 | A | 23013 | .75 | .75 | .08 | .13 | .04 | .00 | .00 | .40 | .40 | -.25 | -.17 | -.24 |
| OP | 687491 | B | 23013 | .60 | .11 | .60 | .14 | .15 | .00 | .00 | .36 | -.23 | .36 | -.19 | -.11 |
| OP | 687492 | A | 23013 | .76 | .76 | .08 | .07 | .08 | .00 | .00 | .48 | .48 | -.29 | -.23 | -.23 |
| OP | 687493 | D | 23013 | .63 | .17 | .14 | .06 | .63 | .00 | .00 | .43 | -.24 | -.18 | -.22 | .43 |
| OP | 687494 | A | 23013 | .52 | .52 | .20 | .14 | .14 | .00 | .00 | .38 | .38 | -.10 | -.22 | -.21 |
| OP | 687495 | D | 23013 | .76 | .07 | .07 | .10 | .76 | .00 | .00 | .37 | -.25 | -.19 | -.16 | .37 |
| OP | 687496 | B | 23013 | .49 | .28 | .49 | .16 | .06 | .00 | .00 | .45 | -.26 | .45 | -.18 | -.19 |
| OP | 687499 | C | 23013 | .50 | .11 | .23 | .50 | .16 | .00 | .00 | .43 | -.12 | -.17 | .43 | -.29 |
| OP | 687501 | B | 23013 | .61 | .14 | .61 | .15 | .10 | .00 | .00 | .48 | -.20 | .48 | -.26 | -.23 |
| OP | 687503 | D | 23013 | .68 | .12 | .17 | .03 | .68 | .00 | .00 | .52 | -.30 | -.30 | -.18 | .52 |
| OP | 687504 | D | 23013 | .71 | .06 | .08 | .16 | .71 | .00 | .00 | .47 | -.26 | -.28 | -.21 | .47 |
| OP | 687510 | B | 23013 | .77 | .09 | .77 | .06 | .07 | .00 | .00 | .46 | -.25 | .46 | -.26 | -.22 |
| OP | 687511 | D | 23013 | .71 | .03 | .03 | .24 | .71 | .00 | .00 | .40 | -.22 | -.22 | -.26 | .40 |
| OP | 687512 | C | 23013 | .61 | .18 | .15 | .61 | .06 | .00 | .00 | .36 | -.21 | -.12 | .36 | -.22 |
| OP | 687514 | B | 23013 | .60 | .12 | .60 | .08 | .20 | .00 | .00 | .48 | -.25 | .48 | -.20 | -.24 |
| OP | 687515 | B | 23013 | .66 | .12 | .66 | .09 | .12 | .00 | .00 | .46 | -.19 | .46 | -.21 | -.28 |

## Grade 3 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 687518 | A | 23013 | .61 | .61 | .08 | .10 | .21 | .00 | .00 | .37 | .37 | -.17 | -.09 | -.26 |
| OP | 687519 | B | 23013 | .64 | .24 | .64 | .08 | .04 | .00 | .00 | .49 | -.31 | .49 | -.21 | -.21 |
| OP | 687521 | C | 23013 | .62 | .07 | .05 | .62 | .27 | .00 | .00 | .33 | -.21 | -.17 | .33 | -.16 |
| OP | 687522 | A | 23013 | .75 | .75 | .05 | .13 | .07 | .00 | .00 | .44 | .44 | -.22 | -.26 | -.22 |
| OP | 687523 | C | 23013 | .67 | .09 | .11 | .67 | .13 | .00 | .00 | .50 | -.24 | -.21 | .50 | -.29 |
| OP | 687525 | D | 23013 | .59 | .10 | .21 | .10 | .59 | .00 | .00 | .30 | -.16 | -.09 | -.21 | .30 |
| OP | 687528 | C | 23013 | .64 | .13 | .05 | .64 | .18 | .00 | .00 | .38 | -.22 | -.22 | .38 | -.16 |
| OP | 687531 | D | 23013 | .70 | .07 | .08 | .15 | .70 | .00 | .00 | .45 | -.22 | -.22 | -.25 | .45 |
| OP | 687533 | C | 23013 | .81 | .07 | .05 | .81 | .07 | .00 | .00 | .43 | -.27 | -.18 | .43 | -.24 |
| OP | 687534 | B | 23013 | .81 | .05 | .81 | .03 | .11 | .00 | .00 | .28 | -.19 | .28 | -.13 | -.15 |
| OP | 687535 | C | 23013 | .88 | .04 | .02 | .88 | .05 | .00 | .00 | .36 | -.17 | -.18 | .36 | -.25 |
| FT | 706352 | A | 6272 | .27 | .27 | .28 | .20 | .25 | .00 | .00 | .15 | .15 | -.02 | .08 | -.21 |
| FT | 706353 | D | 6272 | .85 | .06 | .05 | .04 | .85 | .00 | .00 | .46 | -.27 | -.24 | -.24 | .46 |
| FT | 706354 | C | 6272 | .70 | .05 | .22 | .70 | .04 | .00 | .00 | .44 | -.17 | -.30 | .44 | -.20 |
| FT | 706355 | B | 6272 | .44 | .21 | .44 | .19 | .15 | .00 | .00 | .27 | -.15 | .27 | .00 | -.20 |
| FT | 706356 | A | 6272 | .58 | .58 | .36 | .03 | .03 | .00 | .00 | .34 | .34 | -.21 | -.13 | -.25 |
| FT | 706357 | D | 6272 | .49 | .16 | .10 | .25 | .49 | .00 | .00 | .28 | -.15 | -.16 | -.08 | .28 |
| FT | 706358 | B | 6272 | .44 | .11 | .44 | .21 | .24 | .00 | .00 | .36 | -.09 | .36 | -.17 | -.19 |
| FT | 706359 | C | 6272 | .72 | .05 | .12 | .72 | .11 | .00 | .00 | .50 | -.23 | -.28 | .50 | -.27 |
| FT | 706360 | C | 6272 | .88 | .07 | .03 | .88 | .02 | .00 | .00 | .30 | -.19 | -.16 | .30 | -.15 |
| FT | 706362 | B | 6272 | .55 | .14 | .55 | .17 | .14 | .00 | .00 | .34 | -.17 | .34 | -.23 | -.06 |
| FT | 706364 | B | 4245 | .55 | .14 | .55 | .18 | .12 | .00 | .00 | .30 | -.13 | .30 | -.08 | -.21 |
| FT | 706365 | A | 4245 | .87 | .87 | .07 | .02 | .05 | .00 | .00 | .42 | .42 | -.21 | -.19 | -.30 |
| FT | 706367 | A | 4245 | .83 | .83 | .09 | .04 | .05 | .00 | .00 | .47 | .47 | -.29 | -.26 | -.20 |
| FT | 706369 | B | 4245 | .55 | .22 | .55 | .13 | .10 | .00 | .00 | .35 | -.12 | .35 | -.16 | -.24 |
| FT | 706370 | B | 4245 | .42 | .30 | .42 | .17 | .12 | .00 | .00 | .32 | .02 | .32 | -.25 | -.24 |
| FT | 706371 | C | 4245 | .61 | .11 | .14 | .61 | .14 | .00 | .00 | .37 | -.19 | -.05 | .37 | -.29 |
| FT | 706372 | C | 4245 | .46 | .35 | .10 | .46 | .09 | .00 | .00 | .40 | -.19 | -.15 | .40 | -.22 |
| FT | 706373 | A | 4245 | .63 | .63 | .13 | .18 | .06 | .00 | .00 | .30 | .30 | -.12 | -.12 | -.25 |
| FT | 706374 | D | 4245 | .65 | .08 | .19 | .08 | .65 | .00 | .00 | .45 | -.17 | -.23 | -.28 | .45 |
| FT | 706375 | C | 4245 | .53 | .07 | .18 | .53 | .22 | .00 | .00 | .39 | -.22 | -.18 | .39 | -.17 |
| FT | 706376 | A | 4392 | .84 | .84 | .05 | .04 | .08 | .00 | .00 | .32 | .32 | -.18 | -.17 | -.18 |
| FT | 706377 | C | 4392 | .49 | .21 | .23 | .49 | .06 | .00 | .00 | .43 | -.32 | -.08 | .43 | -.21 |
| FT | 706379 | D | 4392 | .21 | .07 | .65 | .06 | .21 | .00 | .00 | .17 | -.23 | .12 | -.28 | .17 |
| FT | 706380 | A | 4392 | .55 | .55 | .22 | .12 | .11 | .00 | .00 | .37 | .37 | -.12 | -.18 | -.24 |
| FT | 706381 | B | 4392 | .59 | .16 | .59 | .13 | .12 | .00 | .00 | .42 | -.19 | .42 | -.24 | -.18 |
| FT | 706382 | D | 4392 | .24 | .20 | .37 | .19 | .24 | .00 | .00 | .15 | -.12 | .06 | -.10 | .15 |
| FT | 706383 | C | 4392 | .53 | .17 | .15 | .53 | .15 | .00 | .00 | .39 | -.15 | -.14 | .39 | -.23 |
| FT | 706384 | C | 4392 | .57 | .13 | .14 | .57 | .16 | .00 | .00 | .48 | -.29 | -.21 | .48 | -.18 |
| FT | 706385 | A | 4392 | .71 | .71 | .17 | .06 | .07 | .00 | .00 | .48 | .48 | -.29 | -.21 | -.24 |
| FT | 706386 | B | 4392 | .59 | .08 | .59 | .06 | .27 | .00 | .00 | .31 | -.27 | .31 | -.16 | -.09 |

Grade 3 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706388 | A | 4049 | .28 | .28 | .47 | .03 | .21 | .00 | .00 | -.02 | -.02 | .08 | -.14 | -.01 |
| FT | 706389 | D | 4049 | .72 | .08 | .07 | .13 | .72 | .00 | .00 | .39 | -.18 | -.15 | -.26 | .39 |
| FT | 706390 | D | 4049 | .68 | .12 | .10 | .11 | .68 | .00 | .00 | .39 | -.13 | -.27 | -.19 | .39 |
| FT | 706391 | C | 4049 | .70 | .10 | .11 | .70 | .10 | .00 | .00 | .40 | -.27 | -.19 | .40 | -.15 |
| FT | 706392 | B | 4049 | .63 | .10 | .63 | .17 | .10 | .00 | .00 | .39 | -.14 | .39 | -.21 | -.23 |
| FT | 706393 | D | 4049 | .65 | .07 | .07 | .20 | .65 | .00 | .00 | .27 | -.14 | -.21 | -.10 | .27 |
| FT | 706394 | A | 4049 | .45 | .45 | .08 | .18 | .28 | .00 | .00 | .22 | .22 | -.15 | -.22 | .04 |
| FT | 706396 | C | 4049 | .87 | .06 | .03 | .87 | .04 | .00 | .00 | .34 | -.20 | -.21 | .34 | -.15 |
| FT | 706397 | A | 4049 | .67 | .67 | .18 | .10 | .05 | .00 | .00 | .38 | .38 | -.24 | -.08 | -.26 |
| FT | 706398 | B | 4049 | .73 | .10 | .73 | .04 | .13 | .00 | .00 | .44 | -.26 | .44 | -.17 | -.25 |
| FT | 706399 | A | 4055 | .50 | .50 | .08 | .31 | .11 | .00 | .00 | .24 | .24 | -.20 | -.03 | -.15 |
| FT | 706400 | B | 4055 | .40 | .05 | .40 | .25 | .30 | .00 | .00 | .34 | -.19 | .34 | -.31 | .01 |
| FT | 706401 | A | 4055 | .57 | .57 | .09 | .16 | .17 | .00 | .00 | .32 | .32 | -.28 | -.13 | -.08 |
| FT | 706402 | D | 4055 | .50 | .23 | .11 | .16 | .50 | .00 | .00 | .32 | -.19 | -.08 | -.15 | .32 |
| FT | 706403 | C | 4055 | .40 | .16 | .19 | .40 | .25 | .00 | .00 | .32 | -.33 | -.18 | .32 | .08 |
| FT | 706404 | C | 4055 | .46 | .28 | .11 | .46 | .15 | .00 | .00 | .30 | -.11 | -.22 | .30 | -.08 |
| FT | 706405 | B | 4055 | .71 | .08 | .71 | .13 | .08 | .00 | .00 | .32 | -.22 | .32 | -.01 | -.30 |
| FT | 706406 | D | 4055 | .50 | .10 | .14 | .26 | .50 | .00 | .00 | .35 | -.11 | -.16 | -.20 | .35 |
| FT | 706409 | A | 4055 | .65 | .65 | .10 | .09 | .16 | .00 | .00 | .50 | .50 | -.25 | -.19 | -.30 |
| FT | 706410 | C | 4055 | .26 | .42 | .17 | .26 | .15 | .00 | .00 | .13 | .12 | -.24 | .13 | -.08 |

# Grade 4

Grade 4 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 633012 | B | 22590 | .55 | .18 | .55 | .11 | .16 | .00 | .00 | .35 | -.15 | .35 | -.20 | -.14 |
| OP | 633014 | A | 22590 | .72 | .72 | .23 | .04 | .02 | .00 | .00 | .34 | .34 | -.19 | -.26 | -.15 |
| OP | 633017 | B | 22590 | .67 | .16 | .67 | .15 | .02 | .00 | .00 | .42 | -.17 | .42 | -.29 | -.20 |
| OP | 633019 | A | 22590 | .89 | .89 | .02 | .05 | .03 | .00 | .00 | .32 | .32 | -.17 | -.13 | -.24 |
| OP | 633024 | D | 22590 | .78 | .08 | .09 | .05 | .78 | .00 | .00 | .37 | -.20 | -.17 | -.23 | .37 |
| OP | 633025 | D | 22590 | .65 | .11 | .03 | .20 | .65 | .00 | .00 | .34 | -.19 | -.21 | -.15 | .34 |
| OP | 645794 | A | 22590 | .45 | .45 | .26 | .20 | .08 | .00 | .00 | .28 | .28 | -.21 | .02 | -.18 |
| OP | 645795 | B | 22590 | .75 | .07 | .75 | .12 | .05 | .00 | .00 | .46 | -.27 | .46 | -.25 | -.21 |
| OP | 645799 | C | 22590 | .47 | .11 | .19 | .47 | .23 | .00 | .00 | .26 | -.06 | -.19 | .26 | -.07 |
| OP | 645800 | C | 22590 | .78 | .08 | .08 | .78 | .06 | .00 | .00 | .34 | -.08 | -.24 | .34 | -.22 |
| OP | 645802 | C | 22590 | .78 | .10 | .08 | .78 | .04 | .00 | .00 | .42 | -.22 | -.24 | .42 | -.22 |
| OP | 645806 | B | 22590 | .82 | .04 | .82 | .06 | .08 | .00 | .00 | .47 | -.23 | .47 | -.28 | -.25 |
| OP | 658230 | D | 22590 | .46 | .07 | .16 | .31 | .46 | .00 | .00 | .38 | -.16 | -.15 | -.20 | .38 |
| OP | 658233 | D | 22590 | .71 | .09 | .07 | .13 | .71 | .00 | .00 | .38 | -.21 | -.19 | -.18 | .38 |

## Grade 4 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 658234 | C | 22590 | .56 | .20 | .15 | .56 | .09 | .00 | .00 | .42 | -.20 | -.17 | .42 | -.22 |
| OP | 658235 | C | 22590 | .69 | .06 | .08 | .69 | .17 | .00 | .00 | .36 | -.15 | -.23 | .36 | -.18 |
| OP | 658236 | A | 22590 | .53 | .53 | .26 | .14 | .07 | .00 | .00 | .37 | .37 | -.06 | -.27 | -.26 |
| OP | 658237 | B | 22590 | .77 | .06 | .77 | .05 | .12 | .00 | .00 | .40 | -.18 | .40 | -.20 | -.25 |
| OP | 658239 | C | 22590 | .75 | .05 | .14 | .75 | .06 | .00 | .00 | .41 | -.20 | -.23 | .41 | -.22 |
| OP | 658240 | D | 22590 | .70 | .03 | .11 | .17 | .70 | .00 | .00 | .45 | -.23 | -.22 | -.27 | .45 |
| OP | 687538 | C | 22590 | .68 | .15 | .09 | .68 | .08 | .00 | .00 | .42 | -.16 | -.22 | .42 | -.28 |
| OP | 687543 | C | 22590 | .75 | .02 | .07 | .75 | .16 | .00 | .00 | .45 | -.19 | -.22 | .45 | -.30 |
| OP | 687544 | A | 22590 | .92 | .92 | .01 | .02 | .04 | .00 | .00 | .35 | .35 | -.18 | -.20 | -.21 |
| OP | 687545 | D | 22590 | .65 | .09 | .12 | .14 | .65 | .00 | .00 | .31 | -.22 | -.24 | -.02 | .31 |
| OP | 687546 | B | 22590 | .50 | .31 | .50 | .15 | .03 | .00 | .00 | .25 | -.05 | .25 | -.18 | -.20 |
| OP | 687547 | D | 22590 | .81 | .01 | .05 | .13 | .81 | .00 | .00 | .26 | -.13 | -.24 | -.10 | .26 |
| OP | 687548 | B | 22590 | .71 | .12 | .71 | .08 | .09 | .00 | .00 | .45 | -.29 | .45 | -.14 | -.25 |
| OP | 687550 | B | 22590 | .57 | .18 | .57 | .10 | .15 | .00 | .00 | .37 | -.24 | .37 | -.07 | -.20 |
| OP | 687554 | C | 22590 | .60 | .19 | .12 | .60 | .10 | .00 | .00 | .26 | -.14 | -.10 | .26 | -.13 |
| OP | 687555 | A | 22590 | .70 | .70 | .08 | .08 | .14 | .00 | .00 | .34 | .34 | -.16 | -.17 | -.19 |
| OP | 687558 | B | 22590 | .70 | .12 | .70 | .08 | .11 | .00 | .00 | .40 | -.21 | .40 | -.20 | -.19 |
| OP | 687559 | C | 22590 | .64 | .14 | .07 | .64 | .14 | .00 | .00 | .38 | -.21 | -.14 | .38 | -.21 |
| OP | 687562 | A | 22590 | .43 | .43 | .13 | .30 | .14 | .00 | .00 | .36 | .36 | -.18 | -.12 | -.17 |
| OP | 687563 | D | 22590 | .72 | .05 | .17 | .05 | .72 | .00 | .00 | .31 | -.19 | -.15 | -.17 | .31 |
| OP | 687565 | B | 22590 | .74 | .15 | .74 | .05 | .05 | .00 | .00 | .44 | -.24 | .44 | -.20 | -.26 |
| OP | 687566 | C | 22590 | .60 | .21 | .07 | .60 | .13 | .00 | .00 | .44 | -.26 | -.17 | .44 | -.20 |
| OP | 687568 | C | 22590 | .75 | .05 | .13 | .75 | .07 | .00 | .00 | .40 | -.24 | -.21 | .40 | -.18 |
| OP | 687571 | A | 22590 | .61 | .61 | .14 | .04 | .20 | .00 | .00 | .40 | .40 | -.25 | -.25 | -.14 |
| OP | 687872 | A | 22590 | .79 | .79 | .12 | .05 | .04 | .00 | .00 | .30 | .30 | -.11 | -.14 | -.28 |
| OP | 687874 | D | 22590 | .73 | .12 | .05 | .11 | .73 | .00 | .00 | .31 | -.15 | -.16 | -.18 | .31 |
| OP | 687878 | C | 22590 | .71 | .07 | .06 | .71 | .17 | .00 | .00 | .38 | -.18 | -.20 | .38 | -.21 |
| OP | 687879 | D | 22590 | .64 | .07 | .23 | .06 | .64 | .00 | .00 | .38 | -.19 | -.17 | -.27 | .38 |
| OP | 687880 | A | 22590 | .81 | .81 | .07 | .04 | .07 | .00 | .00 | .38 | .38 | -.16 | -.20 | -.25 |
| OP | 687881 | B | 22590 | .75 | .15 | .75 | .07 | .03 | .00 | .00 | .34 | -.15 | .34 | -.22 | -.20 |
| OP | 687882 | D | 22590 | .63 | .03 | .31 | .03 | .63 | .00 | .00 | .38 | -.21 | -.23 | -.23 | .38 |
| FT | 706610 | B | 5789 | .60 | .13 | .60 | .11 | .16 | .00 | .00 | .42 | -.22 | .42 | -.13 | -.25 |
| FT | 706611 | C | 5789 | .62 | .16 | .18 | .62 | .05 | .00 | .00 | .36 | -.26 | -.06 | .36 | -.26 |
| FT | 706614 | A | 5789 | .82 | .82 | .06 | .06 | .07 | .00 | .00 | .49 | .49 | -.25 | -.26 | -.27 |
| FT | 706615 | A | 5789 | .58 | .58 | .09 | .28 | .05 | .00 | .00 | .28 | .28 | -.21 | -.04 | -.27 |
| FT | 706616 | C | 5789 | .59 | .13 | .14 | .59 | .14 | .00 | .00 | .39 | -.22 | -.19 | .39 | -.14 |
| FT | 706617 | B | 5789 | .54 | .29 | .54 | .08 | .08 | .00 | .00 | .31 | -.13 | .31 | -.19 | -.14 |
| FT | 706618 | C | 5789 | .55 | .12 | .25 | .55 | .07 | .00 | .00 | .28 | -.24 | .01 | .28 | -.24 |
| FT | 706619 | D | 5789 | .43 | .07 | .25 | .24 | .43 | .00 | .00 | .31 | -.23 | -.06 | -.16 | .31 |
| FT | 706620 | D | 5789 | .68 | .14 | .06 | .11 | .68 | .00 | .00 | .33 | -.20 | -.20 | -.11 | .33 |
| FT | 706621 | A | 4389 | .37 | .37 | .22 | .30 | .11 | .00 | .00 | .30 | .30 | -.11 | -.12 | -.14 |

**Grade 4 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706623 | C | 4389 | .44 | .12 | .07 | .44 | .38 | .00 | .00 | .33 | -.23 | -.19 | .33 | -.08 |
| FT | 706624 | C | 4389 | .38 | .16 | .18 | .38 | .29 | .00 | .00 | .25 | -.28 | -.22 | .25 | .15 |
| FT | 706625 | D | 4389 | .41 | .09 | .21 | .29 | .41 | .00 | .00 | .32 | -.28 | -.10 | -.08 | .32 |
| FT | 706626 | B | 4389 | .69 | .12 | .69 | .06 | .13 | .00 | .00 | .34 | -.08 | .34 | -.14 | -.29 |
| FT | 706627 | A | 4389 | .68 | .68 | .03 | .26 | .02 | .00 | .00 | .33 | .33 | -.17 | -.22 | -.18 |
| FT | 706628 | D | 4389 | .49 | .27 | .07 | .17 | .49 | .00 | .00 | .22 | -.03 | -.03 | -.23 | .22 |
| FT | 706629 | B | 4389 | .63 | .23 | .63 | .05 | .09 | .00 | .00 | .40 | -.29 | .40 | -.14 | -.14 |
| FT | 706630 | B | 4389 | .65 | .23 | .65 | .07 | .05 | .00 | .00 | .32 | -.14 | .32 | -.20 | -.20 |
| FT | 706631 | D | 4389 | .51 | .06 | .26 | .18 | .51 | .00 | .00 | .15 | -.18 | .05 | -.15 | .15 |
| FT | 706632 | A | 5789 | .34 | .34 | .16 | .28 | .21 | .00 | .00 | .24 | .24 | -.05 | -.09 | -.13 |
| FT | 706633 | B | 4262 | .85 | .04 | .85 | .06 | .06 | .00 | .00 | .45 | -.24 | .45 | -.26 | -.23 |
| FT | 706635 | A | 4262 | .67 | .67 | .10 | .11 | .12 | .00 | .00 | .50 | .50 | -.24 | -.26 | -.25 |
| FT | 706636 | B | 4262 | .74 | .14 | .74 | .06 | .07 | .00 | .00 | .47 | -.30 | .47 | -.22 | -.20 |
| FT | 706637 | C | 4262 | .84 | .05 | .04 | .84 | .06 | .00 | .00 | .40 | -.21 | -.20 | .40 | -.24 |
| FT | 706638 | D | 4262 | .48 | .37 | .08 | .07 | .48 | .00 | .00 | .31 | -.13 | -.17 | -.18 | .31 |
| FT | 706639 | A | 4262 | .73 | .73 | .07 | .08 | .12 | .00 | .00 | .43 | .43 | -.23 | -.16 | -.27 |
| FT | 706640 | A | 4262 | .79 | .79 | .06 | .11 | .04 | .00 | .00 | .33 | .33 | -.21 | -.13 | -.22 |
| FT | 706641 | B | 4262 | .73 | .07 | .73 | .04 | .15 | .00 | .00 | .29 | -.08 | .29 | -.18 | -.20 |
| FT | 706642 | D | 4262 | .52 | .10 | .19 | .19 | .52 | .00 | .00 | .31 | -.23 | -.24 | .03 | .31 |
| FT | 706643 | C | 4262 | .33 | .10 | .03 | .33 | .54 | .00 | .00 | .20 | -.12 | -.17 | .20 | -.06 |
| FT | 706645 | A | 3970 | .79 | .79 | .03 | .15 | .03 | .00 | .00 | .52 | .52 | -.24 | -.34 | -.28 |
| FT | 706646 | B | 3970 | .66 | .17 | .66 | .12 | .06 | .00 | .00 | .42 | -.18 | .42 | -.22 | -.26 |
| FT | 706647 | C | 3970 | .58 | .26 | .05 | .58 | .11 | .00 | .00 | .30 | -.12 | -.20 | .30 | -.16 |
| FT | 706649 | D | 3970 | .69 | .15 | .08 | .08 | .69 | .00 | .00 | .43 | -.24 | -.27 | -.15 | .43 |
| FT | 706650 | B | 3970 | .77 | .06 | .77 | .07 | .10 | .00 | .00 | .24 | -.18 | .24 | -.13 | -.08 |
| FT | 706651 | A | 3970 | .79 | .79 | .09 | .04 | .07 | .00 | .00 | .39 | .39 | -.28 | -.20 | -.14 |
| FT | 706652 | C | 3970 | .75 | .12 | .05 | .75 | .08 | .00 | .00 | .37 | -.15 | -.20 | .37 | -.26 |
| FT | 706654 | D | 3970 | .45 | .46 | .07 | .02 | .45 | .00 | .00 | .20 | -.04 | -.20 | -.19 | .20 |
| FT | 706655 | B | 3970 | .63 | .27 | .63 | .07 | .02 | .00 | .00 | .33 | -.21 | .33 | -.16 | -.18 |
| FT | 706656 | C | 3970 | .75 | .07 | .09 | .75 | .09 | .00 | .00 | .46 | -.22 | -.29 | .46 | -.21 |
| FT | 706657 | C | 4179 | .71 | .11 | .11 | .71 | .08 | .00 | .00 | .40 | -.27 | -.15 | .40 | -.20 |
| FT | 706658 | A | 4179 | .32 | .32 | .40 | .21 | .07 | .00 | .00 | .15 | .15 | .08 | -.14 | -.20 |
| FT | 706659 | D | 4179 | .74 | .06 | .10 | .09 | .74 | .00 | .00 | .46 | -.21 | -.27 | -.23 | .46 |
| FT | 706660 | A | 4179 | .55 | .55 | .20 | .14 | .11 | .00 | .00 | .33 | .33 | -.15 | -.13 | -.19 |
| FT | 706661 | B | 4179 | .47 | .24 | .47 | .10 | .18 | .00 | .00 | .36 | -.05 | .36 | -.20 | -.25 |
| FT | 706662 | A | 4179 | .26 | .26 | .30 | .14 | .29 | .00 | .00 | .04 | .04 | .12 | -.18 | -.02 |
| FT | 706664 | D | 4179 | .65 | .11 | .13 | .10 | .65 | .00 | .00 | .37 | -.15 | -.16 | -.24 | .37 |
| FT | 706665 | A | 4179 | .31 | .31 | .10 | .34 | .24 | .00 | .00 | .22 | .22 | -.25 | .09 | -.16 |
| FT | 706666 | C | 4179 | .84 | .04 | .04 | .84 | .08 | .00 | .00 | .38 | -.15 | -.17 | .38 | -.28 |
| FT | 706667 | C | 4179 | .66 | .04 | .10 | .66 | .20 | .00 | .00 | .35 | -.18 | -.22 | .35 | -.15 |

# Grade 5

**Grade 5 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 633267 | B | 22878 | .76 | .10 | .76 | .05 | .10 | .00 | .00 | .45 | -.23 | .45 | -.18 | -.28 |
| OP | 633270 | B | 22878 | .62 | .13 | .62 | .04 | .21 | .00 | .00 | .46 | -.17 | .46 | -.23 | -.30 |
| OP | 633272 | A | 22878 | .74 | .74 | .06 | .11 | .09 | .00 | .00 | .40 | .40 | -.23 | -.13 | -.27 |
| OP | 633274 | C | 22878 | .76 | .09 | .04 | .76 | .11 | .00 | .00 | .42 | -.24 | -.23 | .42 | -.22 |
| OP | 633278 | A | 22878 | .72 | .72 | .18 | .07 | .03 | .00 | .00 | .36 | .36 | -.22 | -.17 | -.20 |
| OP | 633297 | D | 22878 | .68 | .09 | .13 | .10 | .68 | .00 | .00 | .32 | -.16 | -.22 | -.09 | .32 |
| OP | 633299 | D | 22878 | .72 | .03 | .15 | .10 | .72 | .00 | .00 | .36 | -.15 | -.24 | -.17 | .36 |
| OP | 633302 | C | 22878 | .85 | .05 | .04 | .85 | .05 | .00 | .00 | .40 | -.23 | -.20 | .40 | -.23 |
| OP | 633303 | B | 22878 | .82 | .04 | .82 | .06 | .08 | .00 | .00 | .48 | -.19 | .48 | -.29 | -.29 |
| OP | 633305 | C | 22878 | .73 | .12 | .07 | .73 | .08 | .00 | .00 | .39 | -.20 | -.17 | .39 | -.24 |
| OP | 658253 | D | 22878 | .64 | .13 | .07 | .16 | .64 | .00 | .00 | .44 | -.23 | -.15 | -.26 | .44 |
| OP | 658256 | B | 22878 | .64 | .08 | .64 | .10 | .17 | .00 | .00 | .36 | -.19 | .36 | -.09 | -.24 |
| OP | 658258 | A | 22878 | .74 | .74 | .07 | .12 | .06 | .00 | .00 | .46 | .46 | -.23 | -.26 | -.23 |
| OP | 658259 | A | 22878 | .63 | .63 | .20 | .08 | .10 | .00 | .00 | .34 | .34 | -.15 | -.18 | -.18 |
| OP | 658260 | D | 22878 | .58 | .03 | .29 | .10 | .58 | .00 | .00 | .30 | -.21 | -.13 | -.16 | .30 |
| OP | 658262 | B | 22878 | .62 | .33 | .62 | .03 | .02 | .00 | .00 | .44 | -.30 | .44 | -.24 | -.21 |
| OP | 658265 | C | 22878 | .68 | .16 | .08 | .68 | .08 | .00 | .00 | .45 | -.22 | -.22 | .45 | -.25 |
| OP | 658300 | D | 22878 | .47 | .38 | .10 | .05 | .47 | .00 | .00 | .29 | -.05 | -.21 | -.26 | .29 |
| OP | 658301 | A | 22878 | .79 | .79 | .02 | .14 | .05 | .00 | .00 | .29 | .29 | -.20 | -.14 | -.18 |
| OP | 658305 | B | 22878 | .49 | .28 | .49 | .06 | .18 | .00 | .00 | .27 | -.01 | .27 | -.26 | -.18 |
| OP | 658306 | C | 22878 | .79 | .08 | .07 | .79 | .06 | .00 | .00 | .47 | -.23 | -.23 | .47 | -.29 |
| OP | 658308 | B | 22878 | .77 | .09 | .77 | .08 | .06 | .00 | .00 | .35 | -.23 | .35 | -.13 | -.19 |
| OP | 687585 | D | 22878 | .45 | .07 | .21 | .28 | .45 | .00 | .00 | .27 | -.28 | -.09 | -.06 | .27 |
| OP | 687587 | B | 22878 | .76 | .09 | .76 | .05 | .09 | .00 | .00 | .49 | -.23 | .49 | -.26 | -.29 |
| OP | 687590 | C | 22878 | .69 | .16 | .06 | .69 | .09 | .00 | .00 | .42 | -.19 | -.29 | .42 | -.18 |
| OP | 687591 | A | 22878 | .76 | .76 | .11 | .06 | .07 | .00 | .00 | .30 | .30 | -.06 | -.22 | -.22 |
| OP | 687592 | D | 22878 | .79 | .09 | .04 | .08 | .79 | .00 | .00 | .49 | -.28 | -.19 | -.31 | .49 |
| OP | 687594 | D | 22878 | .71 | .10 | .12 | .07 | .71 | .00 | .00 | .46 | -.23 | -.28 | -.20 | .46 |
| OP | 687598 | B | 22878 | .67 | .10 | .67 | .11 | .12 | .00 | .00 | .28 | -.17 | .28 | -.07 | -.19 |
| OP | 687600 | C | 22878 | .80 | .07 | .02 | .80 | .11 | .00 | .00 | .30 | -.19 | -.19 | .30 | -.14 |
| OP | 687601 | C | 22878 | .82 | .09 | .03 | .82 | .06 | .00 | .00 | .47 | -.21 | -.26 | .47 | -.32 |
| OP | 687603 | A | 22878 | .74 | .74 | .08 | .08 | .09 | .00 | .00 | .47 | .47 | -.21 | -.17 | -.34 |
| OP | 687607 | A | 22878 | .59 | .59 | .24 | .06 | .10 | .00 | .00 | .31 | .31 | -.10 | -.22 | -.18 |
| OP | 687609 | D | 22878 | .41 | .15 | .05 | .38 | .41 | .00 | .00 | .34 | -.17 | -.17 | -.13 | .34 |
| OP | 687610 | B | 22878 | .80 | .06 | .80 | .09 | .05 | .00 | .00 | .43 | -.15 | .43 | -.32 | -.22 |
| OP | 687612 | D | 22878 | .57 | .16 | .21 | .06 | .57 | .00 | .00 | .38 | -.19 | -.12 | -.28 | .38 |
| OP | 687616 | C | 22878 | .84 | .10 | .03 | .84 | .03 | .00 | .00 | .45 | -.30 | -.23 | .45 | -.21 |
| OP | 687617 | B | 22878 | .70 | .23 | .70 | .02 | .05 | .00 | .00 | .39 | -.30 | .39 | -.20 | -.12 |
| OP | 687618 | D | 22878 | .75 | .21 | .03 | .02 | .75 | .00 | .00 | .36 | -.23 | -.23 | -.17 | .36 |

**Grade 5 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 687621 | B | 22878 | .85 | .04 | .85 | .02 | .09 | .00 | .00 | .49 | -.27 | .49 | -.20 | -.33 |
| OP | 687622 | D | 22878 | .93 | .02 | .02 | .03 | .93 | .00 | .00 | .40 | -.20 | -.24 | -.24 | .40 |
| OP | 687624 | C | 22878 | .92 | .04 | .03 | .92 | .01 | .00 | .00 | .34 | -.22 | -.21 | .34 | -.14 |
| OP | 687625 | A | 22878 | .64 | .64 | .12 | .10 | .15 | .00 | .00 | .49 | .49 | -.39 | -.20 | -.15 |
| OP | 687626 | A | 22878 | .83 | .83 | .05 | .06 | .06 | .00 | .00 | .38 | .38 | -.26 | -.16 | -.20 |
| OP | 687627 | B | 22878 | .55 | .29 | .55 | .11 | .05 | .00 | .00 | .30 | -.06 | .30 | -.26 | -.19 |
| OP | 687628 | C | 22878 | .64 | .11 | .11 | .64 | .14 | .00 | .00 | .42 | -.26 | -.19 | .42 | -.17 |
| OP | 687630 | D | 22878 | .91 | .05 | .03 | .02 | .91 | .00 | .00 | .41 | -.25 | -.24 | -.20 | .41 |
| OP | 687631 | B | 22878 | .52 | .17 | .52 | .09 | .22 | .00 | .00 | .33 | -.06 | .33 | -.09 | -.28 |
| FT | 706443 | C | 4137 | .45 | .11 | .10 | .45 | .34 | .00 | .00 | .11 | -.18 | -.24 | .11 | .16 |
| FT | 706444 | B | 4137 | .83 | .03 | .83 | .04 | .10 | .00 | .00 | .40 | -.24 | .40 | -.25 | -.20 |
| FT | 706445 | C | 4137 | .62 | .05 | .27 | .62 | .06 | .00 | .00 | .30 | -.23 | -.10 | .30 | -.22 |
| FT | 706447 | D | 4137 | .86 | .06 | .03 | .05 | .86 | .00 | .00 | .39 | -.19 | -.22 | -.24 | .39 |
| FT | 706448 | B | 4137 | .72 | .07 | .72 | .17 | .04 | .00 | .00 | .47 | -.30 | .47 | -.23 | -.23 |
| FT | 706449 | A | 4137 | .30 | .30 | .09 | .12 | .48 | .00 | .00 | .13 | .13 | -.18 | -.26 | .16 |
| FT | 706450 | D | 4137 | .62 | .23 | .07 | .09 | .62 | .00 | .00 | .29 | -.11 | -.16 | -.17 | .29 |
| FT | 706451 | C | 4137 | .66 | .09 | .15 | .66 | .10 | .00 | .00 | .40 | -.21 | -.17 | .40 | -.22 |
| FT | 706452 | A | 4137 | .80 | .80 | .04 | .08 | .08 | .00 | .00 | .42 | .42 | -.21 | -.26 | -.19 |
| FT | 706454 | B | 4137 | .82 | .03 | .82 | .11 | .04 | .00 | .00 | .42 | -.23 | .42 | -.25 | -.22 |
| FT | 706455 | D | 5859 | .41 | .06 | .25 | .28 | .41 | .00 | .00 | .34 | -.23 | -.19 | -.07 | .34 |
| FT | 706456 | C | 5859 | .82 | .03 | .05 | .82 | .09 | .00 | .00 | .41 | -.18 | -.22 | .41 | -.26 |
| FT | 706457 | C | 5859 | .28 | .30 | .17 | .28 | .25 | .00 | .00 | .15 | .05 | -.07 | .15 | -.15 |
| FT | 706458 | D | 5859 | .44 | .18 | .30 | .07 | .44 | .00 | .00 | .26 | -.11 | -.07 | -.20 | .26 |
| FT | 706459 | A | 5859 | .81 | .81 | .04 | .05 | .11 | .00 | .00 | .41 | .41 | -.21 | -.24 | -.22 |
| FT | 706460 | A | 5859 | .50 | .50 | .23 | .09 | .18 | .00 | .00 | .37 | .37 | -.12 | -.23 | -.18 |
| FT | 706461 | C | 5859 | .84 | .07 | .05 | .84 | .04 | .00 | .00 | .41 | -.24 | -.25 | .41 | -.19 |
| FT | 706462 | B | 5859 | .71 | .03 | .71 | .13 | .13 | .00 | .00 | .42 | -.23 | .42 | -.18 | -.26 |
| FT | 706464 | C | 5859 | .71 | .09 | .09 | .71 | .10 | .00 | .00 | .53 | -.27 | -.27 | .53 | -.26 |
| FT | 706466 | B | 5859 | .85 | .04 | .85 | .05 | .06 | .00 | .00 | .47 | -.20 | .47 | -.25 | -.30 |
| FT | 706468 | D | 4212 | .74 | .12 | .09 | .05 | .74 | .00 | .00 | .39 | -.14 | -.32 | -.14 | .39 |
| FT | 706469 | C | 4212 | .70 | .24 | .04 | .70 | .02 | .00 | .00 | .32 | -.18 | -.16 | .32 | -.25 |
| FT | 706470 | B | 4212 | .51 | .22 | .51 | .05 | .22 | .00 | .00 | .22 | -.09 | .22 | -.20 | -.07 |
| FT | 706471 | B | 4212 | .73 | .08 | .73 | .04 | .15 | .00 | .00 | .44 | -.26 | .44 | -.16 | -.26 |
| FT | 706472 | A | 4212 | .93 | .93 | .01 | .03 | .03 | .00 | .00 | .33 | .33 | -.13 | -.27 | -.15 |
| FT | 706473 | A | 4212 | .54 | .54 | .10 | .33 | .03 | .00 | .00 | .28 | .28 | -.20 | -.10 | -.17 |
| FT | 706474 | C | 4212 | .66 | .11 | .08 | .66 | .14 | .00 | .00 | .38 | -.19 | -.19 | .38 | -.20 |
| FT | 706476 | B | 4212 | .53 | .13 | .53 | .27 | .06 | .00 | .00 | .29 | -.09 | .29 | -.15 | -.20 |
| FT | 706477 | C | 4212 | .94 | .02 | .03 | .94 | .01 | .00 | .00 | .37 | -.22 | -.26 | .37 | -.14 |
| FT | 706478 | D | 4212 | .76 | .02 | .18 | .03 | .76 | .00 | .00 | .45 | -.22 | -.29 | -.26 | .45 |
| FT | 706479 | C | 4658 | .55 | .16 | .28 | .55 | .01 | .00 | .00 | .25 | -.18 | -.09 | .25 | -.15 |
| FT | 706480 | A | 4658 | .84 | .84 | .07 | .05 | .05 | .00 | .00 | .41 | .41 | -.23 | -.26 | -.19 |

Grade 5 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706481 | A | 4658 | .78 | .78 | .06 | .08 | .07 | .00 | .00 | .36 | .36 | -.22 | -.22 | -.14 |
| FT | 706482 | B | 4658 | .52 | .08 | .52 | .17 | .23 | .00 | .00 | .31 | -.19 | .31 | -.12 | -.14 |
| FT | 706484 | B | 4658 | .49 | .16 | .49 | .26 | .10 | .00 | .00 | .32 | -.15 | .32 | -.08 | -.24 |
| FT | 706485 | D | 4658 | .88 | .04 | .03 | .05 | .88 | .00 | .00 | .43 | -.20 | -.23 | -.28 | .43 |
| FT | 706486 | A | 4658 | .69 | .69 | .03 | .25 | .03 | .00 | .00 | .46 | .46 | -.20 | -.31 | -.25 |
| FT | 706488 | B | 4658 | .23 | .09 | .23 | .45 | .23 | .00 | .00 | .17 | -.09 | .17 | -.01 | -.11 |
| FT | 706489 | D | 4658 | .71 | .05 | .10 | .14 | .71 | .00 | .00 | .42 | -.20 | -.20 | -.24 | .42 |
| FT | 706490 | C | 4658 | .92 | .04 | .01 | .92 | .02 | .00 | .00 | .33 | -.14 | -.20 | .33 | -.25 |
| FT | 706492 | D | 4012 | .66 | .08 | .11 | .15 | .66 | .00 | .00 | .45 | -.25 | -.17 | -.26 | .45 |
| FT | 706494 | D | 4012 | .84 | .02 | .09 | .05 | .84 | .00 | .00 | .29 | -.18 | -.18 | -.13 | .29 |
| FT | 706495 | A | 4012 | .42 | .42 | .19 | .25 | .13 | .00 | .00 | .11 | .11 | .04 | -.03 | -.16 |
| FT | 706496 | C | 4012 | .55 | .04 | .02 | .55 | .38 | .00 | .00 | .35 | -.21 | -.21 | .35 | -.20 |
| FT | 706497 | D | 4012 | .57 | .19 | .13 | .11 | .57 | .00 | .00 | .34 | -.10 | -.26 | -.14 | .34 |
| FT | 706498 | C | 4012 | .61 | .30 | .05 | .61 | .04 | .00 | .00 | .37 | -.18 | -.23 | .37 | -.24 |
| FT | 706499 | A | 4012 | .67 | .67 | .10 | .10 | .12 | .00 | .00 | .37 | .37 | -.26 | -.18 | -.12 |
| FT | 706500 | C | 4012 | .77 | .06 | .04 | .77 | .13 | .00 | .00 | .50 | -.30 | -.23 | .50 | -.28 |
| FT | 706501 | B | 4012 | .61 | .07 | .61 | .25 | .07 | .00 | .00 | .42 | -.20 | .42 | -.21 | -.24 |
| FT | 706502 | B | 4012 | .66 | .06 | .66 | .10 | .18 | .00 | .00 | .39 | -.20 | .39 | -.25 | -.16 |

# Grade 6

Grade 6 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 563699 | A | 22377 | .85 | .85 | .09 | .04 | .02 | .00 | .00 | .46 | .46 | -.29 | -.28 | -.19 |
| OP | 563827 | A | 22377 | .68 | .68 | .11 | .05 | .16 | .00 | .00 | .37 | .37 | -.20 | -.18 | -.19 |
| OP | 563828 | B | 22377 | .72 | .07 | .72 | .15 | .06 | .00 | .00 | .36 | -.21 | .36 | -.14 | -.24 |
| OP | 563829 | A | 22377 | .92 | .92 | .01 | .04 | .03 | .00 | .00 | .35 | .35 | -.15 | -.19 | -.25 |
| OP | 563834 | A | 22377 | .83 | .83 | .07 | .08 | .02 | .00 | .00 | .49 | .49 | -.27 | -.32 | -.21 |
| OP | 563838 | C | 22377 | .71 | .10 | .04 | .71 | .15 | .00 | .00 | .31 | -.16 | -.12 | .31 | -.19 |
| OP | 565375 | D | 22377 | .65 | .08 | .21 | .06 | .65 | .00 | .00 | .36 | -.22 | -.17 | -.18 | .36 |
| OP | 565377 | B | 22377 | .62 | .24 | .62 | .08 | .05 | .00 | .00 | .32 | -.06 | .32 | -.26 | -.25 |
| OP | 565521 | C | 22377 | .88 | .06 | .04 | .88 | .02 | .00 | .00 | .36 | -.20 | -.21 | .36 | -.20 |
| OP | 565525 | B | 22377 | .76 | .08 | .76 | .11 | .04 | .00 | .00 | .32 | -.16 | .32 | -.16 | -.20 |
| OP | 602532 | C | 22377 | .65 | .12 | .10 | .65 | .14 | .00 | .00 | .39 | -.19 | -.25 | .39 | -.14 |
| OP | 602533 | D | 22377 | .76 | .03 | .13 | .08 | .76 | .00 | .00 | .56 | -.24 | -.35 | -.28 | .56 |
| OP | 602534 | B | 22377 | .69 | .18 | .69 | .08 | .05 | .00 | .00 | .36 | -.15 | .36 | -.23 | -.21 |
| OP | 602535 | A | 22377 | .77 | .77 | .05 | .06 | .12 | .00 | .00 | .47 | .47 | -.24 | -.28 | -.24 |
| OP | 602537 | A | 22377 | .49 | .49 | .15 | .20 | .16 | .00 | .00 | .31 | .31 | -.16 | -.13 | -.13 |
| OP | 632772 | B | 22377 | .45 | .19 | .45 | .23 | .13 | .00 | .00 | .32 | -.21 | .32 | -.02 | -.20 |

**Grade 6 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 632773 | B | 22377 | .79 | .08 | .79 | .03 | .10 | .00 | .00 | .45 | -.29 | .45 | -.24 | -.22 |
| OP | 632774 | C | 22377 | .81 | .07 | .08 | .81 | .05 | .00 | .00 | .45 | -.23 | -.27 | .45 | -.22 |
| OP | 632777 | C | 22377 | .78 | .09 | .08 | .78 | .05 | .00 | .00 | .43 | -.26 | -.21 | .43 | -.22 |
| OP | 632778 | D | 22377 | .58 | .33 | .06 | .03 | .58 | .00 | .00 | .41 | -.23 | -.24 | -.20 | .41 |
| OP | 632780 | C | 22377 | .69 | .10 | .17 | .69 | .04 | .00 | .00 | .42 | -.21 | -.25 | .42 | -.19 |
| OP | 632781 | A | 22377 | .80 | .80 | .12 | .05 | .03 | .00 | .00 | .24 | .24 | -.17 | -.09 | -.11 |
| OP | 646001 | A | 22377 | .82 | .82 | .09 | .03 | .06 | .00 | .00 | .35 | .35 | -.22 | -.17 | -.18 |
| OP | 646004 | C | 22377 | .69 | .11 | .09 | .69 | .11 | .00 | .00 | .43 | -.13 | -.21 | .43 | -.31 |
| OP | 646006 | D | 22377 | .64 | .13 | .12 | .10 | .64 | .00 | .00 | .20 | -.03 | -.11 | -.17 | .20 |
| OP | 646007 | C | 22377 | .62 | .08 | .07 | .62 | .23 | .00 | .00 | .35 | -.22 | -.19 | .35 | -.14 |
| OP | 646008 | D | 22377 | .47 | .10 | .29 | .14 | .47 | .00 | .00 | .21 | -.20 | -.02 | -.10 | .21 |
| OP | 658337 | A | 22377 | .80 | .80 | .03 | .04 | .13 | .00 | .00 | .33 | .33 | -.19 | -.20 | -.18 |
| OP | 658340 | C | 22377 | .72 | .06 | .19 | .72 | .03 | .00 | .00 | .42 | -.21 | -.27 | .42 | -.18 |
| OP | 658343 | C | 22377 | .63 | .19 | .07 | .63 | .10 | .00 | .00 | .45 | -.27 | -.19 | .45 | -.20 |
| OP | 658348 | D | 22377 | .83 | .06 | .06 | .04 | .83 | .00 | .00 | .39 | -.21 | -.21 | -.22 | .39 |
| OP | 658350 | B | 22377 | .58 | .08 | .58 | .20 | .13 | .00 | .00 | .35 | -.22 | .35 | -.17 | -.14 |
| OP | 658366 | D | 22377 | .70 | .05 | .10 | .15 | .70 | .00 | .00 | .43 | -.24 | -.10 | -.32 | .43 |
| OP | 658368 | D | 22377 | .65 | .08 | .14 | .12 | .65 | .00 | .00 | .43 | -.22 | -.22 | -.20 | .43 |
| OP | 658369 | C | 22377 | .70 | .02 | .06 | .70 | .21 | .00 | .00 | .44 | -.17 | -.27 | .44 | -.26 |
| OP | 658374 | A | 22377 | .71 | .71 | .04 | .19 | .06 | .00 | .00 | .43 | .43 | -.27 | -.20 | -.25 |
| OP | 658378 | B | 22377 | .70 | .16 | .70 | .10 | .03 | .00 | .00 | .38 | -.10 | .38 | -.29 | -.26 |
| OP | 687665 | D | 22377 | .54 | .28 | .12 | .06 | .54 | .00 | .00 | .30 | -.04 | -.22 | -.26 | .30 |
| OP | 687667 | A | 22377 | .70 | .70 | .08 | .05 | .17 | .00 | .00 | .41 | .41 | -.16 | -.24 | -.24 |
| OP | 687669 | D | 22377 | .58 | .05 | .07 | .31 | .58 | .00 | .00 | .45 | -.26 | -.26 | -.23 | .45 |
| OP | 687670 | C | 22377 | .86 | .06 | .03 | .86 | .05 | .00 | .00 | .51 | -.26 | -.26 | .51 | -.32 |
| OP | 687672 | B | 22377 | .53 | .16 | .53 | .10 | .20 | .00 | .00 | .37 | -.23 | .37 | -.22 | -.08 |
| OP | 687673 | B | 22377 | .70 | .14 | .70 | .11 | .05 | .00 | .00 | .37 | -.29 | .37 | -.08 | -.20 |
| OP | 687674 | B | 22377 | .84 | .03 | .84 | .06 | .07 | .00 | .00 | .43 | -.24 | .43 | -.25 | -.23 |
| OP | 687675 | C | 22377 | .86 | .07 | .04 | .86 | .03 | .00 | .00 | .45 | -.26 | -.27 | .45 | -.22 |
| OP | 687676 | D | 22377 | .52 | .05 | .19 | .25 | .52 | .00 | .00 | .42 | -.23 | -.32 | -.09 | .42 |
| OP | 687681 | B | 22377 | .64 | .21 | .64 | .05 | .09 | .00 | .00 | .38 | -.07 | .38 | -.27 | -.31 |
| OP | 687682 | A | 22377 | .81 | .81 | .06 | .11 | .01 | .00 | .00 | .30 | .30 | -.27 | -.08 | -.20 |
| FT | 706503 | C | 4236 | .69 | .08 | .08 | .69 | .15 | .00 | .00 | .30 | -.22 | -.29 | .30 | .01 |
| FT | 706504 | B | 4236 | .78 | .01 | .78 | .07 | .14 | .00 | .00 | .31 | -.11 | .31 | -.34 | -.10 |
| FT | 706505 | A | 4236 | .77 | .77 | .16 | .03 | .04 | .00 | .00 | .38 | .38 | -.19 | -.26 | -.22 |
| FT | 706506 | A | 4236 | .71 | .71 | .16 | .08 | .05 | .00 | .00 | .38 | .38 | -.19 | -.21 | -.21 |
| FT | 706507 | D | 4236 | .34 | .31 | .08 | .28 | .34 | .00 | .00 | .15 | .02 | -.29 | -.01 | .15 |
| FT | 706508 | C | 4236 | .80 | .04 | .07 | .80 | .09 | .00 | .00 | .41 | -.23 | -.21 | .41 | -.23 |
| FT | 706510 | D | 4236 | .63 | .11 | .07 | .19 | .63 | .00 | .00 | .49 | -.20 | -.23 | -.29 | .49 |
| FT | 706511 | B | 4236 | .20 | .51 | .20 | .26 | .03 | .00 | .00 | .11 | -.02 | .11 | -.03 | -.10 |
| FT | 706513 | D | 4236 | .51 | .19 | .09 | .21 | .51 | .00 | .00 | .36 | -.04 | -.22 | -.24 | .36 |

## Grade 6 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706514 | B | 4236 | .64 | .09 | .64 | .07 | .20 | .00 | .00 | .35 | -.21 | .35 | -.22 | -.13 |
| FT | 706515 | B | 3979 | .57 | .21 | .57 | .11 | .11 | .00 | .00 | .21 | .04 | .21 | -.22 | -.17 |
| FT | 706516 | C | 3979 | .31 | .12 | .09 | .31 | .48 | .00 | .00 | .10 | -.34 | -.20 | .10 | .25 |
| FT | 706517 | D | 3979 | .82 | .01 | .13 | .03 | .82 | .00 | .00 | .37 | -.19 | -.22 | -.25 | .37 |
| FT | 706518 | A | 3979 | .61 | .61 | .08 | .24 | .07 | .00 | .00 | .25 | .25 | -.27 | -.01 | -.18 |
| FT | 706519 | D | 3979 | .75 | .07 | .11 | .07 | .75 | .00 | .00 | .39 | -.25 | -.18 | -.19 | .39 |
| FT | 706520 | C | 3979 | .71 | .02 | .04 | .71 | .22 | .00 | .00 | .28 | -.17 | -.12 | .28 | -.19 |
| FT | 706522 | B | 3979 | .59 | .25 | .59 | .09 | .06 | .00 | .00 | .37 | -.21 | .37 | -.17 | -.18 |
| FT | 706523 | B | 3979 | .60 | .18 | .60 | .08 | .14 | .00 | .00 | .34 | -.24 | .34 | -.13 | -.11 |
| FT | 706524 | C | 3979 | .76 | .10 | .10 | .76 | .04 | .00 | .00 | .48 | -.35 | -.18 | .48 | -.23 |
| FT | 706525 | A | 3979 | .89 | .89 | .01 | .05 | .05 | .00 | .00 | .34 | .34 | -.20 | -.21 | -.18 |
| FT | 706526 | A | 4253 | .74 | .74 | .15 | .07 | .04 | .00 | .00 | .36 | .36 | -.18 | -.23 | -.17 |
| FT | 706527 | C | 4253 | .87 | .07 | .03 | .87 | .03 | .00 | .00 | .35 | -.17 | -.18 | .35 | -.25 |
| FT | 706528 | C | 4253 | .63 | .17 | .07 | .63 | .13 | .00 | .00 | .33 | -.15 | -.21 | .33 | -.13 |
| FT | 706529 | D | 4253 | .79 | .10 | .05 | .06 | .79 | .00 | .00 | .36 | -.10 | -.25 | -.25 | .36 |
| FT | 706530 | A | 4253 | .78 | .78 | .12 | .07 | .03 | .00 | .00 | .31 | .31 | -.18 | -.18 | -.13 |
| FT | 706531 | B | 4253 | .67 | .26 | .67 | .04 | .03 | .00 | .00 | .43 | -.27 | .43 | -.21 | -.24 |
| FT | 706532 | A | 4253 | .79 | .79 | .02 | .15 | .05 | .00 | .00 | .28 | .28 | -.21 | -.12 | -.21 |
| FT | 706534 | B | 4253 | .56 | .23 | .56 | .04 | .17 | .00 | .00 | .19 | -.05 | .19 | -.26 | -.05 |
| FT | 706535 | C | 4253 | .68 | .06 | .13 | .68 | .13 | .00 | .00 | .37 | -.12 | -.14 | .37 | -.28 |
| FT | 706536 | D | 4253 | .57 | .26 | .13 | .03 | .57 | .00 | .00 | .31 | -.07 | -.26 | -.17 | .31 |
| FT | 706540 | D | 4116 | .49 | .06 | .36 | .09 | .49 | .00 | .00 | .33 | -.22 | -.11 | -.21 | .33 |
| FT | 706541 | A | 4116 | .81 | .81 | .06 | .09 | .04 | .00 | .00 | .32 | .32 | -.24 | -.15 | -.13 |
| FT | 706542 | B | 4116 | .40 | .24 | .40 | .07 | .29 | .00 | .00 | .33 | -.15 | .33 | -.16 | -.13 |
| FT | 706543 | C | 4116 | .40 | .30 | .06 | .40 | .24 | .00 | .00 | .20 | -.05 | -.18 | .20 | -.08 |
| FT | 706544 | C | 4116 | .80 | .10 | .05 | .80 | .06 | .00 | .00 | .38 | -.20 | -.22 | .38 | -.20 |
| FT | 706545 | D | 4116 | .97 | .00 | .02 | .01 | .97 | .00 | .00 | .24 | -.11 | -.17 | -.13 | .24 |
| FT | 706546 | B | 4116 | .79 | .08 | .79 | .02 | .11 | .00 | .00 | .32 | -.17 | .32 | -.15 | -.20 |
| FT | 706547 | D | 4116 | .62 | .07 | .25 | .07 | .62 | .00 | .00 | .34 | -.28 | -.14 | -.14 | .34 |
| FT | 706548 | C | 4116 | .48 | .11 | .34 | .48 | .06 | .00 | .00 | .32 | -.25 | -.08 | .32 | -.18 |
| FT | 706549 | A | 4116 | .85 | .85 | .06 | .06 | .03 | .00 | .00 | .33 | .33 | -.21 | -.19 | -.14 |
| FT | 706552 | D | 5793 | .52 | .13 | .24 | .12 | .52 | .00 | .00 | .44 | -.16 | -.19 | -.26 | .44 |
| FT | 706553 | A | 5793 | .48 | .48 | .08 | .10 | .34 | .00 | .00 | .38 | .38 | -.25 | -.28 | -.07 |
| FT | 706554 | B | 5793 | .55 | .18 | .55 | .22 | .06 | .00 | .00 | .47 | -.20 | .47 | -.26 | -.21 |
| FT | 706555 | D | 5793 | .65 | .08 | .04 | .23 | .65 | .00 | .00 | .36 | -.18 | -.27 | -.17 | .36 |
| FT | 706556 | D | 5793 | .65 | .09 | .19 | .06 | .65 | .00 | .00 | .39 | -.10 | -.24 | -.25 | .39 |
| FT | 706558 | C | 5793 | .75 | .09 | .08 | .75 | .08 | .00 | .00 | .51 | -.28 | -.18 | .51 | -.33 |
| FT | 706559 | C | 5793 | .52 | .15 | .18 | .52 | .15 | .00 | .00 | .44 | -.21 | -.19 | .44 | -.20 |
| FT | 706560 | A | 5793 | .77 | .77 | .06 | .10 | .08 | .00 | .00 | .49 | .49 | -.25 | -.27 | -.25 |
| FT | 706561 | B | 5793 | .46 | .23 | .46 | .17 | .14 | .00 | .00 | .34 | -.23 | .34 | -.18 | -.01 |
| FT | 706562 | B | 5793 | .69 | .17 | .69 | .05 | .09 | .00 | .00 | .27 | -.09 | .27 | -.15 | -.20 |

# Grade 7

**Grade 7 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 564023 | A | 22212 | .81 | .81 | .11 | .03 | .06 | .00 | .00 | .38 | .38 | -.20 | -.19 | -.23 |
| OP | 564024 | B | 22212 | .71 | .15 | .71 | .10 | .04 | .00 | .00 | .46 | -.23 | .46 | -.26 | -.24 |
| OP | 564025 | D | 22212 | .62 | .16 | .06 | .15 | .62 | .00 | .00 | .36 | -.08 | -.16 | -.29 | .36 |
| OP | 565519 | C | 22212 | .75 | .13 | .08 | .75 | .03 | .00 | .00 | .32 | -.19 | -.15 | .32 | -.19 |
| OP | 565522 | B | 22212 | .70 | .16 | .70 | .11 | .02 | .00 | .00 | .37 | -.24 | .37 | -.14 | -.24 |
| OP | 658383 | D | 22212 | .72 | .16 | .09 | .03 | .72 | .00 | .00 | .39 | -.21 | -.22 | -.18 | .39 |
| OP | 658386 | D | 22212 | .61 | .08 | .12 | .19 | .61 | .00 | .00 | .48 | -.23 | -.31 | -.18 | .48 |
| OP | 658387 | B | 22212 | .59 | .26 | .59 | .09 | .05 | .00 | .00 | .39 | -.16 | .39 | -.28 | -.18 |
| OP | 658390 | B | 22212 | .64 | .02 | .64 | .29 | .05 | .00 | .00 | .40 | -.10 | .40 | -.27 | -.25 |
| OP | 658393 | C | 22212 | .75 | .13 | .07 | .75 | .06 | .00 | .00 | .50 | -.30 | -.24 | .50 | -.25 |
| OP | 658413 | C | 22212 | .74 | .16 | .08 | .74 | .03 | .00 | .00 | .41 | -.27 | -.20 | .41 | -.16 |
| OP | 658414 | C | 22212 | .61 | .14 | .19 | .61 | .06 | .00 | .00 | .43 | -.13 | -.31 | .43 | -.18 |
| OP | 658420 | C | 22212 | .67 | .12 | .11 | .67 | .10 | .00 | .00 | .48 | -.24 | -.24 | .48 | -.24 |
| OP | 658422 | D | 22212 | .71 | .15 | .11 | .04 | .71 | .00 | .00 | .41 | -.18 | -.23 | -.27 | .41 |
| OP | 658429 | B | 22212 | .56 | .06 | .56 | .04 | .33 | .00 | .00 | .42 | -.31 | .42 | -.22 | -.18 |
| OP | 658447 | D | 22212 | .44 | .06 | .10 | .40 | .44 | .00 | .00 | .48 | -.15 | -.28 | -.24 | .48 |
| OP | 658448 | A | 22212 | .59 | .59 | .31 | .05 | .04 | .00 | .00 | .31 | .31 | -.14 | -.21 | -.20 |
| OP | 658450 | B | 22212 | .63 | .18 | .63 | .10 | .08 | .00 | .00 | .36 | -.08 | .36 | -.26 | -.23 |
| OP | 658451 | D | 22212 | .40 | .20 | .20 | .21 | .40 | .00 | .00 | .35 | -.16 | -.15 | -.12 | .35 |
| OP | 658454 | C | 22212 | .66 | .13 | .05 | .66 | .16 | .00 | .00 | .48 | -.35 | -.21 | .48 | -.17 |
| OP | 687694 | B | 22212 | .76 | .03 | .76 | .05 | .16 | .00 | .00 | .42 | -.21 | .42 | -.18 | -.28 |
| OP | 687695 | D | 22212 | .87 | .05 | .04 | .04 | .87 | .00 | .00 | .47 | -.25 | -.24 | -.28 | .47 |
| OP | 687696 | B | 22212 | .53 | .40 | .53 | .05 | .03 | .00 | .00 | .41 | -.27 | .41 | -.17 | -.21 |
| OP | 687698 | A | 22212 | .60 | .60 | .16 | .08 | .15 | .00 | .00 | .36 | .36 | -.14 | -.27 | -.13 |
| OP | 687700 | C | 22212 | .89 | .03 | .03 | .89 | .04 | .00 | .00 | .47 | -.27 | -.26 | .47 | -.24 |
| OP | 687701 | A | 22212 | .68 | .68 | .09 | .12 | .10 | .00 | .00 | .34 | .34 | -.20 | -.06 | -.27 |
| OP | 687704 | C | 22212 | .89 | .06 | .04 | .89 | .02 | .00 | .00 | .34 | -.25 | -.12 | .34 | -.20 |
| OP | 687706 | C | 22212 | .66 | .16 | .15 | .66 | .03 | .00 | .00 | .40 | -.15 | -.28 | .40 | -.18 |
| OP | 687707 | C | 22212 | .67 | .18 | .10 | .67 | .05 | .00 | .00 | .44 | -.20 | -.31 | .44 | -.17 |
| OP | 687708 | D | 22212 | .82 | .05 | .08 | .05 | .82 | .00 | .00 | .53 | -.28 | -.28 | -.30 | .53 |
| OP | 687712 | B | 22212 | .76 | .04 | .76 | .17 | .03 | .00 | .00 | .39 | -.26 | .39 | -.19 | -.25 |
| OP | 687714 | C | 22212 | .78 | .11 | .09 | .78 | .02 | .00 | .00 | .32 | -.15 | -.21 | .32 | -.21 |
| OP | 687718 | A | 22212 | .84 | .84 | .04 | .07 | .05 | .00 | .00 | .40 | .40 | -.28 | -.22 | -.15 |
| OP | 687720 | B | 22212 | .72 | .10 | .72 | .08 | .09 | .00 | .00 | .40 | -.24 | .40 | -.20 | -.17 |
| OP | 687722 | A | 22212 | .67 | .67 | .12 | .12 | .09 | .00 | .00 | .36 | .36 | -.27 | -.16 | -.10 |
| OP | 687724 | D | 22212 | .87 | .07 | .03 | .04 | .87 | .00 | .00 | .48 | -.29 | -.24 | -.27 | .48 |
| OP | 687725 | B | 22212 | .50 | .36 | .50 | .02 | .12 | .00 | .00 | .33 | -.09 | .33 | -.22 | -.27 |

**Grade 7 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 687726 | D | 22212 | .88 | .06 | .03 | .03 | .88 | .00 | .00 | .46 | -.29 | -.23 | -.25 | .46 |
| OP | 687727 | A | 22212 | .75 | .75 | .07 | .13 | .04 | .00 | .00 | .50 | .50 | -.30 | -.28 | -.20 |
| OP | 687729 | C | 22212 | .64 | .03 | .21 | .64 | .12 | .00 | .00 | .42 | -.24 | -.20 | .42 | -.25 |
| OP | 687731 | A | 22212 | .88 | .88 | .01 | .02 | .08 | .00 | .00 | .45 | .45 | -.20 | -.20 | -.34 |
| OP | 687732 | C | 22212 | .65 | .12 | .16 | .65 | .06 | .00 | .00 | .34 | -.14 | -.14 | .34 | -.25 |
| OP | 687733 | C | 22212 | .75 | .11 | .03 | .75 | .10 | .00 | .00 | .44 | -.26 | -.24 | .44 | -.21 |
| OP | 687735 | D | 22212 | .79 | .04 | .06 | .11 | .79 | .00 | .00 | .44 | -.20 | -.23 | -.28 | .44 |
| OP | 687737 | D | 22212 | .52 | .25 | .06 | .18 | .52 | .00 | .00 | .22 | -.21 | -.17 | .06 | .22 |
| OP | 687738 | A | 22212 | .54 | .54 | .17 | .18 | .11 | .00 | .00 | .47 | .47 | -.11 | -.33 | -.21 |
| OP | 687739 | D | 22212 | .78 | .03 | .04 | .15 | .78 | .00 | .00 | .53 | -.24 | -.24 | -.37 | .53 |
| OP | 687741 | B | 22212 | .66 | .28 | .66 | .04 | .02 | .00 | .00 | .42 | -.32 | .42 | -.19 | -.14 |
| FT | 706685 | C | 4167 | .59 | .09 | .19 | .59 | .12 | .00 | .00 | .43 | -.17 | -.27 | .43 | -.16 |
| FT | 706686 | C | 4167 | .87 | .01 | .11 | .87 | .00 | .00 | .00 | .35 | -.19 | -.28 | .35 | -.11 |
| FT | 706689 | B | 4167 | .85 | .08 | .85 | .03 | .03 | .00 | .00 | .34 | -.14 | .34 | -.25 | -.21 |
| FT | 706690 | C | 4167 | .66 | .11 | .11 | .66 | .12 | .00 | .00 | .49 | -.16 | -.29 | .49 | -.28 |
| FT | 706691 | D | 4167 | .50 | .07 | .28 | .14 | .50 | .00 | .00 | .29 | -.20 | .00 | -.27 | .29 |
| FT | 706692 | B | 4167 | .40 | .25 | .40 | .14 | .20 | .00 | .00 | .28 | -.08 | .28 | -.28 | -.01 |
| FT | 706693 | D | 4167 | .44 | .09 | .10 | .37 | .44 | .00 | .00 | .36 | -.30 | -.16 | -.10 | .36 |
| FT | 706694 | A | 4167 | .59 | .59 | .19 | .14 | .09 | .00 | .00 | .29 | .29 | -.25 | -.04 | -.10 |
| FT | 706695 | D | 4167 | .71 | .07 | .09 | .13 | .71 | .00 | .00 | .43 | -.24 | -.28 | -.15 | .43 |
| FT | 706696 | A | 4167 | .74 | .74 | .08 | .08 | .10 | .00 | .00 | .48 | .48 | -.27 | -.25 | -.22 |
| FT | 706699 | C | 5580 | .73 | .05 | .13 | .73 | .09 | .00 | .00 | .33 | -.21 | -.09 | .33 | -.24 |
| FT | 706700 | B | 5580 | .67 | .06 | .67 | .19 | .08 | .00 | .00 | .51 | -.26 | .51 | -.26 | -.28 |
| FT | 706701 | A | 5580 | .76 | .76 | .12 | .03 | .09 | .00 | .00 | .42 | .42 | -.25 | -.25 | -.18 |
| FT | 706703 | D | 3970 | .35 | .09 | .13 | .42 | .35 | .00 | .00 | .10 | -.13 | -.29 | .18 | .10 |
| FT | 706706 | C | 3970 | .60 | .26 | .04 | .60 | .09 | .00 | .00 | .12 | -.09 | -.07 | .12 | -.01 |
| FT | 706707 | A | 3970 | .77 | .77 | .09 | .08 | .05 | .00 | .00 | .41 | .41 | -.30 | -.18 | -.17 |
| FT | 706708 | C | 3970 | .51 | .08 | .27 | .51 | .14 | .00 | .00 | .24 | -.20 | -.11 | .24 | -.04 |
| FT | 706709 | C | 3970 | .86 | .06 | .04 | .86 | .03 | .00 | .00 | .42 | -.26 | -.19 | .42 | -.25 |
| FT | 706710 | B | 3970 | .54 | .06 | .54 | .22 | .18 | .00 | .00 | .12 | -.16 | .12 | .01 | -.08 |
| FT | 706711 | D | 3970 | .61 | .24 | .03 | .11 | .61 | .00 | .00 | .34 | -.14 | -.16 | -.23 | .34 |
| FT | 706712 | A | 3970 | .75 | .75 | .02 | .11 | .12 | .00 | .00 | .29 | .29 | -.16 | -.19 | -.13 |
| FT | 706713 | B | 3970 | .67 | .13 | .67 | .04 | .16 | .00 | .00 | .30 | -.14 | .30 | -.23 | -.13 |
| FT | 706714 | B | 3970 | .35 | .23 | .35 | .10 | .31 | .00 | .00 | .21 | -.18 | .21 | -.16 | .06 |
| FT | 706715 | C | 4506 | .60 | .24 | .07 | .60 | .09 | .00 | .00 | .40 | -.14 | -.30 | .40 | -.22 |
| FT | 706716 | D | 4506 | .40 | .16 | .22 | .22 | .40 | .00 | .00 | .22 | -.12 | -.21 | .05 | .22 |
| FT | 706718 | B | 4506 | .50 | .14 | .50 | .25 | .11 | .00 | .00 | .17 | -.12 | .17 | -.09 | -.02 |
| FT | 706719 | D | 4506 | .36 | .27 | .21 | .16 | .36 | .00 | .00 | .32 | -.16 | -.16 | -.05 | .32 |
| FT | 706720 | A | 4506 | .82 | .82 | .05 | .05 | .08 | .00 | .00 | .50 | .50 | -.27 | -.26 | -.29 |
| FT | 706721 | C | 4506 | .44 | .06 | .18 | .44 | .33 | .00 | .00 | .18 | -.29 | -.19 | .18 | .10 |
| FT | 706722 | B | 4506 | .77 | .10 | .77 | .11 | .02 | .00 | .00 | .28 | -.19 | .28 | -.10 | -.20 |

**Grade 7 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706724 | C | 4506 | .81 | .06 | .09 | .81 | .03 | .00 | .00 | .38 | -.22 | -.20 | .38 | -.20 |
| FT | 706725 | B | 4506 | .49 | .08 | .49 | .23 | .20 | .00 | .00 | .29 | -.16 | .29 | -.14 | -.10 |
| FT | 706726 | A | 4506 | .77 | .77 | .11 | .05 | .07 | .00 | .00 | .49 | .49 | -.26 | -.27 | -.25 |
| FT | 706728 | D | 3987 | .81 | .12 | .02 | .05 | .81 | .00 | .00 | .39 | -.21 | -.22 | -.25 | .39 |
| FT | 706729 | B | 3987 | .49 | .37 | .49 | .05 | .09 | .00 | .00 | .24 | -.01 | .24 | -.20 | -.25 |
| FT | 706730 | D | 3987 | .32 | .30 | .13 | .24 | .32 | .00 | .00 | .28 | .01 | -.23 | -.14 | .28 |
| FT | 706731 | D | 5580 | .56 | .12 | .08 | .24 | .56 | .00 | .00 | .47 | -.16 | -.24 | -.27 | .47 |
| FT | 706732 | A | 5580 | .76 | .76 | .05 | .08 | .11 | .00 | .00 | .44 | .44 | -.23 | -.28 | -.19 |
| FT | 706733 | C | 3987 | .82 | .08 | .08 | .82 | .03 | .00 | .00 | .38 | -.22 | -.22 | .38 | -.18 |
| FT | 706734 | C | 3987 | .73 | .14 | .09 | .73 | .04 | .00 | .00 | .42 | -.28 | -.19 | .42 | -.17 |
| FT | 706735 | B | 5580 | .55 | .16 | .55 | .15 | .14 | .00 | .00 | .29 | -.10 | .29 | -.11 | -.18 |
| FT | 706736 | D | 5580 | .72 | .08 | .07 | .13 | .72 | .00 | .00 | .42 | -.27 | -.09 | -.27 | .42 |
| FT | 706737 | D | 5580 | .54 | .16 | .12 | .18 | .54 | .00 | .00 | .27 | -.02 | -.18 | -.18 | .27 |
| FT | 706738 | C | 5580 | .50 | .08 | .16 | .50 | .26 | .00 | .00 | .51 | -.24 | -.27 | .51 | -.21 |
| FT | 706739 | B | 5580 | .36 | .11 | .36 | .18 | .35 | .00 | .00 | .27 | -.29 | .27 | -.09 | -.01 |
| FT | 706740 | A | 3987 | .66 | .66 | .07 | .08 | .18 | .00 | .00 | .38 | .38 | -.25 | -.26 | -.12 |
| FT | 706742 | A | 3987 | .83 | .83 | .14 | .01 | .01 | .00 | .00 | .35 | .35 | -.24 | -.23 | -.19 |
| FT | 706865 | C | 3987 | .66 | .05 | .13 | .66 | .16 | .00 | .00 | .42 | -.23 | -.14 | .42 | -.27 |
| FT | 706866 | A | 3987 | .61 | .61 | .22 | .11 | .06 | .00 | .00 | .33 | .33 | -.08 | -.22 | -.25 |
| FT | 706867 | B | 3987 | .52 | .16 | .52 | .12 | .20 | .00 | .00 | .43 | -.25 | .43 | -.16 | -.17 |

# Grade 8

**Grade 8 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 564170 | A | 21904 | .72 | .72 | .23 | .01 | .04 | .00 | .00 | .38 | .38 | -.29 | -.15 | -.16 |
| OP | 564171 | B | 21904 | .74 | .18 | .74 | .05 | .03 | .00 | .00 | .44 | -.25 | .44 | -.25 | -.22 |
| OP | 564173 | A | 21904 | .84 | .84 | .03 | .03 | .10 | .00 | .00 | .44 | .44 | -.23 | -.26 | -.26 |
| OP | 564177 | D | 21904 | .71 | .14 | .13 | .02 | .71 | .00 | .00 | .33 | -.17 | -.16 | -.21 | .33 |
| OP | 564184 | B | 21904 | .61 | .07 | .61 | .17 | .15 | .00 | .00 | .30 | -.23 | .30 | -.01 | -.23 |
| OP | 602765 | C | 21904 | .51 | .06 | .37 | .51 | .05 | .00 | .00 | .34 | -.26 | -.15 | .34 | -.15 |
| OP | 602766 | B | 21904 | .67 | .17 | .67 | .12 | .05 | .00 | .00 | .39 | -.17 | .39 | -.17 | -.29 |
| OP | 602767 | D | 21904 | .57 | .11 | .14 | .18 | .57 | .00 | .00 | .21 | -.02 | -.08 | -.18 | .21 |
| OP | 602769 | C | 21904 | .76 | .04 | .07 | .76 | .13 | .00 | .00 | .37 | -.19 | -.28 | .37 | -.14 |
| OP | 602771 | A | 21904 | .73 | .73 | .13 | .11 | .04 | .00 | .00 | .49 | .49 | -.28 | -.27 | -.21 |
| OP | 602775 | A | 21904 | .76 | .76 | .05 | .08 | .11 | .00 | .00 | .43 | .43 | -.21 | -.28 | -.20 |
| OP | 602776 | B | 21904 | .49 | .09 | .49 | .35 | .07 | .00 | .00 | .41 | -.21 | .41 | -.14 | -.30 |
| OP | 633372 | B | 21904 | .90 | .02 | .90 | .04 | .04 | .00 | .00 | .28 | -.20 | .28 | -.15 | -.14 |
| OP | 633374 | C | 21904 | .68 | .13 | .16 | .68 | .03 | .00 | .00 | .33 | -.13 | -.21 | .33 | -.20 |

**Grade 8 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 633376 | A | 21904 | .78 | .78 | .03 | .10 | .08 | .00 | .00 | .40 | .40 | -.23 | -.25 | -.17 |
| OP | 633378 | D | 21904 | .76 | .09 | .03 | .12 | .76 | .00 | .00 | .39 | -.22 | -.24 | -.20 | .39 |
| OP | 633380 | D | 21904 | .69 | .02 | .18 | .11 | .69 | .00 | .00 | .25 | -.22 | .00 | -.27 | .25 |
| OP | 633382 | A | 21904 | .83 | .83 | .02 | .12 | .03 | .00 | .00 | .38 | .38 | -.24 | -.19 | -.27 |
| OP | 633383 | A | 21904 | .77 | .77 | .05 | .09 | .08 | .00 | .00 | .36 | .36 | -.28 | -.14 | -.16 |
| OP | 646094 | C | 21904 | .72 | .18 | .03 | .72 | .07 | .00 | .00 | .43 | -.23 | -.21 | .43 | -.26 |
| OP | 646095 | D | 21904 | .69 | .06 | .14 | .10 | .69 | .00 | .00 | .52 | -.22 | -.31 | -.25 | .52 |
| OP | 646099 | C | 21904 | .77 | .02 | .11 | .77 | .09 | .00 | .00 | .38 | -.23 | -.20 | .38 | -.20 |
| OP | 646100 | B | 21904 | .69 | .09 | .69 | .06 | .16 | .00 | .00 | .45 | -.23 | .45 | -.23 | -.23 |
| OP | 646101 | A | 21904 | .54 | .54 | .32 | .06 | .07 | .00 | .00 | .31 | .31 | -.14 | -.19 | -.15 |
| OP | 646104 | C | 21904 | .50 | .05 | .25 | .50 | .20 | .00 | .00 | .28 | -.30 | .05 | .28 | -.24 |
| OP | 658456 | C | 21904 | .79 | .03 | .03 | .79 | .15 | .00 | .00 | .47 | -.22 | -.19 | .47 | -.34 |
| OP | 658457 | A | 21904 | .43 | .43 | .15 | .27 | .15 | .00 | .00 | .35 | .35 | -.19 | -.15 | -.10 |
| OP | 658460 | C | 21904 | .83 | .13 | .03 | .83 | .01 | .00 | .00 | .42 | -.33 | -.20 | .42 | -.13 |
| OP | 658461 | D | 21904 | .56 | .05 | .20 | .19 | .56 | .00 | .00 | .40 | -.14 | -.26 | -.16 | .40 |
| OP | 658463 | C | 21904 | .58 | .06 | .29 | .58 | .07 | .00 | .00 | .40 | -.14 | -.18 | .40 | -.30 |
| OP | 658464 | B | 21904 | .52 | .03 | .52 | .05 | .40 | .00 | .00 | .24 | -.21 | .24 | -.24 | -.06 |
| OP | 658465 | D | 21904 | .46 | .09 | .04 | .41 | .46 | .00 | .00 | .28 | -.23 | -.29 | -.04 | .28 |
| OP | 687745 | B | 21904 | .77 | .07 | .77 | .13 | .02 | .00 | .00 | .39 | -.27 | .39 | -.17 | -.23 |
| OP | 687746 | B | 21904 | .74 | .07 | .74 | .13 | .06 | .00 | .00 | .44 | -.19 | .44 | -.26 | -.24 |
| OP | 687747 | C | 21904 | .70 | .13 | .08 | .70 | .10 | .00 | .00 | .49 | -.23 | -.26 | .49 | -.26 |
| OP | 687750 | A | 21904 | .67 | .67 | .18 | .08 | .07 | .00 | .00 | .31 | .31 | -.12 | -.20 | -.18 |
| OP | 687751 | C | 21904 | .74 | .09 | .11 | .74 | .06 | .00 | .00 | .48 | -.25 | -.29 | .48 | -.21 |
| OP | 687752 | D | 21904 | .54 | .25 | .13 | .07 | .54 | .00 | .00 | .43 | -.18 | -.24 | -.20 | .43 |
| OP | 687755 | D | 21904 | .75 | .05 | .14 | .06 | .75 | .00 | .00 | .42 | -.24 | -.23 | -.21 | .42 |
| OP | 687758 | C | 21904 | .70 | .02 | .17 | .70 | .11 | .00 | .00 | .39 | -.20 | -.15 | .39 | -.29 |
| OP | 687761 | A | 21904 | .72 | .72 | .03 | .13 | .12 | .00 | .00 | .44 | .44 | -.24 | -.33 | -.14 |
| OP | 687762 | D | 21904 | .72 | .13 | .09 | .06 | .72 | .00 | .00 | .38 | -.17 | -.18 | -.26 | .38 |
| OP | 687764 | C | 21904 | .87 | .04 | .06 | .87 | .04 | .00 | .00 | .40 | -.21 | -.21 | .40 | -.24 |
| OP | 687775 | B | 21904 | .47 | .19 | .47 | .26 | .09 | .00 | .00 | .34 | -.29 | .34 | -.01 | -.19 |
| OP | 687776 | D | 21904 | .64 | .09 | .11 | .16 | .64 | .00 | .00 | .40 | -.12 | -.22 | -.23 | .40 |
| OP | 687778 | B | 21904 | .81 | .04 | .81 | .05 | .10 | .00 | .00 | .53 | -.30 | .53 | -.27 | -.31 |
| OP | 687782 | C | 21904 | .60 | .16 | .17 | .60 | .06 | .00 | .00 | .22 | -.16 | -.02 | .22 | -.16 |
| OP | 687783 | A | 21904 | .81 | .81 | .04 | .08 | .08 | .00 | .00 | .44 | .44 | -.23 | -.28 | -.20 |
| OP | 687784 | B | 21904 | .78 | .03 | .78 | .09 | .11 | .00 | .00 | .36 | -.23 | .36 | -.18 | -.18 |
| OP | 687785 | D | 21904 | .76 | .03 | .02 | .19 | .76 | .00 | .00 | .25 | -.15 | -.23 | -.12 | .25 |
| FT | 706743 | C | 3931 | .45 | .19 | .22 | .45 | .14 | .00 | .00 | .18 | -.18 | -.01 | .18 | -.04 |
| FT | 706744 | A | 3931 | .53 | .53 | .09 | .25 | .13 | .00 | .00 | .21 | .21 | -.16 | -.08 | -.07 |
| FT | 706745 | B | 3931 | .69 | .14 | .69 | .12 | .05 | .00 | .00 | .28 | .02 | .28 | -.30 | -.17 |
| FT | 706747 | A | 3931 | .10 | .10 | .27 | .52 | .11 | .00 | .00 | -.05 | -.05 | .05 | -.01 | .00 |
| FT | 706748 | C | 3931 | .62 | .11 | .18 | .62 | .09 | .00 | .00 | .35 | -.20 | -.15 | .35 | -.17 |

## Grade 8 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706749 | D | 3931 | .67 | .08 | .12 | .12 | .67 | .00 | .00 | .30 | -.21 | -.24 | -.02 | .30 |
| FT | 706751 | D | 3931 | .91 | .02 | .03 | .03 | .91 | .00 | .00 | .40 | -.20 | -.21 | -.26 | .40 |
| FT | 706752 | B | 3931 | .66 | .18 | .66 | .03 | .13 | .00 | .00 | .29 | -.26 | .29 | -.14 | -.04 |
| FT | 706753 | D | 3931 | .44 | .06 | .43 | .08 | .44 | .00 | .00 | .28 | -.27 | -.01 | -.26 | .28 |
| FT | 706754 | A | 3931 | .71 | .71 | .07 | .19 | .03 | .00 | .00 | .41 | .41 | -.20 | -.26 | -.19 |
| FT | 706755 | A | 4226 | .82 | .82 | .02 | .12 | .04 | .00 | .00 | .37 | .37 | -.16 | -.22 | -.26 |
| FT | 706756 | B | 4226 | .87 | .06 | .87 | .05 | .01 | .00 | .00 | .25 | -.08 | .25 | -.22 | -.11 |
| FT | 706757 | C | 4226 | .46 | .16 | .02 | .46 | .36 | .00 | .00 | .07 | -.24 | -.18 | .07 | .16 |
| FT | 706758 | B | 4226 | .88 | .01 | .88 | .07 | .03 | .00 | .00 | .34 | -.16 | .34 | -.25 | -.15 |
| FT | 706759 | D | 4226 | .52 | .08 | .24 | .16 | .52 | .00 | .00 | .25 | -.14 | -.04 | -.18 | .25 |
| FT | 706760 | A | 4226 | .79 | .79 | .07 | .12 | .02 | .00 | .00 | .36 | .36 | -.22 | -.18 | -.19 |
| FT | 706761 | D | 4226 | .67 | .24 | .05 | .05 | .67 | .00 | .00 | .41 | -.19 | -.22 | -.29 | .41 |
| FT | 706762 | C | 4226 | .29 | .36 | .32 | .29 | .03 | .00 | .00 | .05 | .05 | -.01 | .05 | -.21 |
| FT | 706764 | B | 4226 | .38 | .24 | .38 | .14 | .24 | .00 | .00 | .22 | .00 | .22 | -.21 | -.07 |
| FT | 706766 | D | 4226 | .36 | .10 | .31 | .22 | .36 | .00 | .00 | .26 | -.15 | -.15 | -.02 | .26 |
| FT | 706768 | D | 5528 | .70 | .06 | .08 | .16 | .70 | .00 | .00 | .55 | -.29 | -.18 | -.37 | .55 |
| FT | 706769 | B | 5528 | .71 | .10 | .71 | .04 | .15 | .00 | .00 | .20 | -.15 | .20 | -.22 | .00 |
| FT | 706771 | C | 5528 | .35 | .14 | .09 | .35 | .41 | .00 | .00 | .10 | -.30 | -.23 | .10 | .26 |
| FT | 706772 | B | 5528 | .71 | .09 | .71 | .09 | .10 | .00 | .00 | .46 | -.18 | .46 | -.28 | -.24 |
| FT | 706773 | B | 5528 | .70 | .07 | .70 | .16 | .06 | .00 | .00 | .47 | -.19 | .47 | -.26 | -.27 |
| FT | 706774 | A | 5528 | .58 | .58 | .18 | .13 | .10 | .00 | .00 | .36 | .36 | -.17 | -.21 | -.13 |
| FT | 706775 | D | 5528 | .62 | .04 | .16 | .18 | .62 | .00 | .00 | .49 | -.23 | -.28 | -.24 | .49 |
| FT | 706776 | A | 5528 | .72 | .72 | .06 | .13 | .09 | .00 | .00 | .45 | .45 | -.24 | -.20 | -.27 |
| FT | 706777 | C | 5528 | .74 | .08 | .08 | .74 | .10 | .00 | .00 | .51 | -.25 | -.32 | .51 | -.23 |
| FT | 706778 | D | 5528 | .71 | .11 | .08 | .10 | .71 | .00 | .00 | .42 | -.20 | -.32 | -.14 | .42 |
| FT | 706779 | D | 4168 | .73 | .03 | .13 | .11 | .73 | .00 | .00 | .47 | -.19 | -.26 | -.29 | .47 |
| FT | 706780 | D | 4168 | .46 | .12 | .32 | .10 | .46 | .00 | .00 | .35 | -.26 | .01 | -.32 | .35 |
| FT | 706781 | B | 4168 | .78 | .08 | .78 | .10 | .04 | .00 | .00 | .38 | -.14 | .38 | -.31 | -.13 |
| FT | 706782 | D | 4168 | .90 | .05 | .03 | .01 | .90 | .00 | .00 | .45 | -.31 | -.24 | -.20 | .45 |
| FT | 706783 | A | 4168 | .71 | .71 | .05 | .07 | .16 | .00 | .00 | .40 | .40 | -.27 | -.34 | -.09 |
| FT | 706784 | C | 4168 | .75 | .04 | .01 | .75 | .20 | .00 | .00 | .45 | -.19 | -.21 | .45 | -.34 |
| FT | 706785 | A | 4168 | .52 | .52 | .24 | .20 | .05 | .00 | .00 | .28 | .28 | -.24 | .01 | -.20 |
| FT | 706787 | C | 4168 | .63 | .17 | .10 | .63 | .10 | .00 | .00 | .35 | -.18 | -.20 | .35 | -.13 |
| FT | 706788 | C | 4168 | .71 | .12 | .09 | .71 | .08 | .00 | .00 | .42 | -.26 | -.19 | .42 | -.19 |
| FT | 706789 | B | 4168 | .72 | .17 | .72 | .04 | .07 | .00 | .00 | .37 | -.16 | .37 | -.25 | -.23 |
| FT | 706791 | D | 4049 | .85 | .05 | .07 | .03 | .85 | .00 | .00 | .45 | -.28 | -.24 | -.23 | .45 |
| FT | 706792 | C | 4049 | .95 | .01 | .02 | .95 | .02 | .00 | .00 | .31 | -.16 | -.19 | .31 | -.17 |
| FT | 706793 | D | 4049 | .44 | .10 | .36 | .10 | .44 | .00 | .00 | .26 | -.24 | .06 | -.27 | .26 |
| FT | 706794 | D | 4049 | .64 | .16 | .13 | .06 | .64 | .00 | .00 | .31 | -.08 | -.16 | -.25 | .31 |
| FT | 706795 | B | 4049 | .77 | .03 | .77 | .04 | .15 | .00 | .00 | .44 | -.21 | .44 | -.28 | -.24 |
| FT | 706796 | B | 4049 | .79 | .10 | .79 | .06 | .05 | .00 | .00 | .44 | -.22 | .44 | -.24 | -.26 |

Grade 8 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706797 | A | 4049 | .76 | .76 | .05 | .16 | .03 | .00 | .00 | .45 | .45 | -.23 | -.26 | -.28 |
| FT | 706799 | A | 4049 | .86 | .86 | .04 | .07 | .03 | .00 | .00 | .43 | .43 | -.26 | -.23 | -.24 |
| FT | 706800 | C | 4049 | .44 | .22 | .27 | .44 | .07 | .00 | .00 | .20 | -.06 | -.12 | .20 | -.09 |
| FT | 706801 | B | 4049 | .39 | .38 | .39 | .11 | .12 | .00 | .00 | .38 | -.28 | .38 | -.17 | .01 |

# Grade 11

Grade 11 Reading

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 602805 | C | 21125 | .64 | .28 | .04 | .64 | .03 | .00 | .00 | .28 | -.13 | -.21 | .28 | -.17 |
| OP | 602808 | C | 21125 | .63 | .23 | .09 | .63 | .05 | .00 | .00 | .34 | -.07 | -.29 | .34 | -.21 |
| OP | 602810 | A | 21125 | .64 | .64 | .16 | .12 | .08 | .00 | .00 | .51 | .51 | -.26 | -.28 | -.19 |
| OP | 602811 | B | 21125 | .57 | .26 | .57 | .05 | .12 | .00 | .00 | .40 | -.19 | .40 | -.30 | -.14 |
| OP | 602818 | D | 21125 | .55 | .18 | .18 | .08 | .55 | .00 | .00 | .42 | -.09 | -.29 | -.20 | .42 |
| OP | 632827 | C | 21125 | .81 | .08 | .08 | .81 | .04 | .00 | .00 | .37 | -.15 | -.23 | .37 | -.21 |
| OP | 632828 | D | 21125 | .90 | .02 | .01 | .06 | .90 | .00 | .00 | .49 | -.27 | -.19 | -.33 | .49 |
| OP | 632830 | A | 21125 | .75 | .75 | .05 | .18 | .02 | .00 | .00 | .39 | .39 | -.28 | -.20 | -.20 |
| OP | 632832 | C | 21125 | .83 | .05 | .08 | .83 | .04 | .00 | .00 | .36 | -.21 | -.17 | .36 | -.21 |
| OP | 632833 | D | 21125 | .77 | .06 | .10 | .06 | .77 | .00 | .00 | .47 | -.28 | -.21 | -.26 | .47 |
| OP | 632835 | A | 21125 | .62 | .62 | .05 | .07 | .26 | .00 | .00 | .33 | .33 | -.32 | -.29 | -.03 |
| OP | 632837 | D | 21125 | .76 | .12 | .04 | .08 | .76 | .00 | .00 | .53 | -.29 | -.27 | -.28 | .53 |
| OP | 646185 | C | 21125 | .54 | .06 | .07 | .54 | .33 | .00 | .00 | .41 | -.30 | -.30 | .41 | -.12 |
| OP | 646188 | A | 21125 | .49 | .49 | .26 | .17 | .08 | .00 | .00 | .38 | .38 | -.18 | -.19 | -.15 |
| OP | 646189 | B | 21125 | .84 | .05 | .84 | .06 | .06 | .00 | .00 | .50 | -.21 | .50 | -.29 | -.31 |
| OP | 646193 | A | 21125 | .65 | .65 | .15 | .13 | .07 | .00 | .00 | .40 | .40 | -.21 | -.18 | -.21 |
| OP | 646194 | A | 21125 | .64 | .64 | .05 | .03 | .28 | .00 | .00 | .44 | .44 | -.26 | -.24 | -.25 |
| OP | 646195 | C | 21125 | .65 | .04 | .27 | .65 | .03 | .00 | .00 | .38 | -.26 | -.20 | .38 | -.20 |
| OP | 658536 | B | 21125 | .65 | .10 | .65 | .05 | .19 | .00 | .00 | .28 | -.17 | .28 | -.30 | -.02 |
| OP | 658539 | D | 21125 | .42 | .28 | .19 | .12 | .42 | .00 | .00 | .38 | -.08 | -.21 | -.20 | .38 |
| OP | 658541 | C | 21125 | .79 | .05 | .05 | .79 | .11 | .00 | .00 | .49 | -.23 | -.24 | .49 | -.30 |
| OP | 658543 | D | 21125 | .65 | .06 | .09 | .20 | .65 | .00 | .00 | .48 | -.21 | -.22 | -.27 | .48 |
| OP | 658544 | B | 21125 | .47 | .14 | .47 | .18 | .22 | .00 | .00 | .37 | -.19 | .37 | -.16 | -.13 |
| OP | 658546 | A | 21125 | .73 | .73 | .15 | .04 | .07 | .00 | .00 | .42 | .42 | -.21 | -.28 | -.20 |
| OP | 658559 | C | 21125 | .62 | .10 | .22 | .62 | .06 | .00 | .00 | .38 | -.22 | -.17 | .38 | -.19 |
| OP | 658560 | A | 21125 | .68 | .68 | .07 | .06 | .18 | .00 | .00 | .41 | .41 | -.21 | -.31 | -.16 |
| OP | 658561 | C | 21125 | .73 | .13 | .10 | .73 | .04 | .00 | .00 | .34 | -.09 | -.27 | .34 | -.17 |
| OP | 658564 | A | 21125 | .61 | .61 | .15 | .12 | .12 | .00 | .00 | .38 | .38 | -.11 | -.29 | -.14 |
| OP | 658567 | B | 21125 | .72 | .07 | .72 | .14 | .07 | .00 | .00 | .37 | -.20 | .37 | -.19 | -.18 |
| OP | 658570 | D | 21125 | .81 | .04 | .07 | .08 | .81 | .00 | .00 | .57 | -.24 | -.29 | -.36 | .57 |

**Grade 11 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 687802 | B | 21125 | .85 | .02 | .85 | .08 | .05 | .00 | .00 | .36 | -.15 | .36 | -.34 | -.06 |
| OP | 687803 | D | 21125 | .83 | .04 | .06 | .08 | .83 | .00 | .00 | .52 | -.23 | -.31 | -.29 | .52 |
| OP | 687804 | D | 21125 | .65 | .02 | .10 | .23 | .65 | .00 | .00 | .40 | -.25 | -.18 | -.23 | .40 |
| OP | 687805 | C | 21125 | .55 | .29 | .08 | .55 | .09 | .00 | .00 | .36 | -.25 | -.14 | .36 | -.11 |
| OP | 687806 | B | 21125 | .78 | .04 | .78 | .16 | .02 | .00 | .00 | .39 | -.24 | .39 | -.22 | -.23 |
| OP | 687807 | C | 21125 | .56 | .23 | .05 | .56 | .16 | .00 | .00 | .36 | -.16 | -.26 | .36 | -.15 |
| OP | 687810 | D | 21125 | .79 | .03 | .04 | .14 | .79 | .00 | .00 | .37 | -.25 | -.22 | -.17 | .37 |
| OP | 687825 | C | 21125 | .84 | .04 | .08 | .84 | .04 | .00 | .00 | .41 | -.23 | -.27 | .41 | -.16 |
| OP | 687826 | A | 21125 | .61 | .61 | .15 | .19 | .04 | .00 | .00 | .34 | .34 | -.22 | -.12 | -.19 |
| OP | 687828 | B | 21125 | .90 | .07 | .90 | .02 | .01 | .00 | .00 | .43 | -.28 | .43 | -.23 | -.21 |
| OP | 687831 | D | 21125 | .53 | .22 | .20 | .05 | .53 | .00 | .00 | .30 | -.10 | -.11 | -.28 | .30 |
| OP | 687832 | D | 21125 | .85 | .04 | .07 | .04 | .85 | .00 | .00 | .52 | -.27 | -.31 | -.26 | .52 |
| OP | 687836 | B | 21125 | .80 | .04 | .80 | .05 | .10 | .00 | .00 | .48 | -.23 | .48 | -.31 | -.24 |
| OP | 687850 | D | 21125 | .88 | .06 | .02 | .05 | .88 | .00 | .00 | .45 | -.25 | -.24 | -.27 | .45 |
| OP | 687851 | C | 21125 | .71 | .17 | .09 | .71 | .03 | .00 | .00 | .37 | -.17 | -.27 | .37 | -.17 |
| OP | 687852 | B | 21125 | .55 | .11 | .55 | .27 | .07 | .00 | .00 | .32 | -.19 | .32 | -.12 | -.18 |
| OP | 687853 | A | 21125 | .53 | .53 | .27 | .04 | .16 | .00 | .00 | .31 | .31 | -.18 | -.14 | -.11 |
| OP | 687857 | C | 21125 | .87 | .01 | .04 | .87 | .07 | .00 | .00 | .46 | -.20 | -.28 | .46 | -.29 |
| OP | 687858 | A | 21125 | .59 | .59 | .09 | .27 | .05 | .00 | .00 | .39 | .39 | -.23 | -.17 | -.23 |
| OP | 687860 | D | 21125 | .85 | .04 | .05 | .07 | .85 | .00 | .00 | .36 | -.16 | -.19 | -.23 | .36 |
| FT | 706802 | B | 4725 | .71 | .03 | .71 | .16 | .10 | .00 | .00 | .39 | -.23 | .39 | -.19 | -.23 |
| FT | 706803 | B | 4725 | .51 | .17 | .51 | .14 | .17 | .00 | .00 | .34 | .00 | .34 | -.24 | -.23 |
| FT | 706806 | C | 4725 | .66 | .14 | .16 | .66 | .03 | .00 | .00 | .42 | -.30 | -.17 | .42 | -.16 |
| FT | 706807 | D | 4725 | .67 | .08 | .14 | .11 | .67 | .00 | .00 | .35 | -.24 | -.16 | -.13 | .35 |
| FT | 706808 | A | 4725 | .71 | .71 | .10 | .11 | .07 | .00 | .00 | .45 | .45 | -.25 | -.25 | -.17 |
| FT | 706810 | D | 4725 | .53 | .24 | .09 | .14 | .53 | .00 | .00 | .28 | -.13 | -.12 | -.13 | .28 |
| FT | 706811 | A | 4725 | .74 | .74 | .11 | .11 | .04 | .00 | .00 | .47 | .47 | -.25 | -.25 | -.25 |
| FT | 706812 | C | 4725 | .61 | .07 | .20 | .61 | .11 | .00 | .00 | .43 | -.22 | -.17 | .43 | -.26 |
| FT | 706813 | D | 4725 | .63 | .07 | .19 | .11 | .63 | .00 | .00 | .57 | -.29 | -.33 | -.23 | .57 |
| FT | 706814 | D | 4166 | .59 | .06 | .17 | .18 | .59 | .00 | .00 | .39 | -.25 | -.18 | -.16 | .39 |
| FT | 706815 | D | 4166 | .73 | .04 | .06 | .16 | .73 | .00 | .00 | .48 | -.21 | -.26 | -.29 | .48 |
| FT | 706816 | C | 4166 | .63 | .31 | .03 | .63 | .03 | .00 | .00 | .36 | -.25 | -.23 | .36 | -.10 |
| FT | 706817 | A | 4166 | .69 | .69 | .06 | .06 | .18 | .00 | .00 | .38 | .38 | -.25 | -.25 | -.14 |
| FT | 706818 | C | 4166 | .67 | .13 | .06 | .67 | .14 | .00 | .00 | .34 | -.03 | -.27 | .34 | -.24 |
| FT | 706819 | C | 4166 | .58 | .10 | .21 | .58 | .11 | .00 | .00 | .22 | -.04 | -.14 | .22 | -.11 |
| FT | 706820 | B | 4166 | .54 | .28 | .54 | .09 | .08 | .00 | .00 | .20 | -.01 | .20 | -.24 | -.10 |
| FT | 706821 | A | 4166 | .70 | .70 | .19 | .06 | .05 | .00 | .00 | .36 | .36 | -.13 | -.23 | -.27 |
| FT | 706823 | D | 4166 | .48 | .25 | .13 | .13 | .48 | .00 | .00 | .41 | -.14 | -.10 | -.32 | .41 |
| FT | 706824 | B | 4166 | .68 | .07 | .68 | .08 | .16 | .00 | .00 | .19 | -.16 | .19 | -.10 | -.05 |
| FT | 706826 | A | 4171 | .53 | .53 | .10 | .27 | .10 | .00 | .00 | .38 | .38 | -.26 | -.24 | -.01 |
| FT | 706827 | D | 4171 | .64 | .09 | .22 | .05 | .64 | .00 | .00 | .38 | -.25 | -.11 | -.30 | .38 |

**Grade 11 Reading**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 706828 | C | 4171 | .86 | .05 | .02 | .86 | .06 | .00 | .00 | .43 | -.31 | -.22 | .43 | -.18 |
| FT | 706829 | B | 4171 | .70 | .24 | .70 | .03 | .03 | .00 | .00 | .45 | -.30 | .45 | -.22 | -.23 |
| FT | 706830 | A | 4171 | .64 | .64 | .16 | .15 | .06 | .00 | .00 | .49 | .49 | -.26 | -.25 | -.21 |
| FT | 706831 | D | 4171 | .49 | .25 | .20 | .05 | .49 | .00 | .00 | .23 | .05 | -.17 | -.29 | .23 |
| FT | 706832 | C | 4171 | .79 | .03 | .17 | .79 | .02 | .00 | .00 | .08 | -.21 | .07 | .08 | -.17 |
| FT | 706833 | C | 4171 | .27 | .27 | .14 | .27 | .32 | .00 | .00 | .02 | .11 | -.18 | .02 | .02 |
| FT | 706834 | B | 4171 | .77 | .12 | .77 | .06 | .05 | .00 | .00 | .37 | -.25 | .37 | -.17 | -.16 |
| FT | 706835 | B | 4171 | .46 | .27 | .46 | .13 | .13 | .00 | .00 | .07 | .13 | .07 | -.16 | -.11 |
| FT | 706837 | D | 4155 | .86 | .04 | .03 | .06 | .86 | .00 | .00 | .48 | -.23 | -.26 | -.30 | .48 |
| FT | 706838 | C | 4155 | .41 | .42 | .06 | .41 | .11 | .00 | .00 | .21 | -.14 | -.12 | .21 | -.01 |
| FT | 706840 | D | 4155 | .43 | .02 | .09 | .47 | .43 | .00 | .00 | .03 | -.23 | -.04 | .05 | .03 |
| FT | 706841 | A | 4155 | .67 | .67 | .15 | .07 | .12 | .00 | .00 | .44 | .44 | -.22 | -.26 | -.20 |
| FT | 706842 | C | 4155 | .63 | .04 | .25 | .63 | .08 | .00 | .00 | .28 | -.25 | -.06 | .28 | -.21 |
| FT | 706843 | A | 4155 | .35 | .35 | .49 | .13 | .03 | .00 | .00 | .19 | .19 | -.02 | -.11 | -.26 |
| FT | 706844 | D | 4155 | .60 | .06 | .28 | .06 | .60 | .00 | .00 | .26 | -.23 | -.04 | -.24 | .26 |
| FT | 706845 | B | 4155 | .50 | .32 | .50 | .13 | .05 | .00 | .00 | .29 | -.07 | .29 | -.23 | -.17 |
| FT | 706846 | A | 4155 | .79 | .79 | .11 | .02 | .07 | .00 | .00 | .46 | .46 | -.30 | -.25 | -.20 |
| FT | 706848 | D | 4155 | .65 | .09 | .09 | .18 | .65 | .00 | .00 | .46 | -.25 | -.26 | -.19 | .46 |
| FT | 706850 | A | 3904 | .92 | .92 | .02 | .04 | .02 | .00 | .00 | .43 | .43 | -.25 | -.25 | -.21 |
| FT | 706851 | A | 3904 | .71 | .71 | .06 | .03 | .19 | .00 | .00 | .41 | .41 | -.30 | -.28 | -.16 |
| FT | 706852 | D | 3904 | .72 | .05 | .12 | .11 | .72 | .00 | .00 | .46 | -.16 | -.27 | -.26 | .46 |
| FT | 706853 | C | 3904 | .87 | .02 | .06 | .87 | .04 | .00 | .00 | .46 | -.22 | -.29 | .46 | -.24 |
| FT | 706856 | C | 3904 | .65 | .03 | .24 | .65 | .08 | .00 | .00 | .39 | -.25 | -.31 | .39 | -.05 |
| FT | 706857 | B | 3904 | .58 | .06 | .58 | .21 | .16 | .00 | .00 | .38 | -.23 | .38 | -.15 | -.19 |
| FT | 706858 | D | 3904 | .82 | .01 | .11 | .05 | .82 | .00 | .00 | .40 | -.19 | -.22 | -.27 | .40 |
| FT | 706859 | B | 3904 | .68 | .09 | .68 | .06 | .17 | .00 | .00 | .40 | -.26 | .40 | -.22 | -.17 |
| FT | 706860 | C | 3904 | .46 | .17 | .06 | .46 | .30 | .00 | .00 | .26 | -.02 | -.21 | .26 | -.15 |
| FT | 706861 | B | 3904 | .63 | .07 | .63 | .20 | .11 | .00 | .00 | .43 | -.15 | .43 | -.25 | -.23 |
| FT | 706863 | C | 4725 | .69 | .07 | .18 | .69 | .06 | .00 | .00 | .55 | -.28 | -.38 | .55 | -.15 |

# Appendix G: Mathematics Key Verification and Foil Analysis
## Grade 3

| Grade 3 Mathematics | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 599741 | C | 23130 | .55 | .10 | .26 | .55 | .09 | .00 | .00 | .35 | -.19 | -.11 | .35 | -.23 |
| OP | 599777 | D | 23130 | .64 | .10 | .22 | .04 | .64 | .00 | .00 | .38 | -.20 | -.22 | -.14 | .38 |
| OP | 599790 | A | 23130 | .64 | .64 | .06 | .07 | .23 | .00 | .00 | .44 | .44 | -.20 | -.25 | -.23 |
| OP | 599811 | C | 23130 | .58 | .19 | .16 | .58 | .07 | .00 | .00 | .45 | -.22 | -.22 | .45 | -.20 |
| OP | 599813 | D | 23130 | .72 | .05 | .17 | .07 | .72 | .00 | .00 | .35 | -.21 | -.16 | -.20 | .35 |
| OP | 600460 | D | 23130 | .72 | .05 | .04 | .18 | .72 | .00 | .00 | .36 | -.25 | -.11 | -.22 | .36 |
| OP | 633865 | A | 23130 | .83 | .83 | .10 | .05 | .02 | .00 | .00 | .39 | .39 | -.28 | -.14 | -.20 |
| OP | 646511 | A | 23130 | .84 | .84 | .05 | .07 | .04 | .00 | .00 | .45 | .45 | -.23 | -.27 | -.23 |
| OP | 646516 | B | 23130 | .56 | .17 | .56 | .07 | .20 | .00 | .00 | .51 | -.28 | .51 | -.14 | -.28 |
| OP | 646529 | B | 23130 | .85 | .01 | .85 | .08 | .06 | .00 | .00 | .18 | -.09 | .18 | -.12 | -.10 |
| OP | 646538 | B | 23130 | .61 | .33 | .61 | .03 | .03 | .00 | .00 | .33 | -.19 | .33 | -.20 | -.24 |
| OP | 646542 | C | 23130 | .79 | .01 | .04 | .79 | .15 | .00 | .00 | .29 | -.18 | -.20 | .29 | -.16 |
| OP | 646546 | D | 23130 | .57 | .29 | .09 | .06 | .57 | .00 | .00 | .44 | -.29 | -.13 | -.20 | .44 |
| OP | 646553 | D | 23130 | .71 | .05 | .18 | .06 | .71 | .00 | .00 | .38 | -.20 | -.24 | -.15 | .38 |
| OP | 659850 | B | 23130 | .51 | .24 | .51 | .17 | .08 | .00 | .00 | .36 | -.14 | .36 | -.17 | -.20 |
| OP | 659852 | B | 23130 | .66 | .17 | .66 | .11 | .07 | .00 | .00 | .33 | -.22 | .33 | -.11 | -.17 |
| OP | 659857 | D | 23130 | .71 | .14 | .08 | .07 | .71 | .00 | .00 | .47 | -.26 | -.25 | -.23 | .47 |
| OP | 659859 | B | 23130 | .58 | .05 | .58 | .31 | .06 | .00 | .00 | .38 | -.15 | .38 | -.18 | -.28 |
| OP | 659862 | A | 23130 | .58 | .58 | .15 | .14 | .13 | .00 | .00 | .37 | .37 | -.22 | -.16 | -.14 |
| OP | 659867 | A | 23130 | .69 | .69 | .10 | .10 | .11 | .00 | .00 | .41 | .41 | -.18 | -.19 | -.25 |
| OP | 659887 | D | 23130 | .68 | .02 | .26 | .04 | .68 | .00 | .00 | .36 | -.14 | -.25 | -.18 | .36 |
| OP | 659900 | B | 23130 | .51 | .18 | .51 | .13 | .18 | .00 | .00 | .48 | -.28 | .48 | -.14 | -.21 |
| OP | 689743 | C | 23130 | .68 | .11 | .12 | .68 | .10 | .00 | .00 | .42 | -.18 | -.22 | .42 | -.23 |
| OP | 689744 | D | 23130 | .88 | .04 | .05 | .04 | .88 | .00 | .00 | .43 | -.26 | -.24 | -.22 | .43 |
| OP | 689749 | A | 23130 | .86 | .86 | .08 | .05 | .01 | .00 | .00 | .38 | .38 | -.27 | -.22 | -.12 |
| OP | 689751 | D | 23130 | .65 | .14 | .05 | .16 | .65 | .00 | .00 | .47 | -.18 | -.29 | -.27 | .47 |
| OP | 689752 | C | 23130 | .73 | .09 | .11 | .73 | .06 | .00 | .00 | .45 | -.21 | -.25 | .45 | -.25 |
| OP | 689754 | C | 23130 | .74 | .08 | .10 | .74 | .07 | .00 | .00 | .40 | -.16 | -.25 | .40 | -.22 |
| OP | 689757 | D | 23130 | .76 | .09 | .05 | .11 | .76 | .00 | .00 | .33 | -.14 | -.17 | -.22 | .33 |
| OP | 689759 | B | 23130 | .74 | .04 | .74 | .01 | .21 | .00 | .00 | .45 | -.22 | .45 | -.16 | -.34 |
| OP | 689762 | B | 23130 | .82 | .12 | .82 | .02 | .04 | .00 | .00 | .44 | -.32 | .44 | -.17 | -.22 |
| OP | 689763 | C | 23130 | .69 | .12 | .04 | .69 | .15 | .00 | .00 | .31 | -.14 | -.22 | .31 | -.14 |
| OP | 689764 | D | 23130 | .74 | .09 | .10 | .07 | .74 | .00 | .00 | .46 | -.28 | -.20 | -.22 | .46 |
| OP | 689766 | D | 23130 | .47 | .11 | .31 | .10 | .47 | .00 | .00 | .47 | -.11 | -.29 | -.20 | .47 |
| OP | 689768 | C | 23130 | .54 | .08 | .19 | .54 | .19 | .00 | .00 | .40 | -.06 | -.04 | .40 | -.42 |
| OP | 689769 | D | 23130 | .78 | .07 | .05 | .10 | .78 | .00 | .00 | .40 | -.12 | -.20 | -.30 | .40 |
| OP | 689773 | C | 23130 | .73 | .18 | .06 | .73 | .03 | .00 | .00 | .41 | -.29 | -.20 | .41 | -.13 |
| OP | 689776 | B | 23130 | .57 | .29 | .57 | .10 | .04 | .00 | .00 | .37 | -.22 | .37 | -.15 | -.18 |

| Grade 3 Mathematics | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 689778 | C | 23130 | .89 | .04 | .05 | .89 | .02 | .00 | .00 | .36 | -.19 | -.23 | .36 | -.17 |
| OP | 689780 | C | 23130 | .56 | .02 | .01 | .56 | .40 | .00 | .00 | .46 | -.21 | -.09 | .46 | -.38 |
| OP | 689783 | A | 23130 | .48 | .48 | .10 | .26 | .16 | .00 | .00 | .39 | .39 | -.19 | -.13 | -.22 |
| OP | 689785 | A | 23130 | .91 | .91 | .05 | .03 | .01 | .00 | .00 | .35 | .35 | -.21 | -.20 | -.19 |
| OP | 689791 | B | 23130 | .65 | .07 | .65 | .09 | .18 | .00 | .00 | .41 | -.24 | .41 | -.20 | -.19 |
| OP | 689792 | B | 23130 | .75 | .05 | .75 | .06 | .14 | .00 | .00 | .38 | -.19 | .38 | -.17 | -.24 |
| OP | 689794 | A | 23130 | .75 | .75 | .14 | .09 | .02 | .00 | .00 | .39 | .39 | -.27 | -.17 | -.19 |
| OP | 689795 | A | 23130 | .42 | .42 | .25 | .28 | .05 | .00 | .00 | .49 | .49 | -.30 | -.18 | -.13 |
| OP | 689797 | D | 23130 | .43 | .31 | .14 | .12 | .43 | .00 | .00 | .41 | -.10 | -.16 | -.30 | .41 |
| OP | 689799 | B | 23130 | .65 | .26 | .65 | .05 | .05 | .00 | .00 | .48 | -.34 | .48 | -.13 | -.24 |
| OP | 689800 | C | 23130 | .69 | .11 | .11 | .69 | .09 | .00 | .00 | .53 | -.29 | -.23 | .53 | -.29 |
| OP | 689801 | B | 23130 | .74 | .04 | .74 | .11 | .11 | .00 | .00 | .40 | -.18 | .40 | -.23 | -.22 |
| FT | 706982 | C | 4264 | .78 | .06 | .12 | .78 | .03 | .00 | .00 | .36 | -.25 | -.14 | .36 | -.23 |
| FT | 706983 | C | 6007 | .25 | .30 | .41 | .25 | .04 | .00 | .00 | .49 | -.19 | -.23 | .49 | -.04 |
| FT | 706984 | C | 4030 | .51 | .16 | .29 | .51 | .04 | .00 | .00 | .47 | -.23 | -.29 | .47 | -.09 |
| FT | 706985 | A | 4014 | .98 | .98 | .00 | .01 | .01 | .00 | .00 | .17 | .17 | -.06 | -.11 | -.12 |
| FT | 706987 | C | 6229 | .59 | .16 | .16 | .59 | .09 | .00 | .00 | .52 | -.20 | -.32 | .52 | -.24 |
| FT | 706988 | B | 4251 | .69 | .17 | .69 | .07 | .08 | .00 | .00 | .38 | -.24 | .38 | -.19 | -.15 |
| FT | 706989 | B | 6536 | .64 | .06 | .64 | .12 | .18 | .00 | .00 | .53 | -.16 | .53 | -.20 | -.39 |
| FT | 706990 | B | 4253 | .79 | .13 | .79 | .04 | .04 | .00 | .00 | .50 | -.40 | .50 | -.19 | -.18 |
| FT | 706991 | D | 4203 | .92 | .04 | .03 | .02 | .92 | .00 | .00 | .24 | -.17 | -.14 | -.09 | .24 |
| FT | 706992 | B | 4194 | .88 | .05 | .88 | .02 | .05 | .00 | .00 | .23 | -.13 | .23 | -.11 | -.14 |
| FT | 706993 | C | 4046 | .70 | .09 | .20 | .70 | .01 | .00 | .00 | .01 | .01 | -.02 | .01 | -.01 |
| FT | 706994 | D | 4177 | .87 | .02 | .04 | .06 | .87 | .00 | .00 | .25 | -.16 | -.13 | -.14 | .25 |
| FT | 706995 | C | 6283 | .45 | .29 | .09 | .45 | .17 | .00 | .00 | .49 | -.41 | -.10 | .49 | -.08 |
| FT | 706996 | B | 3893 | .85 | .05 | .85 | .03 | .07 | .00 | .00 | .35 | -.13 | .35 | -.22 | -.23 |
| FT | 706997 | C | 4200 | .93 | .02 | .03 | .93 | .02 | .00 | .00 | .35 | -.20 | -.17 | .35 | -.24 |
| FT | 706999 | B | 4369 | .88 | .02 | .88 | .04 | .06 | .00 | .00 | .37 | -.14 | .37 | -.17 | -.28 |
| FT | 707000 | A | 4403 | .66 | .66 | .20 | .04 | .10 | .00 | .00 | .35 | .35 | -.22 | -.20 | -.12 |
| FT | 707001 | A | 4355 | .63 | .63 | .08 | .22 | .07 | .00 | .00 | .40 | .40 | -.20 | -.20 | -.22 |
| FT | 707002 | A | 6099 | .82 | .82 | .08 | .04 | .06 | .00 | .00 | .52 | .52 | -.30 | -.19 | -.34 |
| FT | 707003 | B | 4429 | .82 | .05 | .82 | .07 | .06 | .00 | .00 | .37 | -.14 | .37 | -.14 | -.32 |
| FT | 707004 | C | 4363 | .78 | .12 | .07 | .78 | .03 | .00 | .00 | .38 | -.24 | -.23 | .38 | -.11 |
| FT | 707007 | A | 6118 | .84 | .84 | .05 | .05 | .05 | .00 | .00 | .38 | .38 | -.22 | -.18 | -.22 |
| FT | 707008 | D | 4649 | .23 | .08 | .63 | .06 | .23 | .00 | .00 | .19 | -.07 | -.10 | -.04 | .19 |
| FT | 707009 | A | 4418 | .89 | .89 | .02 | .01 | .08 | .00 | .00 | .28 | .28 | -.18 | -.17 | -.16 |
| FT | 707010 | B | 4608 | .52 | .31 | .52 | .10 | .08 | .00 | .00 | .43 | -.20 | .43 | -.14 | -.29 |
| FT | 707012 | C | 4216 | .35 | .05 | .28 | .35 | .31 | .00 | .00 | .45 | -.16 | .04 | .45 | -.43 |
| FT | 707013 | B | 3756 | .56 | .15 | .56 | .22 | .07 | .00 | .00 | .35 | -.30 | .35 | -.08 | -.15 |
| FT | 707014 | C | 4101 | .54 | .07 | .29 | .54 | .11 | .00 | .00 | .39 | -.20 | -.22 | .39 | -.13 |
| FT | 707015 | D | 4253 | .91 | .02 | .03 | .03 | .91 | .00 | .00 | .32 | -.18 | -.15 | -.21 | .32 |

**Grade 3 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 707017 | A | 3841 | .80 | .80 | .10 | .04 | .06 | .00 | .00 | .31 | .31 | -.17 | -.17 | -.17 |
| FT | 707019 | B | 3601 | .86 | .07 | .86 | .04 | .03 | .00 | .00 | .31 | -.17 | .31 | -.15 | -.19 |
| FT | 707020 | B | 3652 | .42 | .11 | .42 | .10 | .37 | .00 | .00 | .34 | -.12 | .34 | -.07 | -.22 |
| FT | 707021 | A | 4448 | .88 | .88 | .05 | .04 | .03 | .00 | .00 | .35 | .35 | -.21 | -.19 | -.19 |
| FT | 707022 | D | 4091 | .61 | .21 | .10 | .08 | .61 | .00 | .00 | .28 | -.07 | -.18 | -.19 | .28 |
| FT | 707023 | C | 4480 | .74 | .05 | .09 | .74 | .11 | .00 | .00 | .44 | -.20 | -.20 | .44 | -.29 |
| FT | 707024 | D | 5995 | .63 | .08 | .08 | .21 | .63 | .00 | .00 | .47 | -.33 | -.12 | -.27 | .47 |
| FT | 707025 | D | 6231 | .59 | .03 | .04 | .34 | .59 | .00 | .00 | .51 | -.21 | -.16 | -.38 | .51 |
| FT | 707026 | A | 4436 | .64 | .64 | .07 | .11 | .18 | .00 | .00 | .49 | .49 | -.21 | -.25 | -.27 |
| FT | 707027 | D | 4514 | .72 | .06 | .10 | .13 | .72 | .00 | .00 | .31 | -.10 | -.22 | -.15 | .31 |
| FT | 707028 | B | 6075 | .82 | .06 | .82 | .07 | .06 | .00 | .00 | .48 | -.30 | .48 | -.24 | -.24 |
| FT | 707029 | D | 6540 | .49 | .20 | .12 | .19 | .49 | .00 | .00 | .43 | -.33 | -.15 | -.10 | .43 |
| FT | 707031 | A | 4229 | .71 | .71 | .07 | .05 | .17 | .00 | .00 | .40 | .40 | -.22 | -.27 | -.18 |
| FT | 707032 | D | 4616 | .79 | .08 | .06 | .07 | .79 | .00 | .00 | .43 | -.27 | -.20 | -.21 | .43 |
| FT | 707033 | B | 4119 | .74 | .15 | .74 | .04 | .07 | .00 | .00 | .46 | -.27 | .46 | -.14 | -.30 |
| FT | 707034 | D | 4117 | .56 | .29 | .05 | .10 | .56 | .00 | .00 | .37 | -.20 | -.23 | -.15 | .37 |
| FT | 707035 | D | 4196 | .67 | .04 | .21 | .07 | .67 | .00 | .00 | .48 | -.20 | -.32 | -.20 | .48 |
| FT | 707037 | A | 4093 | .68 | .68 | .12 | .14 | .06 | .00 | .00 | .46 | .46 | -.16 | -.28 | -.27 |
| FT | 707038 | D | 4049 | .86 | .02 | .04 | .09 | .86 | .00 | .00 | .36 | -.17 | -.20 | -.24 | .36 |
| FT | 707039 | D | 4634 | .39 | .06 | .42 | .12 | .39 | .00 | .00 | .28 | -.19 | .02 | -.29 | .28 |
| FT | 707041 | B | 4621 | .90 | .02 | .90 | .02 | .06 | .00 | .00 | .25 | -.15 | .25 | -.19 | -.10 |

# Grade 4

**Grade 4 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 603954 | C | 22685 | .52 | .29 | .18 | .52 | .01 | .00 | .00 | .36 | -.30 | -.10 | .36 | -.07 |
| OP | 604003 | A | 22685 | .72 | .72 | .07 | .17 | .03 | .00 | .00 | .46 | .46 | -.20 | -.31 | -.21 |
| OP | 604064 | A | 22685 | .71 | .71 | .14 | .09 | .06 | .00 | .00 | .45 | .45 | -.27 | -.19 | -.23 |
| OP | 604077 | B | 22685 | .60 | .14 | .60 | .18 | .07 | .00 | .00 | .37 | -.25 | .37 | -.11 | -.19 |
| OP | 604090 | C | 22685 | .78 | .02 | .07 | .78 | .13 | .00 | .00 | .37 | -.19 | -.20 | .37 | -.22 |
| OP | 634166 | B | 22685 | .73 | .13 | .73 | .02 | .12 | .00 | .00 | .41 | -.17 | .41 | -.11 | -.34 |
| OP | 634176 | C | 22685 | .65 | .16 | .04 | .65 | .14 | .00 | .00 | .51 | -.38 | -.15 | .51 | -.20 |
| OP | 634187 | D | 22685 | .65 | .18 | .07 | .10 | .65 | .00 | .00 | .56 | -.47 | -.18 | -.13 | .56 |
| OP | 634191 | D | 22685 | .60 | .02 | .04 | .34 | .60 | .00 | .00 | .41 | -.13 | -.22 | -.30 | .41 |
| OP | 634198 | A | 22685 | .79 | .79 | .06 | .09 | .07 | .00 | .00 | .42 | .42 | -.19 | -.29 | -.18 |
| OP | 634200 | D | 22685 | .62 | .12 | .09 | .17 | .62 | .00 | .00 | .40 | -.22 | -.20 | -.18 | .40 |
| OP | 634203 | B | 22685 | .83 | .06 | .83 | .06 | .05 | .00 | .00 | .28 | -.15 | .28 | -.17 | -.12 |
| OP | 634212 | A | 22685 | .88 | .88 | .03 | .04 | .05 | .00 | .00 | .42 | .42 | -.19 | -.18 | -.31 |

## Grade 4 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 646568 | A | 22685 | .89 | .89 | .04 | .03 | .04 | .00 | .00 | .36 | .36 | -.23 | -.17 | -.20 |
| OP | 646578 | C | 22685 | .80 | .12 | .03 | .80 | .06 | .00 | .00 | .39 | -.22 | -.18 | .39 | -.24 |
| OP | 646588 | B | 22685 | .82 | .05 | .82 | .10 | .03 | .00 | .00 | .47 | -.17 | .47 | -.36 | -.21 |
| OP | 646594 | D | 22685 | .68 | .15 | .12 | .05 | .68 | .00 | .00 | .37 | -.30 | -.13 | -.11 | .37 |
| OP | 646601 | C | 22685 | .56 | .32 | .08 | .56 | .04 | .00 | .00 | .43 | -.24 | -.23 | .43 | -.18 |
| OP | 646603 | C | 22685 | .53 | .08 | .12 | .53 | .27 | .00 | .00 | .40 | -.09 | -.19 | .40 | -.25 |
| OP | 646798 | B | 22685 | .56 | .40 | .56 | .02 | .01 | .00 | .00 | .40 | -.33 | .40 | -.15 | -.13 |
| OP | 646803 | D | 22685 | .84 | .06 | .04 | .05 | .84 | .00 | .00 | .46 | -.25 | -.23 | -.26 | .46 |
| OP | 659906 | C | 22685 | .71 | .08 | .13 | .71 | .07 | .00 | .00 | .41 | -.18 | -.24 | .41 | -.22 |
| OP | 659927 | B | 22685 | .74 | .04 | .74 | .03 | .19 | .00 | .00 | .50 | -.12 | .50 | -.14 | -.44 |
| OP | 659932 | B | 22685 | .64 | .15 | .64 | .19 | .03 | .00 | .00 | .45 | -.30 | .45 | -.22 | -.15 |
| OP | 659941 | C | 22685 | .56 | .30 | .05 | .56 | .09 | .00 | .00 | .37 | -.20 | -.22 | .37 | -.15 |
| OP | 659945 | D | 22685 | .51 | .24 | .13 | .11 | .51 | .00 | .00 | .43 | -.24 | -.25 | -.08 | .43 |
| OP | 659961 | A | 22685 | .54 | .54 | .08 | .33 | .04 | .00 | .00 | .41 | .41 | -.35 | -.17 | -.11 |
| OP | 659971 | C | 22685 | .63 | .20 | .08 | .63 | .08 | .00 | .00 | .56 | -.40 | -.21 | .56 | -.19 |
| OP | 659979 | B | 22685 | .59 | .07 | .59 | .23 | .11 | .00 | .00 | .33 | -.27 | .33 | -.16 | -.08 |
| OP | 659983 | C | 22685 | .60 | .14 | .02 | .60 | .23 | .00 | .00 | .38 | -.30 | -.18 | .38 | -.12 |
| OP | 689807 | D | 22685 | .80 | .05 | .04 | .11 | .80 | .00 | .00 | .52 | -.33 | -.24 | -.29 | .52 |
| OP | 689809 | A | 22685 | .47 | .47 | .17 | .09 | .27 | .00 | .00 | .44 | .44 | -.10 | -.26 | -.24 |
| OP | 689812 | D | 22685 | .79 | .08 | .04 | .09 | .79 | .00 | .00 | .42 | -.27 | -.20 | -.21 | .42 |
| OP | 689814 | C | 22685 | .45 | .04 | .19 | .45 | .32 | .00 | .00 | .47 | -.16 | -.32 | .47 | -.16 |
| OP | 689816 | C | 22685 | .57 | .03 | .11 | .57 | .29 | .00 | .00 | .31 | -.14 | -.07 | .31 | -.24 |
| OP | 689818 | D | 22685 | .85 | .08 | .03 | .03 | .85 | .00 | .00 | .45 | -.29 | -.19 | -.26 | .45 |
| OP | 689821 | B | 22685 | .51 | .10 | .51 | .36 | .03 | .00 | .00 | .45 | -.02 | .45 | -.41 | -.11 |
| OP | 689823 | C | 22685 | .85 | .04 | .08 | .85 | .03 | .00 | .00 | .37 | -.22 | -.23 | .37 | -.17 |
| OP | 689824 | D | 22685 | .87 | .08 | .03 | .02 | .87 | .00 | .00 | .33 | -.18 | -.21 | -.16 | .33 |
| OP | 689825 | A | 22685 | .51 | .51 | .35 | .09 | .04 | .00 | .00 | .52 | .52 | -.35 | -.19 | -.17 |
| OP | 689830 | D | 22685 | .78 | .01 | .19 | .01 | .78 | .00 | .00 | .35 | -.16 | -.28 | -.15 | .35 |
| OP | 689831 | D | 22685 | .76 | .03 | .19 | .02 | .76 | .00 | .00 | .31 | -.19 | -.20 | -.17 | .31 |
| OP | 689834 | C | 22685 | .66 | .08 | .07 | .66 | .19 | .00 | .00 | .33 | -.25 | -.21 | .33 | -.09 |
| OP | 689835 | D | 22685 | .68 | .02 | .11 | .18 | .68 | .00 | .00 | .33 | -.13 | -.21 | -.17 | .33 |
| OP | 689837 | D | 22685 | .71 | .22 | .03 | .04 | .71 | .00 | .00 | .40 | -.29 | -.22 | -.13 | .40 |
| OP | 689841 | B | 22685 | .69 | .14 | .69 | .07 | .10 | .00 | .00 | .27 | -.06 | .27 | -.24 | -.15 |
| OP | 689843 | B | 22685 | .66 | .09 | .66 | .11 | .14 | .00 | .00 | .45 | -.20 | .45 | -.36 | -.12 |
| OP | 689844 | B | 22685 | .58 | .04 | .58 | .11 | .26 | .00 | .00 | .48 | -.15 | .48 | -.20 | -.32 |
| OP | 689845 | A | 22685 | .75 | .75 | .05 | .04 | .15 | .00 | .00 | .45 | .45 | -.17 | -.18 | -.34 |
| OP | 689852 | A | 22685 | .79 | .79 | .08 | .04 | .09 | .00 | .00 | .33 | .33 | -.23 | -.22 | -.10 |
| OP | 689854 | D | 22685 | .72 | .07 | .11 | .10 | .72 | .00 | .00 | .35 | -.19 | -.16 | -.19 | .35 |
| OP | 689856 | C | 22685 | .44 | .12 | .25 | .44 | .19 | .00 | .00 | .28 | -.10 | -.13 | .28 | -.12 |
| OP | 689857 | C | 22685 | .61 | .28 | .09 | .61 | .02 | .00 | .00 | .48 | -.40 | -.13 | .48 | -.12 |
| OP | 689858 | B | 22685 | .86 | .05 | .86 | .04 | .04 | .00 | .00 | .33 | -.21 | .33 | -.17 | -.15 |

## Grade 4 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 692376 | D | 22685 | .59 | .15 | .11 | .14 | .59 | .00 | .00 | .33 | -.16 | -.17 | -.14 | .33 |
| FT | 707043 | A | 4365 | .67 | .67 | .03 | .06 | .24 | .00 | .00 | .31 | .31 | -.18 | -.36 | -.06 |
| FT | 707044 | B | 4292 | .82 | .04 | .82 | .11 | .03 | .00 | .00 | .46 | -.30 | .46 | -.27 | -.18 |
| FT | 707045 | B | 4387 | .71 | .09 | .71 | .07 | .13 | .00 | .00 | .36 | -.27 | .36 | -.21 | -.10 |
| FT | 707046 | B | 3957 | .71 | .16 | .71 | .05 | .08 | .00 | .00 | .50 | -.29 | .50 | -.26 | -.23 |
| FT | 707047 | D | 4301 | .82 | .05 | .10 | .03 | .82 | .00 | .00 | .33 | -.16 | -.19 | -.20 | .33 |
| FT | 707048 | A | 3998 | .89 | .89 | .04 | .04 | .02 | .00 | .00 | .31 | .31 | -.18 | -.16 | -.18 |
| FT | 707050 | C | 4162 | .95 | .03 | .02 | .95 | .00 | .00 | .00 | .21 | -.14 | -.16 | .21 | -.01 |
| FT | 707051 | C | 4455 | .96 | .01 | .03 | .96 | .01 | .00 | .00 | .22 | -.07 | -.19 | .22 | -.09 |
| FT | 707052 | C | 3752 | .59 | .02 | .34 | .59 | .04 | .00 | .00 | .48 | -.01 | -.43 | .48 | -.16 |
| FT | 707055 | B | 5873 | .78 | .10 | .78 | .10 | .02 | .00 | .00 | .48 | -.29 | .48 | -.30 | -.14 |
| FT | 707056 | C | 4315 | .71 | .02 | .24 | .71 | .04 | .00 | .00 | .32 | -.14 | -.20 | .32 | -.22 |
| FT | 707057 | D | 4252 | .76 | .05 | .05 | .14 | .76 | .00 | .00 | .40 | -.16 | -.27 | -.22 | .40 |
| FT | 707058 | D | 4112 | .62 | .03 | .12 | .23 | .62 | .00 | .00 | .37 | -.06 | -.31 | -.17 | .37 |
| FT | 707059 | B | 6266 | .77 | .16 | .77 | .06 | .02 | .00 | .00 | .38 | -.24 | .38 | -.20 | -.18 |
| FT | 707061 | A | 4287 | .81 | .81 | .03 | .02 | .14 | .00 | .00 | .34 | .34 | -.20 | -.23 | -.19 |
| FT | 707062 | C | 6137 | .68 | .08 | .03 | .68 | .21 | .00 | .00 | .33 | -.10 | -.15 | .33 | -.24 |
| FT | 707063 | A | 5591 | .78 | .78 | .02 | .18 | .02 | .00 | .00 | .30 | .30 | -.13 | -.20 | -.18 |
| FT | 707064 | A | 4148 | .81 | .81 | .01 | .16 | .03 | .00 | .00 | .29 | .29 | -.12 | -.22 | -.16 |
| FT | 707065 | C | 4236 | .93 | .03 | .02 | .93 | .02 | .00 | .00 | .24 | -.12 | -.16 | .24 | -.14 |
| FT | 707066 | A | 3813 | .92 | .92 | .05 | .02 | .01 | .00 | .00 | .35 | .35 | -.25 | -.13 | -.19 |
| FT | 707067 | D | 4303 | .80 | .07 | .08 | .05 | .80 | .00 | .00 | .50 | -.29 | -.33 | -.16 | .50 |
| FT | 707068 | C | 4525 | .83 | .07 | .05 | .83 | .06 | .00 | .00 | .39 | -.26 | -.14 | .39 | -.22 |
| FT | 707069 | C | 4424 | .64 | .02 | .10 | .64 | .25 | .00 | .00 | .32 | -.15 | -.15 | .32 | -.20 |
| FT | 707071 | A | 3883 | .66 | .66 | .15 | .10 | .09 | .00 | .00 | .41 | .41 | -.30 | -.13 | -.17 |
| FT | 707073 | D | 6183 | .76 | .01 | .22 | .01 | .76 | .00 | .00 | .38 | -.13 | -.33 | -.12 | .38 |
| FT | 707074 | A | 4316 | .78 | .78 | .10 | .04 | .07 | .00 | .00 | .48 | .48 | -.23 | -.29 | -.26 |
| FT | 707075 | A | 4127 | .92 | .92 | .03 | .03 | .02 | .00 | .00 | .33 | .33 | -.17 | -.23 | -.16 |
| FT | 707076 | C | 3800 | .98 | .01 | .01 | .98 | .01 | .00 | .00 | .21 | -.16 | -.10 | .21 | -.09 |
| FT | 707077 | B | 4574 | .63 | .02 | .63 | .33 | .02 | .00 | .00 | .27 | -.12 | .27 | -.21 | -.11 |
| FT | 707078 | D | 5684 | .75 | .11 | .04 | .10 | .75 | .00 | .00 | .46 | -.22 | -.28 | -.24 | .46 |
| FT | 707079 | C | 4386 | .65 | .22 | .03 | .65 | .09 | .00 | .00 | .46 | -.33 | -.15 | .46 | -.19 |
| FT | 707080 | D | 3889 | .04 | .16 | .31 | .49 | .04 | .00 | .00 | -.13 | -.14 | -.25 | .38 | -.13 |
| FT | 707081 | D | 4839 | .96 | .02 | .02 | .00 | .96 | .00 | .00 | .17 | -.12 | -.10 | -.06 | .17 |
| FT | 707082 | B | 4287 | .42 | .09 | .42 | .37 | .12 | .00 | .00 | .38 | -.19 | .38 | -.20 | -.12 |
| FT | 707083 | D | 6210 | .50 | .25 | .17 | .08 | .50 | .00 | .00 | .40 | -.23 | -.11 | -.21 | .40 |
| FT | 707085 | A | 6245 | .71 | .71 | .10 | .14 | .05 | .00 | .00 | .29 | .29 | -.27 | -.03 | -.19 |
| FT | 707086 | C | 4120 | .75 | .04 | .10 | .75 | .11 | .00 | .00 | .42 | -.28 | -.29 | .42 | -.13 |
| FT | 707087 | D | 4188 | .68 | .06 | .14 | .12 | .68 | .00 | .00 | .57 | -.32 | -.38 | -.18 | .57 |
| FT | 707088 | D | 4333 | .65 | .15 | .11 | .09 | .65 | .00 | .00 | .41 | -.15 | -.27 | -.20 | .41 |
| FT | 707089 | D | 3705 | .93 | .01 | .02 | .04 | .93 | .00 | .00 | .24 | -.16 | -.07 | -.18 | .24 |

**Grade 4 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 707091 | B | 4126 | .74 | .11 | .74 | .09 | .06 | .00 | .00 | .41 | -.23 | .41 | -.21 | -.19 |
| FT | 707092 | B | 4178 | .66 | .12 | .66 | .07 | .16 | .00 | .00 | .33 | -.27 | .33 | -.17 | -.08 |
| FT | 707093 | B | 3933 | .78 | .11 | .78 | .08 | .04 | .00 | .00 | .36 | -.13 | .36 | -.25 | -.23 |
| FT | 707094 | B | 3917 | .75 | .06 | .75 | .11 | .08 | .00 | .00 | .40 | -.15 | .40 | -.28 | -.18 |
| FT | 707096 | C | 4078 | .97 | .00 | .02 | .97 | .01 | .00 | .00 | .15 | -.08 | -.07 | .15 | -.11 |
| FT | 707097 | B | 3957 | .82 | .03 | .82 | .10 | .04 | .00 | .00 | .37 | -.13 | .37 | -.24 | -.22 |
| FT | 707098 | D | 5715 | .84 | .04 | .10 | .02 | .84 | .00 | .00 | .45 | -.19 | -.36 | -.12 | .45 |
| FT | 707099 | D | 6277 | .89 | .02 | .03 | .06 | .89 | .00 | .00 | .39 | -.18 | -.19 | -.26 | .39 |
| FT | 707100 | C | 4216 | .42 | .51 | .05 | .42 | .02 | .00 | .00 | .41 | -.28 | -.26 | .41 | -.05 |
| FT | 707101 | A | 3727 | .66 | .66 | .09 | .12 | .13 | .00 | .00 | .52 | .52 | -.26 | -.30 | -.21 |

# Grade 5

**Grade 5 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 603429 | D | 22946 | .83 | .04 | .02 | .12 | .83 | .00 | .00 | .47 | -.19 | -.16 | -.37 | .47 |
| OP | 603432 | B | 22946 | .56 | .31 | .56 | .08 | .04 | .00 | .00 | .42 | -.27 | .42 | -.21 | -.13 |
| OP | 603459 | D | 22946 | .59 | .24 | .13 | .04 | .59 | .00 | .00 | .39 | -.29 | -.07 | -.23 | .39 |
| OP | 603491 | D | 22946 | .77 | .11 | .03 | .09 | .77 | .00 | .00 | .52 | -.37 | -.19 | -.24 | .52 |
| OP | 603500 | A | 22946 | .67 | .67 | .09 | .16 | .07 | .00 | .00 | .42 | .42 | -.29 | -.17 | -.20 |
| OP | 603678 | B | 22946 | .72 | .05 | .72 | .19 | .04 | .00 | .00 | .43 | -.22 | .43 | -.31 | -.12 |
| OP | 603689 | C | 22946 | .71 | .10 | .03 | .71 | .16 | .00 | .00 | .42 | -.37 | -.20 | .42 | -.12 |
| OP | 634227 | A | 22946 | .74 | .74 | .03 | .06 | .16 | .00 | .00 | .35 | .35 | -.15 | -.04 | -.31 |
| OP | 634279 | D | 22946 | .91 | .02 | .06 | .01 | .91 | .00 | .00 | .34 | -.18 | -.23 | -.17 | .34 |
| OP | 634284 | C | 22946 | .81 | .05 | .06 | .81 | .08 | .00 | .00 | .46 | -.27 | -.24 | .46 | -.23 |
| OP | 646616 | D | 22946 | .70 | .09 | .14 | .07 | .70 | .00 | .00 | .54 | -.30 | -.31 | -.21 | .54 |
| OP | 646620 | C | 22946 | .68 | .12 | .10 | .68 | .10 | .00 | .00 | .46 | -.24 | -.27 | .46 | -.19 |
| OP | 646629 | D | 22946 | .70 | .14 | .09 | .06 | .70 | .00 | .00 | .52 | -.24 | -.28 | -.30 | .52 |
| OP | 646630 | A | 22946 | .63 | .63 | .22 | .12 | .03 | .00 | .00 | .30 | .30 | -.20 | -.11 | -.16 |
| OP | 646655 | A | 22946 | .51 | .51 | .08 | .35 | .05 | .00 | .00 | .42 | .42 | -.18 | -.24 | -.21 |
| OP | 646666 | D | 22946 | .68 | .13 | .06 | .14 | .68 | .00 | .00 | .48 | -.30 | -.18 | -.23 | .48 |
| OP | 659993 | C | 22946 | .75 | .07 | .12 | .75 | .05 | .00 | .00 | .31 | -.18 | -.19 | .31 | -.11 |
| OP | 659995 | D | 22946 | .62 | .04 | .29 | .04 | .62 | .00 | .00 | .40 | -.19 | -.30 | -.10 | .40 |
| OP | 659998 | A | 22946 | .74 | .74 | .23 | .02 | .01 | .00 | .00 | .24 | .24 | -.18 | -.15 | -.08 |
| OP | 659999 | B | 22946 | .60 | .16 | .60 | .21 | .04 | .00 | .00 | .32 | -.11 | .32 | -.20 | -.19 |
| OP | 660008 | A | 22946 | .75 | .75 | .07 | .14 | .04 | .00 | .00 | .40 | .40 | -.22 | -.24 | -.17 |
| OP | 660013 | A | 22946 | .75 | .75 | .01 | .10 | .14 | .00 | .00 | .40 | .40 | -.13 | -.08 | -.38 |
| OP | 660018 | C | 22946 | .56 | .09 | .09 | .56 | .26 | .00 | .00 | .29 | -.20 | -.23 | .29 | -.04 |
| OP | 660019 | C | 22946 | .70 | .13 | .11 | .70 | .05 | .00 | .00 | .37 | -.23 | -.19 | .37 | -.14 |

## Grade 5 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 660025 | B | 22946 | .80 | .05 | .80 | .06 | .08 | .00 | .00 | .33 | -.17 | .33 | -.23 | -.13 |
| OP | 689865 | C | 22946 | .55 | .22 | .15 | .55 | .08 | .00 | .00 | .37 | -.17 | -.21 | .37 | -.14 |
| OP | 689866 | D | 22946 | .61 | .08 | .05 | .26 | .61 | .00 | .00 | .48 | -.12 | -.21 | -.35 | .48 |
| OP | 689868 | C | 22946 | .83 | .04 | .09 | .83 | .03 | .00 | .00 | .29 | -.10 | -.24 | .29 | -.12 |
| OP | 689869 | C | 22946 | .88 | .04 | .04 | .88 | .03 | .00 | .00 | .35 | -.23 | -.21 | .35 | -.14 |
| OP | 689874 | A | 22946 | .76 | .76 | .13 | .08 | .03 | .00 | .00 | .36 | .36 | -.25 | -.12 | -.19 |
| OP | 689876 | B | 22946 | .71 | .19 | .71 | .06 | .03 | .00 | .00 | .39 | -.30 | .39 | -.13 | -.16 |
| OP | 689879 | A | 22946 | .50 | .50 | .33 | .09 | .08 | .00 | .00 | .45 | .45 | -.30 | -.17 | -.11 |
| OP | 689881 | D | 22946 | .42 | .33 | .10 | .15 | .42 | .00 | .00 | .48 | -.34 | -.22 | -.02 | .48 |
| OP | 689884 | D | 22946 | .70 | .05 | .14 | .10 | .70 | .00 | .00 | .51 | -.19 | -.30 | -.27 | .51 |
| OP | 689887 | B | 22946 | .64 | .17 | .64 | .09 | .09 | .00 | .00 | .42 | -.27 | .42 | -.20 | -.14 |
| OP | 689888 | D | 22946 | .76 | .05 | .09 | .10 | .76 | .00 | .00 | .44 | -.21 | -.22 | -.26 | .44 |
| OP | 689889 | D | 22946 | .56 | .04 | .03 | .37 | .56 | .00 | .00 | .44 | -.25 | -.16 | -.29 | .44 |
| OP | 689890 | B | 22946 | .81 | .07 | .81 | .06 | .05 | .00 | .00 | .48 | -.21 | .48 | -.28 | -.29 |
| OP | 689893 | D | 22946 | .58 | .25 | .06 | .10 | .58 | .00 | .00 | .48 | -.38 | -.12 | -.15 | .48 |
| OP | 689895 | A | 22946 | .75 | .75 | .13 | .10 | .02 | .00 | .00 | .31 | .31 | -.20 | -.15 | -.15 |
| OP | 689897 | D | 22946 | .53 | .14 | .16 | .18 | .53 | .00 | .00 | .33 | -.26 | -.09 | -.10 | .33 |
| OP | 689898 | A | 22946 | .87 | .87 | .05 | .03 | .05 | .00 | .00 | .31 | .31 | -.15 | -.19 | -.18 |
| OP | 689899 | B | 22946 | .60 | .11 | .60 | .09 | .20 | .00 | .00 | .50 | -.17 | .50 | -.19 | -.34 |
| OP | 689903 | C | 22946 | .70 | .13 | .11 | .70 | .07 | .00 | .00 | .45 | -.25 | -.27 | .45 | -.16 |
| OP | 689909 | A | 22946 | .89 | .89 | .00 | .10 | .01 | .00 | .00 | .27 | .27 | -.09 | -.24 | -.10 |
| OP | 689910 | A | 22946 | .72 | .72 | .17 | .09 | .01 | .00 | .00 | .31 | .31 | -.11 | -.27 | -.15 |
| OP | 689912 | A | 22946 | .70 | .70 | .09 | .08 | .13 | .00 | .00 | .46 | .46 | -.25 | -.24 | -.22 |
| OP | 689913 | C | 22946 | .67 | .02 | .22 | .67 | .08 | .00 | .00 | .43 | -.17 | -.25 | .43 | -.26 |
| OP | 689915 | B | 22946 | .83 | .08 | .83 | .07 | .01 | .00 | .00 | .42 | -.29 | .42 | -.23 | -.16 |
| OP | 689918 | B | 22946 | .68 | .06 | .68 | .11 | .14 | .00 | .00 | .43 | -.20 | .43 | -.24 | -.22 |
| OP | 689921 | A | 22946 | .72 | .72 | .09 | .07 | .11 | .00 | .00 | .40 | .40 | -.18 | -.23 | -.21 |
| OP | 689925 | D | 22946 | .73 | .07 | .04 | .16 | .73 | .00 | .00 | .45 | -.26 | -.21 | -.26 | .45 |
| OP | 689926 | C | 22946 | .50 | .20 | .23 | .50 | .07 | .00 | .00 | .49 | -.32 | -.22 | .49 | -.09 |
| OP | 689931 | C | 22946 | .64 | .14 | .11 | .64 | .11 | .00 | .00 | .36 | -.23 | -.15 | .36 | -.14 |
| OP | 689932 | B | 22946 | .65 | .29 | .65 | .03 | .02 | .00 | .00 | .26 | -.10 | .26 | -.22 | -.25 |
| FT | 707102 | C | 4243 | .55 | .11 | .13 | .55 | .21 | .00 | .00 | .44 | -.30 | -.23 | .44 | -.12 |
| FT | 707103 | C | 6137 | .52 | .17 | .08 | .52 | .22 | .00 | .00 | .31 | -.21 | -.23 | .31 | -.03 |
| FT | 707104 | B | 4364 | .86 | .04 | .86 | .08 | .02 | .00 | .00 | .32 | -.14 | .32 | -.23 | -.15 |
| FT | 707106 | C | 4137 | .81 | .05 | .10 | .81 | .04 | .00 | .00 | .46 | -.23 | -.26 | .46 | -.28 |
| FT | 707107 | D | 4463 | .44 | .11 | .08 | .36 | .44 | .00 | .00 | .41 | -.30 | -.16 | -.13 | .41 |
| FT | 707109 | C | 4396 | .79 | .04 | .03 | .79 | .14 | .00 | .00 | .26 | -.12 | -.16 | .26 | -.16 |
| FT | 707110 | A | 6202 | .48 | .48 | .19 | .22 | .10 | .00 | .00 | .56 | .56 | -.10 | -.40 | -.24 |
| FT | 707111 | D | 4211 | .62 | .18 | .06 | .15 | .62 | .00 | .00 | .54 | -.35 | -.20 | -.23 | .54 |
| FT | 707112 | B | 4300 | .74 | .13 | .74 | .10 | .03 | .00 | .00 | .53 | -.41 | .53 | -.24 | -.14 |
| FT | 707113 | D | 4367 | .48 | .22 | .18 | .12 | .48 | .00 | .00 | .50 | -.14 | -.20 | -.35 | .50 |

## Grade 5 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 707114 | B | 6050 | .62 | .20 | .62 | .10 | .08 | .00 | .00 | .53 | -.41 | .53 | -.16 | -.16 |
| FT | 707115 | C | 4343 | .68 | .20 | .08 | .68 | .04 | .00 | .00 | .41 | -.22 | -.24 | .41 | -.19 |
| FT | 707116 | C | 3800 | .73 | .04 | .14 | .73 | .09 | .00 | .00 | .44 | -.25 | -.26 | .44 | -.19 |
| FT | 707117 | B | 3779 | .84 | .04 | .84 | .08 | .05 | .00 | .00 | .32 | -.17 | .32 | -.25 | -.10 |
| FT | 707118 | B | 5729 | .60 | .08 | .60 | .26 | .07 | .00 | .00 | .47 | -.18 | .47 | -.33 | -.14 |
| FT | 707120 | C | 4391 | .64 | .06 | .21 | .64 | .10 | .00 | .00 | .41 | -.21 | -.25 | .41 | -.15 |
| FT | 707121 | D | 4724 | .84 | .07 | .02 | .07 | .84 | .00 | .00 | .44 | -.21 | -.18 | -.32 | .44 |
| FT | 707122 | D | 4304 | .59 | .31 | .04 | .06 | .59 | .00 | .00 | .48 | -.34 | -.24 | -.15 | .48 |
| FT | 707123 | A | 4375 | .82 | .82 | .03 | .04 | .11 | .00 | .00 | .43 | .43 | -.26 | -.28 | -.21 |
| FT | 707124 | B | 3935 | .85 | .03 | .85 | .04 | .08 | .00 | .00 | .26 | -.15 | .26 | -.23 | -.08 |
| FT | 707125 | A | 4191 | .85 | .85 | .05 | .04 | .06 | .00 | .00 | .49 | .49 | -.22 | -.25 | -.33 |
| FT | 707127 | B | 4916 | .78 | .11 | .78 | .07 | .03 | .00 | .00 | .48 | -.32 | .48 | -.24 | -.18 |
| FT | 707128 | C | 4300 | .80 | .10 | .06 | .80 | .04 | .00 | .00 | .39 | -.14 | -.29 | .39 | -.24 |
| FT | 707129 | D | 4290 | .67 | .04 | .27 | .02 | .67 | .00 | .00 | .40 | -.17 | -.31 | -.11 | .40 |
| FT | 707131 | A | 4068 | .76 | .76 | .14 | .03 | .07 | .00 | .00 | .46 | .46 | -.33 | -.19 | -.19 |
| FT | 707132 | A | 4173 | .90 | .90 | .10 | .00 | .00 | .00 | .00 | .27 | .27 | -.26 | -.07 | -.06 |
| FT | 707134 | D | 5701 | .84 | .02 | .07 | .06 | .84 | .00 | .00 | .41 | -.18 | -.27 | -.21 | .41 |
| FT | 707135 | D | 4172 | .85 | .02 | .12 | .01 | .85 | .00 | .00 | .29 | -.15 | -.21 | -.13 | .29 |
| FT | 707136 | A | 4078 | .75 | .75 | .19 | .05 | .01 | .00 | .00 | .27 | .27 | -.15 | -.21 | -.13 |
| FT | 707137 | B | 5635 | .80 | .04 | .80 | .07 | .09 | .00 | .00 | .28 | -.18 | .28 | -.15 | -.14 |
| FT | 707138 | D | 4460 | .67 | .11 | .15 | .07 | .67 | .00 | .00 | .51 | -.31 | -.27 | -.18 | .51 |
| FT | 707140 | B | 4501 | .77 | .05 | .77 | .04 | .14 | .00 | .00 | .37 | -.26 | .37 | -.15 | -.21 |
| FT | 707141 | D | 4128 | .82 | .03 | .04 | .11 | .82 | .00 | .00 | .45 | -.19 | -.18 | -.33 | .45 |
| FT | 707142 | B | 3849 | .64 | .13 | .64 | .06 | .16 | .00 | .00 | .54 | -.19 | .54 | -.30 | -.31 |
| FT | 707143 | D | 6340 | .54 | .08 | .25 | .12 | .54 | .00 | .00 | .53 | -.12 | -.33 | -.27 | .53 |
| FT | 707144 | B | 4355 | .25 | .01 | .25 | .02 | .73 | .00 | .00 | .20 | -.12 | .20 | -.06 | -.16 |
| FT | 707145 | C | 4474 | .62 | .16 | .14 | .62 | .08 | .00 | .00 | .48 | -.30 | -.17 | .48 | -.23 |
| FT | 707146 | C | 6082 | .53 | .16 | .19 | .53 | .13 | .00 | .00 | .41 | -.14 | -.20 | .41 | -.23 |
| FT | 707147 | B | 3879 | .44 | .06 | .44 | .37 | .13 | .00 | .00 | .24 | -.09 | .24 | -.05 | -.21 |
| FT | 707149 | C | 4475 | .65 | .28 | .05 | .65 | .02 | .00 | .00 | .25 | -.13 | -.17 | .25 | -.21 |
| FT | 707151 | C | 3869 | .94 | .01 | .03 | .94 | .02 | .00 | .00 | .34 | -.17 | -.20 | .34 | -.20 |
| FT | 707152 | D | 4370 | .61 | .29 | .05 | .05 | .61 | .00 | .00 | .32 | -.13 | -.25 | -.21 | .32 |
| FT | 707153 | A | 4201 | .53 | .53 | .18 | .19 | .09 | .00 | .00 | .51 | .51 | -.25 | -.25 | -.20 |
| FT | 707154 | B | 4495 | .52 | .19 | .52 | .22 | .06 | .00 | .00 | .36 | -.27 | .36 | -.10 | -.12 |
| FT | 707155 | A | 6202 | .75 | .75 | .11 | .05 | .08 | .00 | .00 | .50 | .50 | -.25 | -.27 | -.27 |
| FT | 707156 | A | 4172 | .54 | .54 | .24 | .15 | .07 | .00 | .00 | .19 | .19 | .04 | -.21 | -.15 |
| FT | 707157 | B | 4337 | .53 | .44 | .53 | .02 | .01 | .00 | .00 | .37 | -.33 | .37 | -.08 | -.12 |
| FT | 707158 | C | 5653 | .79 | .02 | .10 | .79 | .08 | .00 | .00 | .37 | -.20 | -.25 | .37 | -.16 |
| FT | 707159 | A | 3878 | .94 | .94 | .01 | .03 | .02 | .00 | .00 | .33 | .33 | -.12 | -.22 | -.21 |
| FT | 707160 | A | 3936 | .74 | .74 | .08 | .14 | .04 | .00 | .00 | .43 | .43 | -.22 | -.26 | -.19 |

# Grade 6

**Grade 6 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 603183 | B | 22445 | .75 | .10 | .75 | .11 | .04 | .00 | .00 | .39 | -.18 | .39 | -.28 | -.14 |
| OP | 603206 | A | 22445 | .62 | .62 | .24 | .08 | .06 | .00 | .00 | .31 | .31 | -.09 | -.24 | -.19 |
| OP | 603237 | D | 22445 | .64 | .22 | .08 | .06 | .64 | .00 | .00 | .53 | -.39 | -.23 | -.13 | .53 |
| OP | 603283 | D | 22445 | .53 | .13 | .14 | .19 | .53 | .00 | .00 | .50 | -.36 | -.21 | -.14 | .50 |
| OP | 603285 | C | 22445 | .74 | .13 | .04 | .74 | .08 | .00 | .00 | .40 | -.22 | -.26 | .40 | -.18 |
| OP | 603349 | A | 22445 | .65 | .65 | .03 | .04 | .28 | .00 | .00 | .41 | .41 | -.15 | -.18 | -.30 |
| OP | 603364 | A | 22445 | .57 | .57 | .15 | .09 | .19 | .00 | .00 | .53 | .53 | -.19 | -.21 | -.34 |
| OP | 603366 | D | 22445 | .59 | .05 | .31 | .05 | .59 | .00 | .00 | .35 | -.17 | -.21 | -.17 | .35 |
| OP | 603715 | B | 22445 | .77 | .12 | .77 | .04 | .07 | .00 | .00 | .47 | -.32 | .47 | -.23 | -.19 |
| OP | 634376 | B | 22445 | .59 | .19 | .59 | .19 | .03 | .00 | .00 | .46 | -.31 | .46 | -.22 | -.12 |
| OP | 634398 | D | 22445 | .76 | .07 | .11 | .05 | .76 | .00 | .00 | .50 | -.34 | -.28 | -.17 | .50 |
| OP | 634408 | C | 22445 | .61 | .14 | .04 | .61 | .20 | .00 | .00 | .34 | -.27 | -.25 | .34 | -.05 |
| OP | 634433 | C | 22445 | .57 | .12 | .26 | .57 | .04 | .00 | .00 | .46 | -.30 | -.21 | .46 | -.17 |
| OP | 646674 | D | 22445 | .85 | .05 | .03 | .07 | .85 | .00 | .00 | .43 | -.32 | -.21 | -.18 | .43 |
| OP | 646680 | A | 22445 | .64 | .64 | .15 | .13 | .08 | .00 | .00 | .51 | .51 | -.34 | -.27 | -.12 |
| OP | 646687 | C | 22445 | .86 | .02 | .10 | .86 | .03 | .00 | .00 | .46 | -.19 | -.33 | .46 | -.24 |
| OP | 646706 | B | 22445 | .72 | .22 | .72 | .04 | .02 | .00 | .00 | .32 | -.19 | .32 | -.21 | -.17 |
| OP | 646720 | B | 22445 | .71 | .09 | .71 | .07 | .12 | .00 | .00 | .40 | -.34 | .40 | -.16 | -.13 |
| OP | 660042 | A | 22445 | .83 | .83 | .03 | .04 | .10 | .00 | .00 | .41 | .41 | -.19 | -.22 | -.26 |
| OP | 660048 | D | 22445 | .57 | .23 | .13 | .07 | .57 | .00 | .00 | .50 | -.24 | -.26 | -.23 | .50 |
| OP | 660052 | D | 22445 | .63 | .22 | .06 | .10 | .63 | .00 | .00 | .38 | -.15 | -.21 | -.24 | .38 |
| OP | 660063 | B | 22445 | .43 | .19 | .43 | .26 | .12 | .00 | .00 | .33 | -.14 | .33 | -.10 | -.20 |
| OP | 660069 | C | 22445 | .84 | .11 | .03 | .84 | .02 | .00 | .00 | .34 | -.27 | -.07 | .34 | -.19 |
| OP | 660082 | A | 22445 | .50 | .50 | .13 | .10 | .26 | .00 | .00 | .42 | .42 | -.09 | -.26 | -.22 |
| OP | 660098 | D | 22445 | .65 | .19 | .07 | .09 | .65 | .00 | .00 | .46 | -.22 | -.31 | -.19 | .46 |
| OP | 660110 | C | 22445 | .57 | .06 | .27 | .57 | .10 | .00 | .00 | .29 | -.14 | -.23 | .29 | -.02 |
| OP | 660116 | D | 22445 | .68 | .12 | .09 | .11 | .68 | .00 | .00 | .43 | -.18 | -.26 | -.21 | .43 |
| OP | 689935 | B | 22445 | .80 | .09 | .80 | .05 | .05 | .00 | .00 | .48 | -.30 | .48 | -.21 | -.26 |
| OP | 689937 | D | 22445 | .63 | .14 | .08 | .15 | .63 | .00 | .00 | .48 | -.20 | -.24 | -.28 | .48 |
| OP | 689940 | A | 22445 | .77 | .77 | .13 | .06 | .04 | .00 | .00 | .38 | .38 | -.24 | -.18 | -.19 |
| OP | 689942 | D | 22445 | .81 | .02 | .04 | .12 | .81 | .00 | .00 | .41 | -.19 | -.24 | -.25 | .41 |
| OP | 689946 | A | 22445 | .53 | .53 | .28 | .09 | .10 | .00 | .00 | .22 | .22 | -.07 | -.10 | -.15 |
| OP | 689949 | C | 22445 | .66 | .03 | .21 | .66 | .09 | .00 | .00 | .35 | -.17 | -.11 | .35 | -.31 |
| OP | 689951 | A | 22445 | .81 | .81 | .06 | .04 | .10 | .00 | .00 | .50 | .50 | -.22 | -.24 | -.33 |
| OP | 689953 | B | 22445 | .61 | .07 | .61 | .05 | .28 | .00 | .00 | .45 | -.13 | .45 | -.20 | -.31 |
| OP | 689954 | C | 22445 | .87 | .07 | .02 | .87 | .04 | .00 | .00 | .37 | -.23 | -.23 | .37 | -.16 |
| OP | 689955 | D | 22445 | .64 | .12 | .11 | .13 | .64 | .00 | .00 | .43 | -.23 | -.19 | -.20 | .43 |
| OP | 689956 | A | 22445 | .53 | .53 | .15 | .12 | .21 | .00 | .00 | .56 | .56 | -.16 | -.13 | -.44 |
| OP | 689958 | B | 22445 | .60 | .23 | .60 | .14 | .02 | .00 | .00 | .40 | -.14 | .40 | -.33 | -.13 |

## Grade 6 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 689960 | D | 22445 | .48 | .11 | .28 | .13 | .48 | .00 | .00 | .53 | -.21 | -.34 | -.13 | .53 |
| OP | 689962 | C | 22445 | .81 | .12 | .03 | .81 | .04 | .00 | .00 | .48 | -.32 | -.24 | .48 | -.22 |
| OP | 689963 | A | 22445 | .73 | .73 | .19 | .05 | .03 | .00 | .00 | .43 | .43 | -.29 | -.22 | -.17 |
| OP | 689964 | B | 22445 | .66 | .27 | .66 | .04 | .02 | .00 | .00 | .31 | -.18 | .31 | -.22 | -.18 |
| OP | 689968 | C | 22445 | .63 | .16 | .15 | .63 | .05 | .00 | .00 | .31 | -.16 | -.14 | .31 | -.17 |
| OP | 689970 | C | 22445 | .85 | .05 | .07 | .85 | .03 | .00 | .00 | .36 | -.28 | -.16 | .36 | -.14 |
| OP | 689974 | C | 22445 | .66 | .05 | .17 | .66 | .11 | .00 | .00 | .53 | -.29 | -.26 | .53 | -.27 |
| OP | 689976 | A | 22445 | .49 | .49 | .11 | .32 | .08 | .00 | .00 | .29 | .29 | -.09 | -.14 | -.19 |
| OP | 689977 | B | 22445 | .70 | .09 | .70 | .09 | .13 | .00 | .00 | .34 | -.17 | .34 | -.25 | -.11 |
| OP | 689980 | B | 22445 | .75 | .13 | .75 | .06 | .06 | .00 | .00 | .33 | -.20 | .33 | -.10 | -.21 |
| OP | 689981 | C | 22445 | .76 | .10 | .07 | .76 | .07 | .00 | .00 | .43 | -.29 | -.06 | .43 | -.31 |
| OP | 689982 | B | 22445 | .61 | .24 | .61 | .10 | .05 | .00 | .00 | .51 | -.31 | .51 | -.26 | -.16 |
| OP | 689983 | A | 22445 | .84 | .84 | .11 | .02 | .02 | .00 | .00 | .29 | .29 | -.18 | -.17 | -.16 |
| OP | 689984 | D | 22445 | .48 | .29 | .09 | .13 | .48 | .00 | .00 | .54 | -.32 | -.37 | -.04 | .54 |
| OP | 689985 | C | 22445 | .64 | .06 | .26 | .64 | .03 | .00 | .00 | .36 | -.20 | -.20 | .36 | -.21 |
| OP | 689987 | C | 22445 | .56 | .11 | .20 | .56 | .13 | .00 | .00 | .51 | -.25 | -.34 | .51 | -.11 |
| OP | 689988 | C | 22445 | .71 | .10 | .11 | .71 | .09 | .00 | .00 | .46 | -.20 | -.25 | .46 | -.26 |
| OP | 689990 | C | 22445 | .71 | .09 | .17 | .71 | .03 | .00 | .00 | .45 | -.22 | -.30 | .45 | -.16 |
| OP | 689992 | B | 22445 | .82 | .07 | .82 | .05 | .06 | .00 | .00 | .48 | -.27 | .48 | -.22 | -.27 |
| FT | 707162 | C | 3673 | .45 | .17 | .32 | .45 | .06 | .00 | .00 | .19 | -.33 | .12 | .19 | -.11 |
| FT | 707163 | C | 4487 | .97 | .01 | .01 | .97 | .01 | .00 | .00 | .18 | -.12 | -.11 | .18 | -.08 |
| FT | 707164 | B | 3977 | .89 | .01 | .89 | .01 | .09 | .00 | .00 | .34 | -.11 | .34 | -.14 | -.29 |
| FT | 707165 | A | 5619 | .84 | .84 | .03 | .07 | .06 | .00 | .00 | .47 | .47 | -.17 | -.26 | -.34 |
| FT | 707166 | B | 4348 | .89 | .06 | .89 | .03 | .01 | .00 | .00 | .40 | -.26 | .40 | -.25 | -.15 |
| FT | 707167 | D | 5794 | .44 | .13 | .12 | .31 | .44 | .00 | .00 | .35 | -.25 | -.14 | -.10 | .35 |
| FT | 707168 | D | 4364 | .77 | .11 | .07 | .05 | .77 | .00 | .00 | .48 | -.47 | -.09 | -.14 | .48 |
| FT | 707169 | D | 4348 | .85 | .07 | .05 | .04 | .85 | .00 | .00 | .36 | -.17 | -.23 | -.20 | .36 |
| FT | 707170 | C | 3670 | .59 | .24 | .10 | .59 | .07 | .00 | .00 | .49 | -.33 | -.22 | .49 | -.13 |
| FT | 707171 | C | 3651 | .74 | .06 | .16 | .74 | .04 | .00 | .00 | .53 | -.20 | -.42 | .53 | -.16 |
| FT | 707172 | A | 3831 | .60 | .60 | .16 | .11 | .12 | .00 | .00 | .49 | .49 | -.37 | -.25 | -.07 |
| FT | 707173 | B | 3811 | .82 | .08 | .82 | .02 | .08 | .00 | .00 | .29 | -.21 | .29 | -.18 | -.12 |
| FT | 707174 | A | 4461 | .92 | .92 | .05 | .01 | .02 | .00 | .00 | .32 | .32 | -.18 | -.16 | -.22 |
| FT | 707175 | B | 4460 | .38 | .53 | .38 | .06 | .03 | .00 | .00 | .30 | -.14 | .30 | -.21 | -.13 |
| FT | 707176 | D | 5931 | .69 | .09 | .11 | .11 | .69 | .00 | .00 | .48 | -.24 | -.28 | -.21 | .48 |
| FT | 707178 | D | 5739 | .70 | .05 | .08 | .16 | .70 | .00 | .00 | .55 | -.21 | -.31 | -.32 | .55 |
| FT | 707179 | A | 4384 | .68 | .68 | .09 | .20 | .03 | .00 | .00 | .23 | .23 | -.20 | -.04 | -.22 |
| FT | 707180 | C | 4155 | .70 | .16 | .03 | .70 | .11 | .00 | .00 | .41 | -.33 | -.23 | .41 | -.10 |
| FT | 707181 | B | 4347 | .84 | .13 | .84 | .02 | .01 | .00 | .00 | .25 | -.19 | .25 | -.13 | -.09 |
| FT | 707182 | A | 4176 | .71 | .71 | .12 | .13 | .03 | .00 | .00 | .36 | .36 | -.21 | -.22 | -.11 |
| FT | 707183 | B | 4163 | .75 | .12 | .75 | .04 | .09 | .00 | .00 | .37 | -.17 | .37 | -.21 | -.23 |
| FT | 707184 | A | 4395 | .63 | .63 | .29 | .04 | .04 | .00 | .00 | .41 | .41 | -.25 | -.23 | -.21 |

**Grade 6 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 707185 | B | 3739 | .91 | .02 | .91 | .04 | .03 | .00 | .00 | .39 | -.18 | .39 | -.22 | -.25 |
| FT | 707186 | A | 3922 | .61 | .61 | .27 | .06 | .05 | .00 | .00 | .49 | .49 | -.26 | -.28 | -.25 |
| FT | 707189 | D | 4532 | .42 | .17 | .32 | .09 | .42 | .00 | .00 | .55 | -.43 | -.21 | -.04 | .55 |
| FT | 707191 | D | 4387 | .42 | .02 | .42 | .13 | .42 | .00 | .00 | .40 | -.07 | -.32 | -.09 | .40 |
| FT | 707192 | C | 5522 | .39 | .15 | .23 | .39 | .23 | .00 | .00 | .40 | -.29 | -.15 | .40 | -.07 |
| FT | 707193 | C | 6092 | .53 | .31 | .09 | .53 | .08 | .00 | .00 | .51 | -.31 | -.19 | .51 | -.20 |
| FT | 707194 | A | 6012 | .66 | .66 | .20 | .05 | .09 | .00 | .00 | .58 | .58 | -.35 | -.25 | -.29 |
| FT | 707197 | B | 4481 | .65 | .14 | .65 | .13 | .08 | .00 | .00 | .48 | -.42 | .48 | -.12 | -.16 |
| FT | 707199 | D | 3986 | .76 | .10 | .06 | .07 | .76 | .00 | .00 | .52 | -.32 | -.25 | -.25 | .52 |
| FT | 707200 | B | 4111 | .67 | .11 | .67 | .10 | .12 | .00 | .00 | .32 | -.03 | .32 | -.15 | -.30 |
| FT | 707201 | A | 4768 | .81 | .81 | .07 | .04 | .08 | .00 | .00 | .50 | .50 | -.28 | -.27 | -.26 |
| FT | 707202 | B | 6086 | .64 | .18 | .64 | .15 | .04 | .00 | .00 | .45 | -.15 | .45 | -.32 | -.22 |
| FT | 707203 | D | 4307 | .69 | .05 | .06 | .20 | .69 | .00 | .00 | .50 | -.22 | -.16 | -.37 | .50 |
| FT | 707204 | C | 3760 | .76 | .04 | .07 | .76 | .13 | .00 | .00 | .40 | -.20 | -.17 | .40 | -.26 |
| FT | 707205 | B | 3953 | .80 | .06 | .80 | .05 | .08 | .00 | .00 | .40 | -.16 | .40 | -.24 | -.24 |
| FT | 707207 | D | 4178 | .70 | .07 | .05 | .18 | .70 | .00 | .00 | .38 | -.34 | -.19 | -.11 | .38 |
| FT | 707208 | D | 3989 | .67 | .03 | .16 | .14 | .67 | .00 | .00 | .51 | -.15 | -.37 | -.23 | .51 |
| FT | 707209 | A | 4552 | .63 | .63 | .13 | .09 | .15 | .00 | .00 | .53 | .53 | -.16 | -.21 | -.40 |
| FT | 707210 | D | 3793 | .58 | .23 | .14 | .05 | .58 | .00 | .00 | .47 | -.27 | -.25 | -.14 | .47 |
| FT | 707211 | B | 4468 | .55 | .11 | .55 | .20 | .14 | .00 | .00 | .37 | -.34 | .37 | -.22 | .03 |
| FT | 707212 | A | 4128 | .58 | .58 | .16 | .19 | .07 | .00 | .00 | .36 | .36 | -.19 | -.11 | -.25 |
| FT | 707214 | C | 4051 | .91 | .05 | .02 | .91 | .01 | .00 | .00 | .45 | -.35 | -.22 | .45 | -.14 |
| FT | 707215 | C | 3711 | .91 | .03 | .04 | .91 | .02 | .00 | .00 | .39 | -.15 | -.32 | .39 | -.16 |
| FT | 707216 | C | 4721 | .58 | .16 | .14 | .58 | .12 | .00 | .00 | .36 | -.11 | -.31 | .36 | -.09 |
| FT | 707218 | B | 3984 | .87 | .05 | .87 | .06 | .01 | .00 | .00 | .33 | -.21 | .33 | -.19 | -.15 |
| FT | 707219 | C | 5678 | .76 | .15 | .06 | .76 | .02 | .00 | .00 | .33 | -.20 | -.18 | .33 | -.15 |
| FT | 707220 | C | 3707 | .73 | .04 | .07 | .73 | .16 | .00 | .00 | .58 | -.22 | -.27 | .58 | -.39 |
| FT | 707221 | B | 6033 | .89 | .05 | .89 | .03 | .03 | .00 | .00 | .37 | -.23 | .37 | -.21 | -.17 |

# Grade 7

**Grade 7 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 599999 | C | 22285 | .79 | .06 | .10 | .79 | .05 | .00 | .00 | .51 | -.24 | -.32 | .51 | -.24 |
| OP | 600043 | B | 22285 | .63 | .20 | .63 | .09 | .08 | .00 | .00 | .39 | -.08 | .39 | -.23 | -.32 |
| OP | 600120 | A | 22285 | .65 | .65 | .17 | .12 | .05 | .00 | .00 | .47 | .47 | -.23 | -.26 | -.21 |
| OP | 634515 | B | 22285 | .72 | .08 | .72 | .15 | .05 | .00 | .00 | .56 | -.21 | .56 | -.45 | -.15 |
| OP | 634529 | C | 22285 | .75 | .02 | .18 | .75 | .05 | .00 | .00 | .41 | -.19 | -.32 | .41 | -.12 |
| OP | 634531 | C | 22285 | .79 | .13 | .03 | .79 | .05 | .00 | .00 | .51 | -.40 | -.23 | .51 | -.16 |

## Grade 7 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 634548 | C | 22285 | .61 | .06 | .25 | .61 | .07 | .00 | .00 | .51 | -.31 | -.34 | .51 | -.09 |
| OP | 634552 | D | 22285 | .67 | .04 | .05 | .23 | .67 | .00 | .00 | .50 | -.25 | -.20 | -.32 | .50 |
| OP | 646871 | D | 22285 | .74 | .10 | .05 | .11 | .74 | .00 | .00 | .47 | -.31 | -.14 | -.26 | .47 |
| OP | 646881 | A | 22285 | .53 | .53 | .26 | .11 | .10 | .00 | .00 | .39 | .39 | -.15 | -.13 | -.29 |
| OP | 646895 | C | 22285 | .75 | .13 | .04 | .75 | .08 | .00 | .00 | .40 | -.29 | -.20 | .40 | -.14 |
| OP | 646902 | B | 22285 | .61 | .10 | .61 | .08 | .21 | .00 | .00 | .41 | -.28 | .41 | -.29 | -.09 |
| OP | 646907 | A | 22285 | .59 | .59 | .06 | .31 | .03 | .00 | .00 | .51 | .51 | -.22 | -.35 | -.19 |
| OP | 646908 | A | 22285 | .47 | .47 | .29 | .16 | .08 | .00 | .00 | .39 | .39 | -.08 | -.26 | -.22 |
| OP | 646912 | A | 22285 | .42 | .42 | .12 | .37 | .08 | .00 | .00 | .36 | .36 | -.15 | -.17 | -.15 |
| OP | 646915 | B | 22285 | .66 | .09 | .66 | .14 | .11 | .00 | .00 | .41 | -.23 | .41 | -.22 | -.17 |
| OP | 646917 | D | 22285 | .60 | .07 | .23 | .09 | .60 | .00 | .00 | .27 | -.14 | -.16 | -.10 | .27 |
| OP | 646918 | B | 22285 | .61 | .06 | .61 | .19 | .13 | .00 | .00 | .39 | -.17 | .39 | -.22 | -.18 |
| OP | 660138 | D | 22285 | .60 | .16 | .13 | .11 | .60 | .00 | .00 | .47 | -.18 | -.25 | -.23 | .47 |
| OP | 660147 | C | 22285 | .84 | .07 | .05 | .84 | .04 | .00 | .00 | .47 | -.25 | -.29 | .47 | -.24 |
| OP | 660152 | B | 22285 | .72 | .17 | .72 | .06 | .05 | .00 | .00 | .47 | -.31 | .47 | -.24 | -.18 |
| OP | 660162 | A | 22285 | .74 | .74 | .21 | .03 | .02 | .00 | .00 | .36 | .36 | -.22 | -.23 | -.20 |
| OP | 660165 | D | 22285 | .64 | .09 | .11 | .16 | .64 | .00 | .00 | .47 | -.27 | -.27 | -.16 | .47 |
| OP | 660176 | A | 22285 | .75 | .75 | .07 | .03 | .14 | .00 | .00 | .44 | .44 | -.28 | -.23 | -.21 |
| OP | 660177 | C | 22285 | .78 | .06 | .13 | .78 | .03 | .00 | .00 | .57 | -.27 | -.42 | .57 | -.17 |
| OP | 660186 | A | 22285 | .53 | .53 | .20 | .21 | .06 | .00 | .00 | .34 | .34 | -.30 | -.08 | -.07 |
| OP | 689997 | B | 22285 | .72 | .09 | .72 | .08 | .10 | .00 | .00 | .46 | -.20 | .46 | -.17 | -.33 |
| OP | 689999 | C | 22285 | .84 | .05 | .06 | .84 | .05 | .00 | .00 | .53 | -.33 | -.30 | .53 | -.22 |
| OP | 690000 | B | 22285 | .76 | .15 | .76 | .05 | .04 | .00 | .00 | .57 | -.44 | .57 | -.20 | -.21 |
| OP | 690001 | A | 22285 | .77 | .77 | .10 | .08 | .04 | .00 | .00 | .45 | .45 | -.25 | -.28 | -.17 |
| OP | 690002 | C | 22285 | .63 | .06 | .23 | .63 | .08 | .00 | .00 | .56 | -.32 | -.35 | .56 | -.16 |
| OP | 690004 | D | 22285 | .68 | .06 | .21 | .05 | .68 | .00 | .00 | .49 | -.23 | -.34 | -.16 | .49 |
| OP | 690005 | B | 22285 | .70 | .05 | .70 | .06 | .18 | .00 | .00 | .53 | -.19 | .53 | -.24 | -.37 |
| OP | 690006 | B | 22285 | .84 | .03 | .84 | .11 | .02 | .00 | .00 | .29 | -.20 | .29 | -.15 | -.15 |
| OP | 690008 | D | 22285 | .68 | .23 | .06 | .04 | .68 | .00 | .00 | .45 | -.21 | -.30 | -.26 | .45 |
| OP | 690012 | D | 22285 | .66 | .09 | .12 | .13 | .66 | .00 | .00 | .44 | -.21 | -.20 | -.24 | .44 |
| OP | 690014 | C | 22285 | .77 | .09 | .11 | .77 | .03 | .00 | .00 | .45 | -.20 | -.31 | .45 | -.21 |
| OP | 690016 | C | 22285 | .68 | .02 | .19 | .68 | .11 | .00 | .00 | .55 | -.16 | -.48 | .55 | -.12 |
| OP | 690018 | C | 22285 | .56 | .16 | .24 | .56 | .05 | .00 | .00 | .41 | -.28 | -.22 | .41 | -.04 |
| OP | 690019 | B | 22285 | .66 | .11 | .66 | .06 | .16 | .00 | .00 | .40 | -.20 | .40 | -.24 | -.17 |
| OP | 690023 | B | 22285 | .69 | .10 | .69 | .09 | .13 | .00 | .00 | .39 | -.26 | .39 | -.14 | -.19 |
| OP | 690024 | D | 22285 | .71 | .05 | .11 | .13 | .71 | .00 | .00 | .35 | -.24 | -.26 | -.07 | .35 |
| OP | 690027 | D | 22285 | .74 | .04 | .12 | .10 | .74 | .00 | .00 | .46 | -.23 | -.30 | -.19 | .46 |
| OP | 690028 | D | 22285 | .57 | .08 | .13 | .22 | .57 | .00 | .00 | .47 | -.26 | -.33 | -.13 | .47 |
| OP | 690029 | C | 22285 | .68 | .08 | .14 | .68 | .10 | .00 | .00 | .51 | -.20 | -.38 | .51 | -.17 |
| OP | 690031 | A | 22285 | .82 | .82 | .06 | .02 | .10 | .00 | .00 | .42 | .42 | -.28 | -.18 | -.24 |
| OP | 690033 | B | 22285 | .56 | .11 | .56 | .23 | .10 | .00 | .00 | .39 | -.27 | .39 | -.15 | -.14 |

## Grade 7 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 690034 | A | 22285 | .56 | .56 | .14 | .17 | .13 | .00 | .00 | .27 | .27 | -.18 | -.16 | -.04 |
| OP | 690035 | D | 22285 | .41 | .12 | .31 | .16 | .41 | .00 | .00 | .37 | -.13 | -.23 | -.08 | .37 |
| OP | 690036 | D | 22285 | .66 | .14 | .13 | .08 | .66 | .00 | .00 | .54 | -.36 | -.27 | -.15 | .54 |
| OP | 690037 | B | 22285 | .76 | .07 | .76 | .03 | .14 | .00 | .00 | .50 | -.24 | .50 | -.18 | -.35 |
| OP | 690041 | C | 22285 | .64 | .09 | .15 | .64 | .12 | .00 | .00 | .51 | -.29 | -.29 | .51 | -.18 |
| OP | 690042 | B | 22285 | .60 | .05 | .60 | .12 | .23 | .00 | .00 | .49 | -.30 | .49 | -.18 | -.27 |
| OP | 690043 | C | 22285 | .69 | .11 | .17 | .69 | .03 | .00 | .00 | .32 | -.10 | -.20 | .32 | -.21 |
| OP | 690044 | A | 22285 | .79 | .79 | .08 | .08 | .04 | .00 | .00 | .53 | .53 | -.30 | -.33 | -.20 |
| OP | 690045 | B | 22285 | .75 | .03 | .75 | .16 | .05 | .00 | .00 | .37 | -.21 | .37 | -.24 | -.15 |
| OP | 690051 | C | 22285 | .55 | .25 | .14 | .55 | .06 | .00 | .00 | .38 | -.18 | -.20 | .38 | -.15 |
| OP | 690053 | D | 22285 | .34 | .27 | .21 | .18 | .34 | .00 | .00 | .34 | -.07 | -.19 | -.12 | .34 |
| FT | 707222 | D | 4415 | .44 | .22 | .21 | .14 | .44 | .00 | .00 | .51 | -.21 | -.27 | -.16 | .51 |
| FT | 707223 | B | 5641 | .70 | .12 | .70 | .11 | .07 | .00 | .00 | .42 | -.21 | .42 | -.24 | -.18 |
| FT | 707224 | B | 3691 | .57 | .24 | .57 | .04 | .14 | .00 | .00 | .41 | -.42 | .41 | -.14 | .02 |
| FT | 707225 | B | 4448 | .26 | .44 | .26 | .24 | .05 | .00 | .00 | .01 | .33 | .01 | -.37 | -.04 |
| FT | 707226 | B | 3719 | .78 | .10 | .78 | .08 | .04 | .00 | .00 | .50 | -.30 | .50 | -.29 | -.20 |
| FT | 707228 | A | 3715 | .90 | .90 | .01 | .01 | .08 | .00 | .00 | .33 | .33 | -.15 | -.11 | -.27 |
| FT | 707230 | D | 3951 | .33 | .12 | .45 | .10 | .33 | .00 | .00 | .31 | -.32 | -.02 | -.11 | .31 |
| FT | 707232 | C | 3900 | .45 | .41 | .07 | .45 | .07 | .00 | .00 | .57 | -.44 | -.15 | .57 | -.12 |
| FT | 707233 | D | 3657 | .62 | .03 | .22 | .13 | .62 | .00 | .00 | .43 | -.23 | -.16 | -.31 | .43 |
| FT | 707234 | A | 4098 | .71 | .71 | .04 | .05 | .21 | .00 | .00 | .47 | .47 | -.14 | -.11 | -.41 |
| FT | 707235 | B | 3962 | .74 | .05 | .74 | .05 | .16 | .00 | .00 | .52 | -.16 | .52 | -.21 | -.40 |
| FT | 707236 | B | 4441 | .70 | .15 | .70 | .09 | .05 | .00 | .00 | .33 | -.02 | .33 | -.31 | -.24 |
| FT | 707237 | D | 4418 | .50 | .12 | .17 | .22 | .50 | .00 | .00 | .46 | -.32 | -.12 | -.19 | .46 |
| FT | 707239 | C | 3690 | .77 | .12 | .05 | .77 | .07 | .00 | .00 | .40 | -.24 | -.25 | .40 | -.15 |
| FT | 707240 | C | 5676 | .74 | .05 | .06 | .74 | .14 | .00 | .00 | .39 | -.29 | -.20 | .39 | -.17 |
| FT | 707241 | A | 3801 | .80 | .80 | .13 | .04 | .02 | .00 | .00 | .36 | .36 | -.23 | -.17 | -.21 |
| FT | 707242 | D | 3711 | .76 | .07 | .15 | .02 | .76 | .00 | .00 | .40 | -.09 | -.35 | -.15 | .40 |
| FT | 707243 | C | 4070 | .86 | .07 | .01 | .86 | .06 | .00 | .00 | .08 | .00 | -.08 | .08 | -.08 |
| FT | 707244 | A | 5457 | .62 | .62 | .21 | .05 | .11 | .00 | .00 | .40 | .40 | -.25 | -.23 | -.12 |
| FT | 707245 | D | 4240 | .80 | .04 | .08 | .08 | .80 | .00 | .00 | .54 | -.25 | -.34 | -.27 | .54 |
| FT | 707247 | A | 4232 | .80 | .80 | .11 | .07 | .02 | .00 | .00 | .37 | .37 | -.22 | -.20 | -.17 |
| FT | 707248 | C | 4380 | .78 | .12 | .03 | .78 | .07 | .00 | .00 | .52 | -.38 | -.24 | .52 | -.21 |
| FT | 707249 | B | 4508 | .72 | .06 | .72 | .18 | .04 | .00 | .00 | .46 | -.25 | .46 | -.31 | -.13 |
| FT | 707251 | D | 5606 | .31 | .29 | .19 | .21 | .31 | .00 | .00 | .25 | -.02 | -.17 | -.10 | .25 |
| FT | 707253 | C | 4003 | .33 | .40 | .18 | .33 | .09 | .00 | .00 | .35 | -.14 | -.17 | .35 | -.10 |
| FT | 707254 | D | 3741 | .41 | .14 | .17 | .28 | .41 | .00 | .00 | .47 | -.19 | -.28 | -.13 | .47 |
| FT | 707256 | C | 3811 | .56 | .37 | .04 | .56 | .03 | .00 | .00 | .35 | -.20 | -.24 | .35 | -.18 |
| FT | 707257 | B | 4491 | .63 | .17 | .63 | .07 | .12 | .00 | .00 | .53 | -.27 | .53 | -.23 | -.29 |
| FT | 707259 | D | 5929 | .35 | .15 | .24 | .27 | .35 | .00 | .00 | .38 | -.18 | -.22 | -.05 | .38 |
| FT | 707260 | A | 3938 | .43 | .43 | .41 | .08 | .08 | .00 | .00 | .37 | .37 | -.13 | -.23 | -.21 |

**Grade 7 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 707261 | A | 5414 | .29 | .29 | .19 | .31 | .20 | .00 | .00 | .26 | .26 | -.11 | -.06 | -.11 |
| FT | 707262 | C | 3755 | .51 | .23 | .24 | .51 | .02 | .00 | .00 | .48 | -.35 | -.18 | .48 | -.10 |
| FT | 707263 | B | 4370 | .65 | .13 | .65 | .20 | .03 | .00 | .00 | .42 | -.25 | .42 | -.23 | -.16 |
| FT | 707264 | C | 5876 | .47 | .09 | .28 | .47 | .15 | .00 | .00 | .51 | -.14 | -.46 | .51 | -.02 |
| FT | 707265 | C | 4459 | .69 | .06 | .13 | .69 | .12 | .00 | .00 | .51 | -.22 | -.38 | .51 | -.17 |
| FT | 707266 | C | 4449 | .45 | .18 | .34 | .45 | .03 | .00 | .00 | .45 | -.22 | -.25 | .45 | -.11 |
| FT | 707267 | D | 4442 | .61 | .13 | .16 | .11 | .61 | .00 | .00 | .46 | -.18 | -.29 | -.20 | .46 |
| FT | 707268 | D | 4262 | .76 | .04 | .04 | .16 | .76 | .00 | .00 | .49 | -.24 | -.18 | -.34 | .49 |
| FT | 707269 | B | 4185 | .75 | .05 | .75 | .18 | .02 | .00 | .00 | .41 | -.11 | .41 | -.34 | -.15 |
| FT | 707270 | B | 3982 | .58 | .13 | .58 | .06 | .23 | .00 | .00 | .42 | -.24 | .42 | -.15 | -.22 |
| FT | 707271 | A | 3989 | .55 | .55 | .13 | .23 | .09 | .00 | .00 | .44 | .44 | -.22 | -.27 | -.10 |
| FT | 707272 | A | 4441 | .50 | .50 | .41 | .06 | .03 | .00 | .00 | .44 | .44 | -.28 | -.24 | -.14 |
| FT | 707273 | B | 5914 | .53 | .23 | .53 | .16 | .08 | .00 | .00 | .19 | -.12 | .19 | .00 | -.15 |
| FT | 707274 | B | 4155 | .35 | .12 | .35 | .14 | .39 | .00 | .00 | .39 | .00 | .39 | -.26 | -.20 |
| FT | 707275 | A | 4761 | .75 | .75 | .11 | .07 | .07 | .00 | .00 | .53 | .53 | -.30 | -.30 | -.24 |
| FT | 707276 | C | 4668 | .47 | .26 | .13 | .47 | .15 | .00 | .00 | .25 | -.07 | -.24 | .25 | -.04 |
| FT | 707278 | B | 4502 | .80 | .09 | .80 | .09 | .02 | .00 | .00 | .48 | -.36 | .48 | -.23 | -.15 |
| FT | 707279 | D | 5877 | .52 | .19 | .13 | .16 | .52 | .00 | .00 | .52 | -.19 | -.25 | -.26 | .52 |
| FT | 707280 | A | 4406 | .56 | .56 | .13 | .20 | .11 | .00 | .00 | .47 | .47 | -.22 | -.26 | -.17 |
| FT | 707281 | C | 5508 | .60 | .20 | .09 | .60 | .11 | .00 | .00 | .36 | -.20 | -.17 | .36 | -.15 |

# Grade 8

**Grade 8 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 600253 | B | 21985 | .65 | .10 | .65 | .15 | .10 | .00 | .00 | .42 | -.26 | .42 | -.20 | -.17 |
| OP | 600303 | C | 21985 | .79 | .04 | .13 | .79 | .04 | .00 | .00 | .45 | -.20 | -.29 | .45 | -.23 |
| OP | 600319 | A | 21985 | .72 | .72 | .12 | .10 | .07 | .00 | .00 | .49 | .49 | -.24 | -.31 | -.19 |
| OP | 600337 | D | 21985 | .78 | .08 | .03 | .11 | .78 | .00 | .00 | .42 | -.21 | -.21 | -.25 | .42 |
| OP | 600368 | B | 21985 | .62 | .19 | .62 | .13 | .06 | .00 | .00 | .32 | -.14 | .32 | -.17 | -.17 |
| OP | 600384 | B | 21985 | .79 | .01 | .79 | .06 | .15 | .00 | .00 | .48 | -.14 | .48 | -.18 | -.39 |
| OP | 634592 | C | 21985 | .83 | .03 | .07 | .83 | .06 | .00 | .00 | .43 | -.23 | -.23 | .43 | -.23 |
| OP | 634597 | D | 21985 | .64 | .15 | .11 | .11 | .64 | .00 | .00 | .36 | -.25 | -.09 | -.17 | .36 |
| OP | 634616 | B | 21985 | .79 | .06 | .79 | .09 | .06 | .00 | .00 | .54 | -.29 | .54 | -.30 | -.27 |
| OP | 634625 | C | 21985 | .75 | .06 | .12 | .75 | .06 | .00 | .00 | .40 | -.16 | -.20 | .40 | -.28 |
| OP | 634648 | B | 21985 | .69 | .09 | .69 | .19 | .04 | .00 | .00 | .40 | -.23 | .40 | -.23 | -.15 |
| OP | 634653 | D | 21985 | .74 | .04 | .06 | .15 | .74 | .00 | .00 | .42 | -.17 | -.27 | -.22 | .42 |

## Grade 8 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 634655 | A | 21985 | .71 | .71 | .16 | .11 | .02 | .00 | .00 | .43 | .43 | -.26 | -.24 | -.17 |
| OP | 634657 | C | 21985 | .49 | .14 | .26 | .49 | .10 | .00 | .00 | .42 | -.18 | -.28 | .42 | -.08 |
| OP | 634678 | B | 21985 | .74 | .16 | .74 | .08 | .02 | .00 | .00 | .40 | -.28 | .40 | -.17 | -.17 |
| OP | 646818 | D | 21985 | .68 | .06 | .08 | .18 | .68 | .00 | .00 | .47 | -.29 | -.16 | -.28 | .47 |
| OP | 646843 | D | 21985 | .73 | .09 | .07 | .11 | .73 | .00 | .00 | .57 | -.28 | -.32 | -.29 | .57 |
| OP | 646846 | D | 21985 | .82 | .09 | .04 | .05 | .82 | .00 | .00 | .49 | -.31 | -.26 | -.22 | .49 |
| OP | 646853 | B | 21985 | .66 | .13 | .66 | .10 | .11 | .00 | .00 | .39 | -.24 | .39 | -.26 | -.07 |
| OP | 646864 | A | 21985 | .54 | .54 | .39 | .02 | .04 | .00 | .00 | .48 | .48 | -.37 | -.21 | -.13 |
| OP | 660193 | B | 21985 | .77 | .09 | .77 | .09 | .05 | .00 | .00 | .48 | -.28 | .48 | -.26 | -.22 |
| OP | 660197 | B | 21985 | .82 | .10 | .82 | .06 | .02 | .00 | .00 | .40 | -.25 | .40 | -.22 | -.19 |
| OP | 660203 | C | 21985 | .69 | .10 | .13 | .69 | .09 | .00 | .00 | .52 | -.26 | -.30 | .52 | -.22 |
| OP | 660209 | B | 21985 | .79 | .06 | .79 | .12 | .03 | .00 | .00 | .48 | -.27 | .48 | -.30 | -.19 |
| OP | 660215 | A | 21985 | .61 | .61 | .19 | .17 | .02 | .00 | .00 | .47 | .47 | -.20 | -.32 | -.18 |
| OP | 660217 | C | 21985 | .82 | .04 | .10 | .82 | .04 | .00 | .00 | .44 | -.22 | -.22 | .44 | -.29 |
| OP | 660222 | C | 21985 | .54 | .20 | .18 | .54 | .07 | .00 | .00 | .48 | -.22 | -.18 | .48 | -.30 |
| OP | 660228 | B | 21985 | .65 | .03 | .65 | .22 | .09 | .00 | .00 | .45 | -.13 | .45 | -.28 | -.26 |
| OP | 660233 | B | 21985 | .83 | .07 | .83 | .05 | .05 | .00 | .00 | .45 | -.20 | .45 | -.27 | -.26 |
| OP | 660236 | A | 21985 | .79 | .79 | .07 | .02 | .11 | .00 | .00 | .40 | .40 | -.38 | -.22 | -.09 |
| OP | 660246 | C | 21985 | .47 | .13 | .14 | .47 | .25 | .00 | .00 | .40 | -.17 | -.22 | .40 | -.14 |
| OP | 690055 | A | 21985 | .62 | .62 | .17 | .19 | .03 | .00 | .00 | .41 | .41 | -.24 | -.18 | -.21 |
| OP | 690057 | B | 21985 | .65 | .18 | .65 | .11 | .06 | .00 | .00 | .46 | -.19 | .46 | -.33 | -.18 |
| OP | 690058 | B | 21985 | .61 | .20 | .61 | .16 | .03 | .00 | .00 | .37 | -.06 | .37 | -.34 | -.22 |
| OP | 690059 | D | 21985 | .48 | .25 | .15 | .12 | .48 | .00 | .00 | .26 | -.06 | -.19 | -.10 | .26 |
| OP | 690060 | B | 21985 | .70 | .13 | .70 | .06 | .10 | .00 | .00 | .46 | -.31 | .46 | -.25 | -.15 |
| OP | 690063 | D | 21985 | .65 | .12 | .10 | .14 | .65 | .00 | .00 | .50 | -.25 | -.23 | -.26 | .50 |
| OP | 690065 | C | 21985 | .45 | .07 | .19 | .45 | .29 | .00 | .00 | .35 | -.18 | -.34 | .35 | .01 |
| OP | 690068 | C | 21985 | .57 | .17 | .21 | .57 | .04 | .00 | .00 | .38 | -.30 | -.13 | .38 | -.10 |
| OP | 690069 | C | 21985 | .55 | .22 | .17 | .55 | .06 | .00 | .00 | .38 | -.19 | -.27 | .38 | -.03 |
| OP | 690071 | A | 21985 | .50 | .50 | .14 | .22 | .14 | .00 | .00 | .33 | .33 | -.19 | -.11 | -.14 |
| OP | 690075 | A | 21985 | .77 | .77 | .04 | .01 | .18 | .00 | .00 | .31 | .31 | -.18 | -.14 | -.20 |
| OP | 690079 | B | 21985 | .69 | .13 | .69 | .06 | .12 | .00 | .00 | .30 | -.33 | .30 | -.14 | .03 |
| OP | 690080 | D | 21985 | .54 | .16 | .14 | .16 | .54 | .00 | .00 | .47 | -.19 | -.25 | -.21 | .47 |
| OP | 690082 | C | 21985 | .52 | .14 | .27 | .52 | .06 | .00 | .00 | .41 | -.12 | -.25 | .41 | -.21 |
| OP | 690083 | D | 21985 | .66 | .06 | .11 | .17 | .66 | .00 | .00 | .49 | -.24 | -.28 | -.23 | .49 |
| OP | 690086 | C | 21985 | .73 | .06 | .14 | .73 | .08 | .00 | .00 | .47 | -.16 | -.38 | .47 | -.15 |
| OP | 690088 | D | 21985 | .72 | .09 | .06 | .14 | .72 | .00 | .00 | .47 | -.23 | -.27 | -.24 | .47 |
| OP | 690089 | B | 21985 | .59 | .32 | .59 | .05 | .04 | .00 | .00 | .52 | -.35 | .52 | -.26 | -.17 |
| OP | 690090 | D | 21985 | .51 | .09 | .09 | .31 | .51 | .00 | .00 | .57 | -.29 | -.20 | -.30 | .57 |
| OP | 690093 | C | 21985 | .60 | .19 | .14 | .60 | .07 | .00 | .00 | .38 | -.14 | -.31 | .38 | -.09 |
| OP | 690095 | A | 21985 | .61 | .61 | .15 | .20 | .04 | .00 | .00 | .39 | .39 | -.10 | -.29 | -.16 |
| OP | 690096 | B | 21985 | .73 | .11 | .73 | .09 | .07 | .00 | .00 | .40 | -.15 | .40 | -.22 | -.24 |

## Grade 8 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 690097 | C | 21985 | .65 | .04 | .04 | .65 | .27 | .00 | .00 | .40 | -.23 | -.22 | .40 | -.23 |
| OP | 690100 | A | 21985 | .65 | .65 | .26 | .06 | .03 | .00 | .00 | .42 | .42 | -.28 | -.22 | -.15 |
| OP | 690101 | A | 21985 | .55 | .55 | .15 | .13 | .17 | .00 | .00 | .36 | .36 | -.18 | -.21 | -.12 |
| OP | 690102 | C | 21985 | .73 | .16 | .07 | .73 | .04 | .00 | .00 | .43 | -.33 | -.20 | .43 | -.10 |
| OP | 690103 | D | 21985 | .77 | .05 | .08 | .10 | .77 | .00 | .00 | .54 | -.23 | -.28 | -.33 | .54 |
| OP | 690104 | A | 21985 | .44 | .44 | .22 | .26 | .08 | .00 | .00 | .55 | .55 | -.20 | -.35 | -.13 |
| OP | 690105 | A | 21985 | .48 | .48 | .28 | .13 | .11 | .00 | .00 | .54 | .54 | -.48 | -.14 | -.01 |
| FT | 707283 | B | 4147 | .63 | .27 | .63 | .06 | .05 | .00 | .00 | .34 | -.12 | .34 | -.28 | -.21 |
| FT | 707284 | C | 4053 | .81 | .05 | .08 | .81 | .06 | .00 | .00 | .51 | -.28 | -.33 | .51 | -.20 |
| FT | 707285 | A | 4547 | .83 | .83 | .05 | .05 | .07 | .00 | .00 | .45 | .45 | -.28 | -.28 | -.18 |
| FT | 707286 | D | 4555 | .54 | .04 | .05 | .38 | .54 | .00 | .00 | .41 | -.24 | -.27 | -.21 | .41 |
| FT | 707288 | C | 4008 | .53 | .06 | .30 | .53 | .11 | .00 | .00 | .45 | -.18 | -.27 | .45 | -.18 |
| FT | 707289 | C | 4107 | .69 | .17 | .11 | .69 | .03 | .00 | .00 | .38 | -.17 | -.22 | .38 | -.24 |
| FT | 707290 | C | 4092 | .58 | .07 | .20 | .58 | .15 | .00 | .00 | .27 | -.03 | -.07 | .27 | -.26 |
| FT | 707291 | C | 5428 | .53 | .15 | .17 | .53 | .15 | .00 | .00 | .40 | -.20 | -.22 | .40 | -.12 |
| FT | 707292 | B | 4393 | .56 | .12 | .56 | .27 | .06 | .00 | .00 | .21 | -.06 | .21 | -.16 | -.07 |
| FT | 707293 | A | 4042 | .78 | .78 | .09 | .12 | .02 | .00 | .00 | .36 | .36 | -.27 | -.16 | -.18 |
| FT | 707294 | C | 4512 | .73 | .17 | .07 | .73 | .02 | .00 | .00 | .32 | -.10 | -.27 | .32 | -.21 |
| FT | 707295 | C | 4112 | .85 | .07 | .02 | .85 | .05 | .00 | .00 | .39 | -.23 | -.20 | .39 | -.21 |
| FT | 707297 | A | 4032 | .39 | .39 | .49 | .05 | .07 | .00 | .00 | .33 | .33 | -.28 | -.06 | -.04 |
| FT | 707298 | B | 4730 | .69 | .10 | .69 | .18 | .04 | .00 | .00 | .34 | -.20 | .34 | -.17 | -.16 |
| FT | 707299 | D | 4389 | .65 | .12 | .15 | .09 | .65 | .00 | .00 | .57 | -.23 | -.40 | -.19 | .57 |
| FT | 707300 | B | 4650 | .82 | .04 | .82 | .13 | .01 | .00 | .00 | .41 | -.26 | .41 | -.27 | -.15 |
| FT | 707301 | C | 4431 | .57 | .19 | .18 | .57 | .05 | .00 | .00 | .38 | -.14 | -.22 | .38 | -.23 |
| FT | 707302 | D | 4120 | .69 | .06 | .17 | .08 | .69 | .00 | .00 | .52 | -.32 | -.35 | -.12 | .52 |
| FT | 707304 | B | 4171 | .48 | .16 | .48 | .11 | .25 | .00 | .00 | .40 | -.22 | .40 | -.33 | -.04 |
| FT | 707305 | D | 5365 | .68 | .13 | .09 | .10 | .68 | .00 | .00 | .48 | -.33 | -.18 | -.20 | .48 |
| FT | 707306 | C | 4013 | .78 | .16 | .03 | .78 | .03 | .00 | .00 | .36 | -.24 | -.17 | .36 | -.20 |
| FT | 707307 | C | 3844 | .58 | .06 | .09 | .58 | .28 | .00 | .00 | .41 | -.26 | -.20 | .41 | -.18 |
| FT | 707308 | D | 3862 | .67 | .03 | .05 | .25 | .67 | .00 | .00 | .44 | -.23 | -.22 | -.27 | .44 |
| FT | 707310 | D | 5439 | .48 | .17 | .11 | .23 | .48 | .00 | .00 | .40 | -.14 | -.25 | -.15 | .40 |
| FT | 707312 | C | 4001 | .51 | .11 | .25 | .51 | .12 | .00 | .00 | .43 | -.21 | -.18 | .43 | -.21 |
| FT | 707313 | A | 4175 | .50 | .50 | .08 | .22 | .20 | .00 | .00 | .31 | .31 | -.15 | -.16 | -.11 |
| FT | 707314 | B | 5546 | .65 | .17 | .65 | .12 | .07 | .00 | .00 | .35 | -.12 | .35 | -.22 | -.20 |
| FT | 707315 | B | 4031 | .80 | .04 | .80 | .08 | .08 | .00 | .00 | .45 | -.19 | .45 | -.25 | -.27 |
| FT | 707316 | D | 5406 | .63 | .09 | .13 | .15 | .63 | .00 | .00 | .55 | -.22 | -.28 | -.29 | .55 |
| FT | 707317 | C | 3828 | .60 | .17 | .09 | .60 | .15 | .00 | .00 | .41 | -.28 | -.27 | .41 | -.05 |
| FT | 707320 | C | 4085 | .79 | .10 | .03 | .79 | .08 | .00 | .00 | .34 | -.12 | -.18 | .34 | -.26 |
| FT | 707321 | A | 5493 | .51 | .51 | .12 | .30 | .07 | .00 | .00 | .48 | .48 | -.25 | -.21 | -.24 |
| FT | 707322 | B | 4087 | .61 | .21 | .61 | .10 | .08 | .00 | .00 | .41 | -.18 | .41 | -.30 | -.11 |
| FT | 707323 | A | 3991 | .58 | .58 | .12 | .20 | .10 | .00 | .00 | .47 | .47 | -.08 | -.30 | -.27 |

Grade 8 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 707324 | C | 3566 | .40 | .34 | .17 | .40 | .08 | .00 | .00 | .33 | -.05 | -.26 | .33 | -.14 |
| FT | 707325 | A | 3501 | .42 | .42 | .22 | .23 | .13 | .00 | .00 | .37 | .37 | -.13 | -.16 | -.18 |
| FT | 707326 | D | 5550 | .46 | .20 | .18 | .16 | .46 | .00 | .00 | .48 | -.14 | -.28 | -.20 | .48 |
| FT | 707327 | D | 4652 | .57 | .07 | .30 | .07 | .57 | .00 | .00 | .38 | -.21 | -.13 | -.29 | .38 |
| FT | 707329 | B | 3944 | .30 | .27 | .30 | .30 | .12 | .00 | .00 | .20 | .10 | .20 | -.23 | -.08 |
| FT | 707330 | D | 4782 | .72 | .07 | .11 | .11 | .72 | .00 | .00 | .46 | -.22 | -.28 | -.21 | .46 |
| FT | 707331 | B | 4030 | .61 | .16 | .61 | .10 | .12 | .00 | .00 | .28 | -.06 | .28 | -.23 | -.13 |
| FT | 707332 | B | 3857 | .40 | .04 | .40 | .02 | .54 | .00 | .00 | .29 | -.20 | .29 | -.18 | -.15 |
| FT | 707333 | B | 3767 | .30 | .32 | .30 | .18 | .20 | .00 | .00 | .08 | .06 | .08 | -.15 | -.02 |
| FT | 707334 | A | 4047 | .50 | .50 | .24 | .21 | .06 | .00 | .00 | .50 | .50 | -.25 | -.28 | -.13 |
| FT | 707335 | A | 5476 | .46 | .46 | .24 | .12 | .17 | .00 | .00 | .54 | .54 | -.23 | -.29 | -.18 |
| FT | 707336 | C | 5708 | .59 | .08 | .20 | .59 | .12 | .00 | .00 | .27 | -.13 | -.04 | .27 | -.24 |
| FT | 707337 | A | 4134 | .58 | .58 | .22 | .14 | .06 | .00 | .00 | .43 | .43 | -.16 | -.25 | -.25 |
| FT | 707338 | B | 5423 | .09 | .64 | .09 | .24 | .03 | .00 | .00 | -.11 | .35 | -.11 | -.24 | -.17 |
| FT | 707339 | D | 3902 | .26 | .08 | .58 | .07 | .26 | .00 | .00 | .30 | -.25 | -.09 | -.08 | .30 |
| FT | 707342 | C | 3781 | .35 | .44 | .14 | .35 | .08 | .00 | .00 | .31 | -.12 | -.10 | .31 | -.18 |

# Grade 11

Grade 11 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 600406 | B | 21107 | .67 | .05 | .67 | .20 | .08 | .00 | .00 | .50 | -.18 | .50 | -.29 | -.27 |
| OP | 600536 | C | 21107 | .60 | .16 | .11 | .60 | .12 | .00 | .00 | .39 | -.04 | -.33 | .39 | -.22 |
| OP | 600552 | C | 21107 | .66 | .03 | .27 | .66 | .03 | .00 | .00 | .42 | -.15 | -.32 | .42 | -.12 |
| OP | 600576 | A | 21107 | .78 | .78 | .07 | .10 | .04 | .00 | .00 | .41 | .41 | -.27 | -.20 | -.18 |
| OP | 600583 | C | 21107 | .67 | .14 | .13 | .67 | .05 | .00 | .00 | .46 | -.17 | -.33 | .46 | -.19 |
| OP | 600596 | B | 21107 | .71 | .08 | .71 | .17 | .04 | .00 | .00 | .55 | -.19 | .55 | -.41 | -.21 |
| OP | 600653 | C | 21107 | .63 | .19 | .13 | .63 | .06 | .00 | .00 | .38 | -.22 | -.19 | .38 | -.13 |
| OP | 600660 | D | 21107 | .66 | .13 | .16 | .04 | .66 | .00 | .00 | .53 | -.35 | -.24 | -.22 | .53 |
| OP | 600677 | A | 21107 | .72 | .72 | .16 | .07 | .05 | .00 | .00 | .42 | .42 | -.12 | -.31 | -.29 |
| OP | 600733 | A | 21107 | .77 | .77 | .16 | .05 | .02 | .00 | .00 | .36 | .36 | -.19 | -.23 | -.21 |
| OP | 600748 | B | 21107 | .71 | .12 | .71 | .14 | .03 | .00 | .00 | .47 | -.16 | .47 | -.34 | -.22 |
| OP | 600751 | A | 21107 | .76 | .76 | .13 | .08 | .03 | .00 | .00 | .44 | .44 | -.26 | -.25 | -.19 |
| OP | 600756 | A | 21107 | .73 | .73 | .09 | .13 | .04 | .00 | .00 | .37 | .37 | -.18 | -.25 | -.13 |
| OP | 600781 | B | 21107 | .62 | .22 | .62 | .10 | .06 | .00 | .00 | .27 | -.14 | .27 | -.23 | -.01 |
| OP | 600809 | D | 21107 | .63 | .06 | .21 | .09 | .63 | .00 | .00 | .54 | -.30 | -.30 | -.22 | .54 |
| OP | 600810 | B | 21107 | .64 | .21 | .64 | .10 | .05 | .00 | .00 | .39 | -.12 | .39 | -.30 | -.23 |
| OP | 634450 | C | 21107 | .82 | .07 | .08 | .82 | .02 | .00 | .00 | .44 | -.22 | -.30 | .44 | -.18 |
| OP | 634469 | C | 21107 | .84 | .04 | .05 | .84 | .07 | .00 | .00 | .39 | -.20 | -.27 | .39 | -.16 |

## Grade 11 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 646731 | B | 21107 | .69 | .20 | .69 | .05 | .06 | .00 | .00 | .52 | -.35 | .52 | -.20 | -.24 |
| OP | 646740 | B | 21107 | .73 | .10 | .73 | .08 | .10 | .00 | .00 | .53 | -.23 | .53 | -.29 | -.30 |
| OP | 646744 | D | 21107 | .63 | .07 | .12 | .17 | .63 | .00 | .00 | .49 | -.22 | -.22 | -.27 | .49 |
| OP | 646753 | C | 21107 | .73 | .10 | .11 | .73 | .05 | .00 | .00 | .40 | -.19 | -.24 | .40 | -.20 |
| OP | 646765 | B | 21107 | .69 | .09 | .69 | .06 | .15 | .00 | .00 | .46 | -.29 | .46 | -.29 | -.14 |
| OP | 646771 | B | 21107 | .55 | .15 | .55 | .19 | .11 | .00 | .00 | .53 | -.09 | .53 | -.40 | -.23 |
| OP | 646775 | A | 21107 | .76 | .76 | .11 | .06 | .07 | .00 | .00 | .51 | .51 | -.35 | -.27 | -.16 |
| OP | 646785 | C | 21107 | .79 | .07 | .04 | .79 | .10 | .00 | .00 | .45 | -.34 | -.23 | .45 | -.16 |
| OP | 660258 | D | 21107 | .74 | .06 | .08 | .12 | .74 | .00 | .00 | .55 | -.17 | -.31 | -.35 | .55 |
| OP | 660281 | A | 21107 | .54 | .54 | .18 | .18 | .09 | .00 | .00 | .53 | .53 | -.31 | -.21 | -.21 |
| OP | 660291 | C | 21107 | .48 | .20 | .26 | .48 | .05 | .00 | .00 | .46 | -.25 | -.25 | .46 | -.08 |
| OP | 660313 | C | 21107 | .70 | .13 | .10 | .70 | .07 | .00 | .00 | .48 | -.23 | -.26 | .48 | -.24 |
| OP | 660330 | B | 21107 | .83 | .08 | .83 | .06 | .03 | .00 | .00 | .49 | -.32 | .49 | -.25 | -.20 |
| OP | 660354 | D | 21107 | .71 | .04 | .12 | .12 | .71 | .00 | .00 | .58 | -.21 | -.34 | -.33 | .58 |
| OP | 660358 | C | 21107 | .57 | .20 | .16 | .57 | .06 | .00 | .00 | .44 | -.22 | -.26 | .44 | -.12 |
| OP | 660364 | B | 21107 | .61 | .12 | .61 | .11 | .16 | .00 | .00 | .36 | -.25 | .36 | -.33 | .03 |
| OP | 660366 | C | 21107 | .71 | .11 | .14 | .71 | .04 | .00 | .00 | .50 | -.29 | -.28 | .50 | -.19 |
| OP | 660369 | B | 21107 | .64 | .10 | .64 | .05 | .21 | .00 | .00 | .35 | -.11 | .35 | -.13 | -.26 |
| OP | 690112 | B | 21107 | .63 | .08 | .63 | .14 | .15 | .00 | .00 | .40 | -.19 | .40 | -.27 | -.12 |
| OP | 690113 | C | 21107 | .60 | .14 | .10 | .60 | .17 | .00 | .00 | .30 | -.09 | -.22 | .30 | -.14 |
| OP | 690117 | D | 21107 | .52 | .12 | .29 | .06 | .52 | .00 | .00 | .42 | -.41 | -.05 | -.22 | .42 |
| OP | 690118 | D | 21107 | .38 | .30 | .20 | .11 | .38 | .00 | .00 | .34 | -.01 | -.25 | -.19 | .34 |
| OP | 690119 | C | 21107 | .40 | .18 | .36 | .40 | .07 | .00 | .00 | .39 | -.16 | -.21 | .39 | -.10 |
| OP | 690120 | A | 21107 | .34 | .34 | .33 | .17 | .16 | .00 | .00 | .31 | .31 | -.10 | -.13 | -.13 |
| OP | 690122 | B | 21107 | .57 | .13 | .57 | .20 | .09 | .00 | .00 | .48 | -.09 | .48 | -.31 | -.27 |
| OP | 690130 | B | 21107 | .52 | .08 | .52 | .12 | .27 | .00 | .00 | .39 | -.07 | .39 | -.27 | -.18 |
| OP | 690132 | D | 21107 | .60 | .08 | .15 | .17 | .60 | .00 | .00 | .60 | -.22 | -.31 | -.32 | .60 |
| OP | 690133 | D | 21107 | .57 | .07 | .22 | .14 | .57 | .00 | .00 | .58 | -.19 | -.32 | -.31 | .58 |
| OP | 690134 | C | 21107 | .69 | .12 | .10 | .69 | .09 | .00 | .00 | .37 | -.12 | -.27 | .37 | -.16 |
| OP | 690136 | B | 21107 | .82 | .04 | .82 | .12 | .02 | .00 | .00 | .51 | -.22 | .51 | -.38 | -.21 |
| OP | 690138 | A | 21107 | .46 | .46 | .17 | .30 | .07 | .00 | .00 | .45 | .45 | -.18 | -.24 | -.16 |
| OP | 690140 | C | 21107 | .48 | .12 | .32 | .48 | .08 | .00 | .00 | .25 | -.15 | -.10 | .25 | -.10 |
| OP | 690142 | D | 21107 | .54 | .10 | .20 | .16 | .54 | .00 | .00 | .48 | -.12 | -.27 | -.25 | .48 |
| OP | 690143 | B | 21107 | .62 | .11 | .62 | .18 | .09 | .00 | .00 | .27 | -.17 | .27 | -.20 | .00 |
| OP | 690149 | A | 21107 | .67 | .67 | .11 | .15 | .07 | .00 | .00 | .44 | .44 | -.19 | -.27 | -.19 |
| OP | 690150 | C | 21107 | .64 | .17 | .12 | .64 | .08 | .00 | .00 | .43 | -.17 | -.26 | .43 | -.22 |
| OP | 690153 | C | 21107 | .62 | .13 | .16 | .62 | .10 | .00 | .00 | .45 | -.24 | -.27 | .45 | -.12 |
| OP | 690156 | A | 21107 | .56 | .56 | .19 | .18 | .07 | .00 | .00 | .43 | .43 | -.22 | -.23 | -.16 |
| OP | 690163 | D | 21107 | .48 | .14 | .13 | .24 | .48 | .00 | .00 | .46 | -.22 | -.26 | -.14 | .46 |
| OP | 690164 | A | 21107 | .74 | .74 | .03 | .02 | .21 | .00 | .00 | .41 | .41 | -.19 | -.20 | -.29 |
| OP | 690165 | C | 21107 | .69 | .03 | .07 | .69 | .21 | .00 | .00 | .47 | -.23 | -.29 | .47 | -.24 |

## Grade 11 Mathematics

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 690167 | C | 21107 | .68 | .08 | .07 | .68 | .17 | .00 | .00 | .40 | -.27 | -.31 | .40 | -.08 |
| FT | 707345 | C | 4024 | .43 | .12 | .21 | .43 | .23 | .00 | .00 | .27 | -.16 | -.15 | .27 | -.05 |
| FT | 707346 | D | 4044 | .53 | .08 | .27 | .12 | .53 | .00 | .00 | .47 | -.26 | -.15 | -.30 | .47 |
| FT | 707347 | A | 4831 | .59 | .59 | .14 | .15 | .13 | .00 | .00 | .44 | .44 | -.20 | -.22 | -.20 |
| FT | 707348 | A | 4149 | .73 | .73 | .09 | .04 | .13 | .00 | .00 | .49 | .49 | -.33 | -.26 | -.20 |
| FT | 707349 | C | 4094 | .54 | .30 | .08 | .54 | .08 | .00 | .00 | .53 | -.40 | -.21 | .53 | -.10 |
| FT | 707350 | C | 4058 | .45 | .20 | .14 | .45 | .21 | .00 | .00 | .42 | -.09 | -.27 | .42 | -.19 |
| FT | 707351 | B | 4110 | .62 | .17 | .62 | .15 | .06 | .00 | .00 | .21 | .19 | .21 | -.36 | -.18 |
| FT | 707352 | D | 3923 | .28 | .19 | .18 | .35 | .28 | .00 | .00 | .28 | -.29 | -.08 | .04 | .28 |
| FT | 707354 | B | 4054 | .44 | .15 | .44 | .21 | .20 | .00 | .00 | .31 | -.23 | .31 | -.11 | -.06 |
| FT | 707355 | B | 4759 | .19 | .07 | .19 | .13 | .60 | .00 | .00 | .21 | -.09 | .21 | -.02 | -.09 |
| FT | 707356 | C | 4829 | .60 | .08 | .14 | .60 | .17 | .00 | .00 | .42 | -.20 | -.19 | .42 | -.23 |
| FT | 707358 | C | 3698 | .46 | .13 | .31 | .46 | .10 | .00 | .00 | .39 | -.23 | -.22 | .39 | -.05 |
| FT | 707359 | D | 3763 | .62 | .13 | .09 | .16 | .62 | .00 | .00 | .42 | -.24 | -.20 | -.18 | .42 |
| FT | 707360 | A | 4356 | .61 | .61 | .16 | .13 | .10 | .00 | .00 | .52 | .52 | -.23 | -.33 | -.20 |
| FT | 707361 | B | 4217 | .62 | .15 | .62 | .18 | .04 | .00 | .00 | .34 | -.12 | .34 | -.26 | -.11 |
| FT | 707363 | C | 4399 | .52 | .14 | .24 | .52 | .10 | .00 | .00 | .27 | -.06 | -.25 | .27 | -.02 |
| FT | 707364 | B | 4401 | .49 | .20 | .49 | .11 | .20 | .00 | .00 | .55 | -.35 | .55 | -.11 | -.25 |
| FT | 707367 | D | 4768 | .38 | .32 | .14 | .16 | .38 | .00 | .00 | .35 | .05 | -.24 | -.30 | .35 |
| FT | 707369 | B | 4808 | .38 | .21 | .38 | .27 | .14 | .00 | .00 | .13 | -.11 | .13 | -.09 | .07 |
| FT | 707370 | D | 4018 | .39 | .05 | .28 | .27 | .39 | .00 | .00 | .30 | -.25 | .03 | -.23 | .30 |
| FT | 707371 | B | 3910 | .46 | .14 | .46 | .28 | .11 | .00 | .00 | .33 | -.04 | .33 | -.24 | -.14 |
| FT | 707373 | A | 4678 | .54 | .54 | .18 | .22 | .06 | .00 | .00 | .40 | .40 | -.22 | -.19 | -.14 |
| FT | 707374 | D | 4589 | .53 | .10 | .11 | .25 | .53 | .00 | .00 | .42 | -.11 | -.23 | -.23 | .42 |
| FT | 707375 | A | 3795 | .62 | .62 | .13 | .11 | .14 | .00 | .00 | .53 | .53 | -.10 | -.37 | -.31 |
| FT | 707376 | C | 3843 | .65 | .11 | .20 | .65 | .04 | .00 | .00 | .46 | -.23 | -.27 | .46 | -.20 |
| FT | 707378 | B | 4071 | .67 | .21 | .67 | .05 | .07 | .00 | .00 | .35 | -.23 | .35 | -.13 | -.16 |
| FT | 707379 | A | 3992 | .64 | .64 | .08 | .25 | .03 | .00 | .00 | .46 | .46 | -.19 | -.30 | -.21 |
| FT | 707380 | B | 3792 | .46 | .22 | .46 | .21 | .10 | .00 | .00 | .44 | -.18 | .44 | -.27 | -.11 |
| FT | 707381 | C | 4031 | .70 | .20 | .06 | .70 | .04 | .00 | .00 | .48 | -.28 | -.27 | .48 | -.22 |
| FT | 707382 | D | 3956 | .83 | .04 | .05 | .08 | .83 | .00 | .00 | .49 | -.22 | -.28 | -.29 | .49 |
| FT | 707383 | B | 4013 | .77 | .07 | .77 | .10 | .06 | .00 | .00 | .45 | -.24 | .45 | -.25 | -.20 |
| FT | 707384 | C | 3749 | .63 | .13 | .17 | .63 | .06 | .00 | .00 | .42 | -.28 | -.22 | .42 | -.10 |
| FT | 707385 | C | 3800 | .56 | .15 | .18 | .56 | .10 | .00 | .00 | .47 | -.08 | -.33 | .47 | -.25 |
| FT | 707386 | B | 4858 | .73 | .11 | .73 | .07 | .08 | .00 | .00 | .57 | -.32 | .57 | -.28 | -.27 |
| FT | 707387 | A | 4910 | .61 | .61 | .17 | .12 | .09 | .00 | .00 | .59 | .59 | -.28 | -.28 | -.31 |
| FT | 707388 | D | 4518 | .65 | .21 | .07 | .07 | .65 | .00 | .00 | .68 | -.43 | -.35 | -.23 | .68 |
| FT | 707389 | B | 4393 | .58 | .25 | .58 | .12 | .05 | .00 | .00 | .47 | -.25 | .47 | -.27 | -.16 |
| FT | 707390 | D | 4095 | .45 | .20 | .18 | .17 | .45 | .00 | .00 | .56 | -.29 | -.14 | -.28 | .56 |
| FT | 707391 | A | 4193 | .75 | .75 | .04 | .15 | .06 | .00 | .00 | .53 | .53 | -.23 | -.37 | -.21 |
| FT | 707392 | A | 4411 | .75 | .75 | .13 | .07 | .05 | .00 | .00 | .33 | .33 | -.21 | -.16 | -.12 |

**Grade 11 Mathematics**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | **Key** | ***N*** | ***p*-value** | **A** | **B** | **C** | **D** | **-** | ***** | **Total** | **A** | **B** | **C** | **D** |
| FT | 707393 | D | 4467 | .43 | .07 | .16 | .35 | .43 | .00 | .00 | .38 | -.16 | -.22 | -.14 | .38 |
| FT | 707394 | A | 4034 | .61 | .61 | .25 | .11 | .03 | .00 | .00 | .50 | .50 | -.32 | -.23 | -.17 |
| FT | 707396 | A | 3996 | .49 | .49 | .34 | .14 | .03 | .00 | .00 | .49 | .49 | -.42 | -.02 | -.20 |
| FT | 707397 | C | 4747 | .21 | .23 | .39 | .21 | .17 | .00 | .00 | .22 | -.06 | -.18 | .22 | .07 |
| FT | 707398 | B | 4817 | .47 | .11 | .47 | .15 | .27 | .00 | .00 | .42 | -.14 | .42 | -.24 | -.17 |
| FT | 707399 | D | 3542 | .63 | .15 | .11 | .11 | .63 | .00 | .00 | .45 | -.26 | -.20 | -.20 | .45 |
| FT | 707400 | C | 3601 | .56 | .21 | .14 | .56 | .09 | .00 | .00 | .39 | -.25 | -.17 | .39 | -.12 |
| FT | 707402 | C | 4955 | .52 | .20 | .12 | .52 | .17 | .00 | .00 | .17 | -.02 | -.17 | .17 | -.06 |
| FT | 707403 | D | 3875 | .25 | .12 | .35 | .27 | .25 | .00 | .00 | .34 | -.11 | -.22 | -.02 | .34 |
| FT | 707404 | C | 4016 | .56 | .10 | .12 | .56 | .22 | .00 | .00 | .37 | -.24 | -.22 | .37 | -.09 |

# Appendix H: Science Key Verification and Foil Analysis

## Grade 5

Grade 5 Science

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 634838 | D | 22949 | .59 | .23 | .13 | .05 | .59 | .00 | .00 | .31 | -.14 | -.15 | -.21 | .31 |
| OP | 634839 | A | 22949 | .65 | .65 | .10 | .10 | .16 | .00 | .00 | .40 | .40 | -.19 | -.21 | -.19 |
| OP | 634849 | C | 22949 | .76 | .08 | .07 | .76 | .09 | .00 | .00 | .44 | -.26 | -.16 | .44 | -.27 |
| OP | 634856 | B | 22949 | .61 | .10 | .61 | .20 | .08 | .00 | .00 | .33 | -.09 | .33 | -.23 | -.15 |
| OP | 634862 | D | 22949 | .62 | .22 | .07 | .09 | .62 | .00 | .00 | .29 | -.07 | -.19 | -.22 | .29 |
| OP | 634874 | A | 22949 | .74 | .74 | .14 | .05 | .06 | .00 | .00 | .46 | .46 | -.24 | -.27 | -.23 |
| OP | 634877 | A | 22949 | .66 | .66 | .04 | .26 | .03 | .00 | .00 | .32 | .32 | -.18 | -.21 | -.15 |
| OP | 634889 | D | 22949 | .61 | .16 | .10 | .13 | .61 | .00 | .00 | .26 | -.17 | -.14 | -.07 | .26 |
| OP | 634924 | A | 22949 | .70 | .70 | .09 | .09 | .12 | .00 | .00 | .43 | .43 | -.30 | -.12 | -.24 |
| OP | 634945 | C | 22949 | .53 | .30 | .07 | .53 | .10 | .00 | .00 | .31 | -.12 | -.25 | .31 | -.12 |
| OP | 634948 | B | 22949 | .44 | .16 | .44 | .18 | .21 | .00 | .00 | .18 | -.06 | .18 | -.13 | -.03 |
| OP | 634950 | C | 22949 | .52 | .09 | .27 | .52 | .12 | .00 | .00 | .29 | -.19 | .02 | .29 | -.31 |
| OP | 634961 | C | 22949 | .54 | .19 | .10 | .54 | .17 | .00 | .00 | .38 | -.22 | -.20 | .38 | -.12 |
| OP | 634968 | A | 22949 | .72 | .72 | .13 | .09 | .06 | .00 | .00 | .24 | .24 | -.11 | -.13 | -.14 |
| OP | 647385 | B | 22949 | .65 | .05 | .65 | .05 | .25 | .00 | .00 | .32 | -.19 | .32 | -.19 | -.16 |
| OP | 647389 | D | 22949 | .78 | .03 | .13 | .06 | .78 | .00 | .00 | .46 | -.21 | -.31 | -.21 | .46 |
| OP | 647390 | D | 22949 | .76 | .14 | .04 | .06 | .76 | .00 | .00 | .35 | -.14 | -.23 | -.22 | .35 |
| OP | 647393 | B | 22949 | .52 | .10 | .52 | .23 | .15 | .00 | .00 | .41 | -.20 | .41 | -.15 | -.23 |
| OP | 647394 | B | 22949 | .77 | .07 | .77 | .04 | .11 | .00 | .00 | .31 | -.16 | .31 | -.14 | -.19 |
| OP | 647396 | C | 22949 | .52 | .15 | .25 | .52 | .09 | .00 | .00 | .35 | -.17 | -.12 | .35 | -.22 |
| OP | 647415 | A | 22949 | .78 | .78 | .04 | .13 | .05 | .00 | .00 | .29 | .29 | -.15 | -.14 | -.20 |
| OP | 647419 | B | 22949 | .76 | .04 | .76 | .10 | .10 | .00 | .00 | .43 | -.22 | .43 | -.27 | -.20 |
| OP | 647423 | D | 22949 | .47 | .07 | .17 | .29 | .47 | .00 | .00 | .48 | -.19 | -.25 | -.21 | .48 |
| OP | 647427 | A | 22949 | .51 | .51 | .28 | .09 | .11 | .00 | .00 | .36 | .36 | -.17 | -.19 | -.16 |
| OP | 647428 | C | 22949 | .69 | .05 | .14 | .69 | .11 | .00 | .00 | .32 | -.15 | -.18 | .32 | -.16 |
| OP | 647430 | B | 22949 | .72 | .15 | .72 | .04 | .09 | .00 | .00 | .36 | -.15 | .36 | -.22 | -.22 |
| OP | 647433 | D | 22949 | .71 | .22 | .05 | .02 | .71 | .00 | .00 | .25 | -.12 | -.17 | -.18 | .25 |
| OP | 661223 | A | 22949 | .38 | .38 | .19 | .15 | .28 | .00 | .00 | .19 | .19 | -.05 | -.20 | .00 |
| OP | 661245 | A | 22949 | .51 | .51 | .13 | .08 | .28 | .00 | .00 | .35 | .35 | -.17 | .04 | -.29 |
| OP | 661247 | A | 22949 | .86 | .86 | .08 | .01 | .05 | .00 | .00 | .37 | .37 | -.25 | -.14 | -.21 |
| OP | 661256 | B | 22949 | .88 | .03 | .88 | .03 | .05 | .00 | .00 | .30 | -.18 | .30 | -.21 | -.11 |
| OP | 661258 | A | 22949 | .83 | .83 | .06 | .01 | .09 | .00 | .00 | .38 | .38 | -.20 | -.14 | -.27 |
| OP | 661260 | B | 22949 | .75 | .07 | .75 | .08 | .10 | .00 | .00 | .43 | -.20 | .43 | -.26 | -.21 |
| OP | 661264 | D | 22949 | .76 | .07 | .06 | .11 | .76 | .00 | .00 | .46 | -.26 | -.17 | -.27 | .46 |
| OP | 661267 | D | 22949 | .81 | .07 | .04 | .07 | .81 | .00 | .00 | .33 | -.24 | -.17 | -.11 | .33 |
| OP | 661272 | A | 22949 | .79 | .79 | .07 | .06 | .07 | .00 | .00 | .44 | .44 | -.23 | -.23 | -.24 |
| OP | 690170 | C | 22949 | .72 | .09 | .05 | .72 | .14 | .00 | .00 | .46 | -.24 | -.25 | .46 | -.24 |

## Grade 5 Science

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 690176 | A | 22949 | .83 | .83 | .03 | .08 | .06 | .00 | .00 | .23 | .23 | -.13 | -.13 | -.11 |
| OP | 690178 | C | 22949 | .47 | .10 | .26 | .47 | .17 | .00 | .00 | .27 | -.18 | -.05 | .27 | -.16 |
| OP | 690185 | C | 22949 | .78 | .12 | .05 | .78 | .05 | .00 | .00 | .40 | -.24 | -.21 | .40 | -.19 |
| OP | 690187 | A | 22949 | .46 | .46 | .20 | .17 | .16 | .00 | .00 | .31 | .31 | -.13 | -.16 | -.12 |
| OP | 690189 | A | 22949 | .82 | .82 | .03 | .11 | .04 | .00 | .00 | .42 | .42 | -.18 | -.26 | -.24 |
| OP | 690191 | A | 22949 | .88 | .88 | .03 | .05 | .05 | .00 | .00 | .42 | .42 | -.22 | -.23 | -.25 |
| OP | 690194 | D | 22949 | .75 | .01 | .22 | .02 | .75 | .00 | .00 | .22 | -.09 | -.17 | -.14 | .22 |
| OP | 690196 | B | 22949 | .63 | .16 | .63 | .11 | .10 | .00 | .00 | .23 | -.07 | .23 | -.13 | -.15 |
| OP | 690200 | B | 22949 | .75 | .18 | .75 | .02 | .04 | .00 | .00 | .31 | -.12 | .31 | -.21 | -.27 |
| OP | 690202 | D | 22949 | .79 | .01 | .02 | .18 | .79 | .00 | .00 | .42 | -.17 | -.20 | -.33 | .42 |
| OP | 690209 | C | 22949 | .57 | .11 | .14 | .57 | .19 | .00 | .00 | .36 | -.16 | -.20 | .36 | -.16 |
| OP | 690216 | B | 22949 | .82 | .04 | .82 | .07 | .07 | .00 | .00 | .39 | -.24 | .39 | -.18 | -.21 |
| OP | 690220 | A | 22949 | .75 | .75 | .08 | .06 | .11 | .00 | .00 | .34 | .34 | -.31 | -.14 | -.10 |
| FT | 705706 | B | 5857 | .79 | .07 | .79 | .05 | .09 | .00 | .00 | .36 | -.18 | .36 | -.18 | -.21 |
| FT | 705707 | D | 4152 | .53 | .21 | .07 | .19 | .53 | .00 | .00 | .40 | -.25 | -.19 | -.12 | .40 |
| FT | 705709 | A | 4288 | .81 | .81 | .11 | .03 | .05 | .00 | .00 | .42 | .42 | -.27 | -.19 | -.21 |
| FT | 705710 | D | 4361 | .41 | .36 | .10 | .13 | .41 | .00 | .00 | .21 | -.22 | .01 | .01 | .21 |
| FT | 705711 | A | 4551 | .79 | .79 | .05 | .06 | .10 | .00 | .00 | .39 | .39 | -.21 | -.21 | -.21 |
| FT | 705712 | C | 4135 | .92 | .03 | .03 | .92 | .01 | .00 | .00 | .26 | -.18 | -.14 | .26 | -.12 |
| FT | 705713 | C | 4415 | .99 | .00 | .00 | .99 | .01 | .00 | .00 | .17 | -.07 | -.12 | .17 | -.09 |
| FT | 705714 | A | 4208 | .87 | .87 | .02 | .09 | .02 | .00 | .00 | .42 | .42 | -.23 | -.29 | -.17 |
| FT | 705715 | D | 3962 | .76 | .10 | .07 | .07 | .76 | .00 | .00 | .40 | -.21 | -.20 | -.23 | .40 |
| FT | 705716 | D | 4004 | .90 | .04 | .03 | .03 | .90 | .00 | .00 | .24 | -.11 | -.21 | -.07 | .24 |
| FT | 705718 | B | 4557 | .84 | .06 | .84 | .05 | .05 | .00 | .00 | .38 | -.18 | .38 | -.23 | -.21 |
| FT | 705720 | B | 3958 | .81 | .12 | .81 | .02 | .05 | .00 | .00 | .30 | -.15 | .30 | -.18 | -.20 |
| FT | 705721 | C | 4593 | .74 | .16 | .08 | .74 | .03 | .00 | .00 | .31 | -.18 | -.17 | .31 | -.14 |
| FT | 705722 | C | 3936 | .71 | .05 | .05 | .71 | .18 | .00 | .00 | .31 | -.12 | -.14 | .31 | -.20 |
| FT | 705723 | A | 4188 | .80 | .80 | .03 | .08 | .10 | .00 | .00 | .28 | .28 | -.16 | -.22 | -.09 |
| FT | 705724 | C | 6389 | .71 | .02 | .25 | .71 | .02 | .00 | .00 | .46 | -.21 | -.34 | .46 | -.21 |
| FT | 705725 | D | 4394 | .96 | .01 | .02 | .01 | .96 | .00 | .00 | .28 | -.11 | -.19 | -.15 | .28 |
| FT | 705726 | D | 4187 | .90 | .07 | .02 | .01 | .90 | .00 | .00 | .23 | -.17 | -.10 | -.13 | .23 |
| FT | 705727 | B | 5917 | .85 | .04 | .85 | .08 | .02 | .00 | .00 | .37 | -.16 | .37 | -.26 | -.18 |
| FT | 705728 | D | 4628 | .69 | .08 | .21 | .02 | .69 | .00 | .00 | .24 | -.25 | -.05 | -.15 | .24 |
| FT | 705729 | C | 4607 | .53 | .16 | .12 | .53 | .19 | .00 | .00 | .33 | -.29 | -.25 | .33 | .06 |
| FT | 705730 | B | 4029 | .88 | .02 | .88 | .06 | .04 | .00 | .00 | .35 | -.16 | .35 | -.22 | -.21 |
| FT | 705732 | A | 6305 | .65 | .65 | .04 | .21 | .09 | .00 | .00 | .42 | .42 | -.05 | -.35 | -.15 |
| FT | 705733 | B | 4225 | .86 | .08 | .86 | .03 | .03 | .00 | .00 | .42 | -.26 | .42 | -.24 | -.19 |
| FT | 705734 | A | 4238 | .75 | .75 | .07 | .13 | .04 | .00 | .00 | .53 | .53 | -.23 | -.37 | -.21 |
| FT | 705735 | A | 6390 | .70 | .70 | .07 | .09 | .14 | .00 | .00 | .53 | .53 | -.19 | -.27 | -.33 |
| FT | 705736 | B | 4167 | .41 | .22 | .41 | .29 | .08 | .00 | .00 | .35 | -.12 | .35 | -.15 | -.21 |
| FT | 705737 | D | 3984 | .13 | .07 | .53 | .27 | .13 | .00 | .00 | -.01 | -.13 | .19 | -.13 | -.01 |

**Grade 5 Science**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 705738 | A | 4195 | .93 | .93 | .02 | .03 | .02 | .00 | .00 | .22 | .22 | -.16 | -.06 | -.16 |
| FT | 705739 | D | 4129 | .65 | .11 | .08 | .16 | .65 | .00 | .00 | .35 | -.03 | -.19 | -.28 | .35 |
| FT | 705740 | D | 4426 | .88 | .06 | .01 | .04 | .88 | .00 | .00 | .33 | -.20 | -.14 | -.21 | .33 |
| FT | 705741 | D | 6126 | .88 | .03 | .03 | .05 | .88 | .00 | .00 | .32 | -.17 | -.19 | -.18 | .32 |
| FT | 705742 | D | 4129 | .57 | .02 | .21 | .20 | .57 | .00 | .00 | .19 | -.14 | -.14 | -.03 | .19 |
| FT | 705743 | B | 4252 | .71 | .09 | .71 | .10 | .10 | .00 | .00 | .36 | -.19 | .36 | -.20 | -.16 |
| FT | 705744 | D | 5408 | .82 | .02 | .13 | .04 | .82 | .00 | .00 | .26 | -.14 | -.17 | -.12 | .26 |
| FT | 705745 | C | 5405 | .57 | .08 | .08 | .57 | .27 | .00 | .00 | .38 | -.27 | -.26 | .38 | -.09 |
| FT | 705746 | B | 3789 | .23 | .12 | .23 | .57 | .07 | .00 | .00 | .18 | -.24 | .18 | .01 | .00 |
| FT | 705747 | D | 3783 | .95 | .02 | .00 | .03 | .95 | .00 | .00 | .15 | -.10 | -.08 | -.08 | .15 |
| FT | 705748 | C | 4335 | .78 | .10 | .04 | .78 | .08 | .00 | .00 | .44 | -.25 | -.27 | .44 | -.21 |
| FT | 705749 | B | 4253 | .73 | .05 | .73 | .04 | .17 | .00 | .00 | .43 | -.16 | .43 | -.22 | -.28 |
| FT | 705750 | C | 4376 | .96 | .02 | .01 | .96 | .01 | .00 | .00 | .19 | -.14 | -.08 | .19 | -.09 |
| FT | 705751 | C | 4356 | .53 | .27 | .14 | .53 | .06 | .00 | .00 | .38 | -.17 | -.25 | .38 | -.09 |
| FT | 705752 | D | 4402 | .53 | .24 | .14 | .10 | .53 | .00 | .00 | .34 | -.06 | -.27 | -.16 | .34 |
| FT | 705753 | D | 4370 | .83 | .06 | .06 | .05 | .83 | .00 | .00 | .37 | -.22 | -.20 | -.16 | .37 |
| FT | 705754 | B | 4312 | .71 | .16 | .71 | .03 | .10 | .00 | .00 | .30 | -.06 | .30 | -.23 | -.26 |
| FT | 705755 | D | 4340 | .86 | .02 | .04 | .07 | .86 | .00 | .00 | .35 | -.18 | -.18 | -.22 | .35 |
| FT | 705756 | D | 5882 | .96 | .02 | .02 | .01 | .96 | .00 | .00 | .24 | -.15 | -.12 | -.14 | .24 |
| FT | 705757 | D | 4290 | .84 | .01 | .07 | .08 | .84 | .00 | .00 | .32 | -.16 | -.24 | -.14 | .32 |
| FT | 705758 | D | 6016 | .80 | .08 | .04 | .08 | .80 | .00 | .00 | .22 | -.14 | -.09 | -.11 | .22 |
| FT | 705760 | A | 4281 | .43 | .43 | .24 | .12 | .21 | .00 | .00 | .32 | .32 | -.12 | -.16 | -.14 |

# Grade 8

**Grade 8 Science**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 635004 | D | 21993 | .76 | .07 | .13 | .04 | .76 | .00 | .00 | .37 | -.26 | -.12 | -.25 | .37 |
| OP | 635005 | A | 21993 | .56 | .56 | .13 | .17 | .14 | .00 | .00 | .44 | .44 | -.19 | -.30 | -.11 |
| OP | 635007 | B | 21993 | .61 | .12 | .61 | .10 | .17 | .00 | .00 | .40 | -.27 | .40 | -.09 | -.22 |
| OP | 635012 | B | 21993 | .58 | .07 | .58 | .14 | .20 | .00 | .00 | .38 | -.16 | .38 | -.21 | -.18 |
| OP | 635018 | B | 21993 | .65 | .11 | .65 | .13 | .11 | .00 | .00 | .30 | -.13 | .30 | -.22 | -.10 |
| OP | 635019 | B | 21993 | .59 | .10 | .59 | .16 | .15 | .00 | .00 | .45 | -.22 | .45 | -.26 | -.17 |
| OP | 635022 | A | 21993 | .73 | .73 | .11 | .10 | .06 | .00 | .00 | .43 | .43 | -.22 | -.26 | -.17 |
| OP | 635023 | D | 21993 | .57 | .05 | .16 | .21 | .57 | .00 | .00 | .38 | -.21 | -.21 | -.15 | .38 |
| OP | 635025 | B | 21993 | .79 | .02 | .79 | .01 | .18 | .00 | .00 | .38 | -.18 | .38 | -.16 | -.30 |
| OP | 635035 | C | 21993 | .52 | .35 | .08 | .52 | .05 | .00 | .00 | .27 | -.11 | -.17 | .27 | -.17 |
| OP | 635037 | B | 21993 | .68 | .09 | .68 | .18 | .05 | .00 | .00 | .33 | -.08 | .33 | -.20 | -.22 |
| OP | 635041 | D | 21993 | .45 | .06 | .47 | .02 | .45 | .00 | .00 | .26 | -.17 | -.11 | -.20 | .26 |

## Grade 8 Science

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 635043 | D | 21993 | .71 | .07 | .10 | .12 | .71 | .00 | .00 | .44 | -.13 | -.22 | -.29 | .44 |
| OP | 635051 | B | 21993 | .55 | .14 | .55 | .10 | .20 | .00 | .00 | .35 | -.17 | .35 | -.17 | -.14 |
| OP | 635063 | C | 21993 | .74 | .03 | .17 | .74 | .07 | .00 | .00 | .47 | -.20 | -.30 | .47 | -.23 |
| OP | 635075 | A | 21993 | .67 | .67 | .11 | .20 | .03 | .00 | .00 | .38 | .38 | -.07 | -.33 | -.13 |
| OP | 635082 | A | 21993 | .78 | .78 | .04 | .13 | .05 | .00 | .00 | .31 | .31 | -.21 | -.12 | -.22 |
| OP | 635086 | C | 21993 | .71 | .09 | .14 | .71 | .06 | .00 | .00 | .47 | -.24 | -.27 | .47 | -.21 |
| OP | 635096 | A | 21993 | .76 | .76 | .03 | .08 | .12 | .00 | .00 | .43 | .43 | -.21 | -.22 | -.26 |
| OP | 635100 | C | 21993 | .79 | .05 | .06 | .79 | .10 | .00 | .00 | .18 | -.10 | -.01 | .18 | -.15 |
| OP | 635101 | A | 21993 | .75 | .75 | .17 | .06 | .03 | .00 | .00 | .35 | .35 | -.19 | -.14 | -.27 |
| OP | 635114 | A | 21993 | .84 | .84 | .04 | .07 | .05 | .00 | .00 | .41 | .41 | -.24 | -.22 | -.20 |
| OP | 635116 | B | 21993 | .71 | .15 | .71 | .09 | .06 | .00 | .00 | .45 | -.24 | .45 | -.25 | -.21 |
| OP | 635120 | B | 21993 | .78 | .11 | .78 | .07 | .04 | .00 | .00 | .34 | -.16 | .34 | -.21 | -.20 |
| OP | 635125 | C | 21993 | .47 | .08 | .18 | .47 | .28 | .00 | .00 | .26 | -.15 | -.13 | .26 | -.08 |
| OP | 635139 | C | 21993 | .47 | .32 | .15 | .47 | .06 | .00 | .00 | .31 | -.08 | -.18 | .31 | -.22 |
| OP | 635156 | D | 21993 | .69 | .02 | .23 | .07 | .69 | .00 | .00 | .49 | -.19 | -.30 | -.29 | .49 |
| OP | 635160 | B | 21993 | .85 | .10 | .85 | .01 | .03 | .00 | .00 | .31 | -.18 | .31 | -.19 | -.19 |
| OP | 647103 | C | 21993 | .63 | .26 | .05 | .63 | .06 | .00 | .00 | .42 | -.27 | -.23 | .42 | -.12 |
| OP | 647106 | A | 21993 | .55 | .55 | .12 | .23 | .10 | .00 | .00 | .49 | .49 | -.26 | -.23 | -.19 |
| OP | 647119 | C | 21993 | .44 | .14 | .09 | .44 | .32 | .00 | .00 | .38 | -.18 | -.20 | .38 | -.14 |
| OP | 647122 | B | 21993 | .46 | .37 | .46 | .03 | .14 | .00 | .00 | .28 | -.10 | .28 | -.20 | -.16 |
| OP | 647123 | C | 21993 | .61 | .20 | .14 | .61 | .05 | .00 | .00 | .34 | -.24 | -.10 | .34 | -.16 |
| OP | 647136 | A | 21993 | .77 | .77 | .07 | .06 | .10 | .00 | .00 | .41 | .41 | -.25 | -.26 | -.15 |
| OP | 647142 | A | 21993 | .48 | .48 | .05 | .26 | .20 | .00 | .00 | .23 | .23 | -.16 | -.13 | -.05 |
| OP | 647159 | C | 21993 | .81 | .08 | .08 | .81 | .03 | .00 | .00 | .42 | -.24 | -.24 | .42 | -.21 |
| OP | 661291 | B | 21993 | .61 | .23 | .61 | .07 | .09 | .00 | .00 | .37 | -.17 | .37 | -.15 | -.25 |
| OP | 661294 | D | 21993 | .66 | .05 | .10 | .19 | .66 | .00 | .00 | .49 | -.25 | -.27 | -.25 | .49 |
| OP | 661295 | A | 21993 | .60 | .60 | .15 | .13 | .12 | .00 | .00 | .34 | .34 | -.13 | -.20 | -.15 |
| OP | 661305 | C | 21993 | .66 | .04 | .06 | .66 | .24 | .00 | .00 | .47 | -.19 | -.20 | .47 | -.32 |
| OP | 661314 | D | 21993 | .54 | .20 | .10 | .16 | .54 | .00 | .00 | .38 | -.19 | -.15 | -.17 | .38 |
| OP | 661318 | A | 21993 | .86 | .86 | .09 | .03 | .02 | .00 | .00 | .30 | .30 | -.15 | -.23 | -.17 |
| OP | 661321 | A | 21993 | .71 | .71 | .09 | .08 | .12 | .00 | .00 | .40 | .40 | -.24 | -.23 | -.14 |
| OP | 690224 | B | 21993 | .86 | .06 | .86 | .03 | .05 | .00 | .00 | .33 | -.15 | .33 | -.20 | -.19 |
| OP | 690225 | B | 21993 | .51 | .18 | .51 | .18 | .13 | .00 | .00 | .34 | -.22 | .34 | -.12 | -.10 |
| OP | 690229 | C | 21993 | .70 | .11 | .09 | .70 | .10 | .00 | .00 | .38 | -.15 | -.11 | .38 | -.31 |
| OP | 690235 | B | 21993 | .70 | .10 | .70 | .16 | .04 | .00 | .00 | .39 | -.18 | .39 | -.24 | -.17 |
| OP | 690238 | C | 21993 | .56 | .24 | .12 | .56 | .08 | .00 | .00 | .42 | -.22 | -.14 | .42 | -.25 |
| OP | 690242 | C | 21993 | .54 | .25 | .13 | .54 | .07 | .00 | .00 | .46 | -.32 | -.16 | .46 | -.13 |
| OP | 690245 | B | 21993 | .84 | .06 | .84 | .04 | .06 | .00 | .00 | .40 | -.25 | .40 | -.24 | -.16 |
| OP | 690248 | B | 21993 | .59 | .12 | .59 | .13 | .16 | .00 | .00 | .43 | -.16 | .43 | -.30 | -.15 |
| OP | 690251 | C | 21993 | .60 | .14 | .12 | .60 | .14 | .00 | .00 | .30 | -.08 | -.18 | .30 | -.17 |
| OP | 690252 | C | 21993 | .53 | .15 | .07 | .53 | .24 | .00 | .00 | .33 | -.22 | -.20 | .33 | -.07 |

## Grade 8 Science

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 690257 | B | 21993 | .54 | .32 | .54 | .10 | .05 | .00 | .00 | .21 | -.02 | .21 | -.22 | -.11 |
| OP | 690260 | B | 21993 | .63 | .16 | .63 | .15 | .06 | .00 | .00 | .50 | -.30 | .50 | -.17 | -.27 |
| OP | 690262 | C | 21993 | .85 | .02 | .02 | .85 | .12 | .00 | .00 | .43 | -.21 | -.21 | .43 | -.30 |
| OP | 690263 | D | 21993 | .77 | .05 | .15 | .03 | .77 | .00 | .00 | .44 | -.21 | -.28 | -.22 | .44 |
| OP | 690264 | B | 21993 | .86 | .02 | .86 | .08 | .03 | .00 | .00 | .38 | -.20 | .38 | -.24 | -.20 |
| OP | 690265 | D | 21993 | .75 | .13 | .05 | .06 | .75 | .00 | .00 | .35 | -.21 | -.20 | -.14 | .35 |
| OP | 690268 | D | 21993 | .69 | .14 | .09 | .08 | .69 | .00 | .00 | .41 | -.17 | -.24 | -.22 | .41 |
| FT | 705761 | C | 4686 | .66 | .10 | .09 | .66 | .15 | .00 | .00 | .36 | -.20 | -.21 | .36 | -.15 |
| FT | 705765 | C | 4004 | .76 | .09 | .06 | .76 | .09 | .00 | .00 | .30 | -.14 | -.16 | .30 | -.18 |
| FT | 705767 | C | 4018 | .76 | .08 | .06 | .76 | .10 | .00 | .00 | .40 | -.19 | -.25 | .40 | -.20 |
| FT | 705768 | B | 4907 | .72 | .08 | .72 | .07 | .12 | .00 | .00 | .48 | -.24 | .48 | -.22 | -.27 |
| FT | 705769 | A | 4555 | .71 | .71 | .12 | .10 | .07 | .00 | .00 | .40 | .40 | -.33 | -.08 | -.20 |
| FT | 705770 | C | 4156 | .67 | .06 | .04 | .67 | .23 | .00 | .00 | .34 | -.22 | -.22 | .34 | -.16 |
| FT | 705771 | B | 4112 | .41 | .04 | .41 | .03 | .53 | .00 | .00 | .08 | -.23 | .08 | -.16 | .06 |
| FT | 705772 | D | 4260 | .69 | .05 | .19 | .08 | .69 | .00 | .00 | .25 | -.06 | -.21 | -.09 | .25 |
| FT | 705773 | C | 5534 | .52 | .11 | .22 | .52 | .15 | .00 | .00 | .33 | -.16 | -.18 | .33 | -.10 |
| FT | 705774 | D | 4052 | .86 | .05 | .08 | .01 | .86 | .00 | .00 | .24 | .01 | -.24 | -.19 | .24 |
| FT | 705775 | D | 4412 | .74 | .09 | .02 | .15 | .74 | .00 | .00 | .21 | -.09 | -.16 | -.13 | .21 |
| FT | 705776 | B | 5567 | .95 | .02 | .95 | .02 | .02 | .00 | .00 | .32 | -.16 | .32 | -.21 | -.17 |
| FT | 705777 | B | 4072 | .93 | .03 | .93 | .01 | .03 | .00 | .00 | .28 | -.15 | .28 | -.15 | -.19 |
| FT | 705778 | A | 5708 | .70 | .70 | .05 | .11 | .15 | .00 | .00 | .49 | .49 | -.22 | -.15 | -.37 |
| FT | 705779 | A | 4634 | .34 | .34 | .10 | .34 | .23 | .00 | .00 | .37 | .37 | -.21 | -.15 | -.11 |
| FT | 705780 | C | 4213 | .76 | .11 | .05 | .76 | .07 | .00 | .00 | .43 | -.20 | -.25 | .43 | -.24 |
| FT | 705781 | B | 5419 | .55 | .09 | .55 | .30 | .06 | .00 | .00 | .47 | -.13 | .47 | -.35 | -.14 |
| FT | 705782 | D | 5283 | .52 | .12 | .26 | .10 | .52 | .00 | .00 | .34 | -.26 | -.07 | -.18 | .34 |
| FT | 705784 | B | 3785 | .64 | .17 | .64 | .10 | .09 | .00 | .00 | .41 | -.22 | .41 | -.25 | -.12 |
| FT | 705785 | A | 5392 | .26 | .26 | .21 | .42 | .11 | .00 | .00 | .02 | .02 | -.19 | .23 | -.15 |
| FT | 705786 | C | 4454 | .79 | .05 | .08 | .79 | .07 | .00 | .00 | .44 | -.22 | -.25 | .44 | -.23 |
| FT | 705787 | B | 3870 | .93 | .02 | .93 | .02 | .03 | .00 | .00 | .34 | -.19 | .34 | -.19 | -.20 |
| FT | 705788 | D | 5886 | .69 | .13 | .09 | .09 | .69 | .00 | .00 | .46 | -.23 | -.23 | -.25 | .46 |
| FT | 705789 | A | 4164 | .84 | .84 | .07 | .08 | .01 | .00 | .00 | .30 | .30 | -.19 | -.20 | -.10 |
| FT | 705790 | A | 3998 | .87 | .87 | .08 | .03 | .02 | .00 | .00 | .41 | .41 | -.26 | -.23 | -.21 |
| FT | 705791 | A | 4586 | .20 | .20 | .21 | .45 | .14 | .00 | .00 | -.03 | -.03 | -.28 | .24 | .01 |
| FT | 705792 | B | 4108 | .86 | .06 | .86 | .05 | .03 | .00 | .00 | .32 | -.19 | .32 | -.17 | -.16 |
| FT | 705793 | D | 5260 | .87 | .04 | .04 | .05 | .87 | .00 | .00 | .36 | -.19 | -.19 | -.21 | .36 |
| FT | 705794 | A | 4095 | .86 | .86 | .07 | .05 | .02 | .00 | .00 | .34 | .34 | -.24 | -.16 | -.16 |
| FT | 705795 | C | 4232 | .66 | .09 | .05 | .66 | .19 | .00 | .00 | .42 | -.25 | -.24 | .42 | -.18 |
| FT | 705796 | D | 3540 | .49 | .11 | .21 | .18 | .49 | .00 | .00 | .36 | -.12 | -.12 | -.24 | .36 |
| FT | 705797 | A | 4160 | .81 | .81 | .01 | .08 | .10 | .00 | .00 | .21 | .21 | -.16 | -.20 | -.04 |
| FT | 705798 | D | 4085 | .83 | .01 | .04 | .12 | .83 | .00 | .00 | .30 | -.16 | -.26 | -.14 | .30 |
| FT | 705799 | C | 3772 | .75 | .01 | .21 | .75 | .03 | .00 | .00 | .43 | -.14 | -.35 | .43 | -.19 |

**Grade 8 Science**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 705800 | C | 4074 | .94 | .04 | .01 | .94 | .01 | .00 | .00 | .36 | -.29 | -.17 | .36 | -.13 |
| FT | 705801 | B | 4124 | .75 | .19 | .75 | .04 | .02 | .00 | .00 | .23 | -.08 | .23 | -.22 | -.18 |
| FT | 705803 | D | 4210 | .76 | .06 | .05 | .13 | .76 | .00 | .00 | .54 | -.21 | -.25 | -.38 | .54 |
| FT | 705804 | C | 4022 | .75 | .05 | .05 | .75 | .15 | .00 | .00 | .48 | -.24 | -.26 | .48 | -.28 |
| FT | 705805 | B | 5376 | .44 | .11 | .44 | .10 | .35 | .00 | .00 | .06 | -.21 | .06 | -.10 | .14 |
| FT | 705806 | B | 4560 | .37 | .30 | .37 | .17 | .16 | .00 | .00 | .06 | .08 | .06 | -.13 | -.05 |
| FT | 705807 | D | 3825 | .81 | .04 | .04 | .11 | .81 | .00 | .00 | .31 | -.17 | -.22 | -.15 | .31 |
| FT | 705808 | A | 4528 | .53 | .53 | .37 | .05 | .05 | .00 | .00 | .11 | .11 | .09 | -.26 | -.21 |
| FT | 705809 | A | 4095 | .55 | .55 | .26 | .05 | .14 | .00 | .00 | .24 | .24 | -.19 | -.13 | -.02 |
| FT | 705810 | C | 4062 | .49 | .12 | .17 | .49 | .21 | .00 | .00 | .29 | -.05 | -.20 | .29 | -.12 |
| FT | 705812 | C | 3937 | .65 | .14 | .11 | .65 | .11 | .00 | .00 | .49 | -.32 | -.27 | .49 | -.12 |
| FT | 705813 | C | 4130 | .17 | .13 | .66 | .17 | .04 | .00 | .00 | -.03 | -.08 | .19 | -.03 | -.25 |
| FT | 705814 | A | 4089 | .75 | .75 | .02 | .11 | .13 | .00 | .00 | .24 | .24 | -.13 | -.11 | -.16 |
| FT | 705815 | B | 4039 | .19 | .37 | .19 | .30 | .14 | .00 | .00 | .04 | -.01 | .04 | -.02 | -.01 |
| FT | 705816 | B | 3772 | .36 | .28 | .36 | .28 | .08 | .00 | .00 | .23 | .04 | .23 | -.22 | -.10 |
| FT | 705817 | C | 4038 | .44 | .06 | .09 | .44 | .40 | .00 | .00 | .19 | -.21 | -.09 | .19 | -.04 |

# Grade 11

**Grade 11 Science**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 635182 | D | 21102 | .78 | .13 | .02 | .07 | .78 | .00 | .00 | .47 | -.28 | -.20 | -.27 | .47 |
| OP | 635189 | D | 21102 | .65 | .06 | .21 | .08 | .65 | .00 | .00 | .31 | -.19 | -.14 | -.17 | .31 |
| OP | 635192 | D | 21102 | .59 | .25 | .04 | .11 | .59 | .00 | .00 | .47 | -.22 | -.19 | -.30 | .47 |
| OP | 635218 | C | 21102 | .63 | .17 | .06 | .63 | .14 | .00 | .00 | .28 | -.09 | -.28 | .28 | -.10 |
| OP | 635234 | C | 21102 | .74 | .09 | .09 | .74 | .08 | .00 | .00 | .34 | -.12 | -.15 | .34 | -.25 |
| OP | 635245 | B | 21102 | .59 | .07 | .59 | .14 | .19 | .00 | .00 | .30 | -.15 | .30 | -.22 | -.08 |
| OP | 635265 | A | 21102 | .70 | .70 | .10 | .12 | .08 | .00 | .00 | .37 | .37 | -.13 | -.19 | -.25 |
| OP | 635279 | A | 21102 | .73 | .73 | .14 | .09 | .03 | .00 | .00 | .47 | .47 | -.26 | -.27 | -.20 |
| OP | 635280 | D | 21102 | .49 | .25 | .10 | .17 | .49 | .00 | .00 | .43 | -.05 | -.26 | -.31 | .43 |
| OP | 635288 | C | 21102 | .69 | .07 | .11 | .69 | .13 | .00 | .00 | .34 | -.16 | -.29 | .34 | -.08 |
| OP | 635499 | C | 21102 | .79 | .08 | .09 | .79 | .03 | .00 | .00 | .44 | -.32 | -.20 | .44 | -.19 |
| OP | 635502 | C | 21102 | .72 | .04 | .18 | .72 | .07 | .00 | .00 | .43 | -.23 | -.27 | .43 | -.18 |
| OP | 635503 | C | 21102 | .72 | .07 | .11 | .72 | .09 | .00 | .00 | .49 | -.27 | -.30 | .49 | -.19 |
| OP | 635506 | B | 21102 | .68 | .06 | .68 | .21 | .06 | .00 | .00 | .35 | -.22 | .35 | -.18 | -.16 |
| OP | 635517 | A | 21102 | .41 | .41 | .19 | .16 | .25 | .00 | .00 | .30 | .30 | -.14 | -.13 | -.10 |
| OP | 635520 | B | 21102 | .60 | .04 | .60 | .10 | .26 | .00 | .00 | .32 | -.16 | .32 | -.28 | -.10 |
| OP | 635528 | B | 21102 | .66 | .09 | .66 | .20 | .05 | .00 | .00 | .42 | -.16 | .42 | -.32 | -.11 |
| OP | 635540 | D | 21102 | .53 | .09 | .24 | .14 | .53 | .00 | .00 | .43 | -.22 | -.12 | -.28 | .43 |
| OP | 635550 | A | 21102 | .76 | .76 | .07 | .10 | .07 | .00 | .00 | .41 | .41 | -.24 | -.23 | -.18 |

## Grade 11 Science

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| OP | 635565 | A | 21102 | .59 | .59 | .20 | .07 | .14 | .00 | .00 | .47 | .47 | -.27 | -.23 | -.18 |
| OP | 636040 | A | 21102 | .53 | .53 | .10 | .12 | .25 | .00 | .00 | .29 | .29 | -.27 | -.24 | .03 |
| OP | 636041 | B | 21102 | .72 | .16 | .72 | .07 | .05 | .00 | .00 | .38 | -.22 | .38 | -.27 | -.10 |
| OP | 636045 | D | 21102 | .85 | .05 | .08 | .03 | .85 | .00 | .00 | .42 | -.23 | -.24 | -.22 | .42 |
| OP | 647169 | B | 21102 | .64 | .15 | .64 | .15 | .06 | .00 | .00 | .40 | -.20 | .40 | -.24 | -.13 |
| OP | 647170 | D | 21102 | .41 | .24 | .15 | .20 | .41 | .00 | .00 | .37 | -.05 | -.24 | -.18 | .37 |
| OP | 647183 | C | 21102 | .73 | .07 | .06 | .73 | .14 | .00 | .00 | .50 | -.26 | -.25 | .50 | -.27 |
| OP | 647192 | A | 21102 | .48 | .48 | .12 | .10 | .30 | .00 | .00 | .27 | .27 | -.13 | -.24 | -.04 |
| OP | 647212 | C | 21102 | .84 | .04 | .10 | .84 | .03 | .00 | .00 | .34 | -.21 | -.20 | .34 | -.16 |
| OP | 647214 | D | 21102 | .53 | .13 | .11 | .22 | .53 | .00 | .00 | .26 | -.18 | -.10 | -.09 | .26 |
| OP | 647215 | A | 21102 | .79 | .79 | .10 | .05 | .07 | .00 | .00 | .47 | .47 | -.25 | -.27 | -.24 |
| OP | 661329 | C | 21102 | .80 | .07 | .11 | .80 | .02 | .00 | .00 | .37 | -.09 | -.33 | .37 | -.15 |
| OP | 661333 | D | 21102 | .56 | .07 | .09 | .29 | .56 | .00 | .00 | .35 | -.10 | -.14 | -.24 | .35 |
| OP | 661334 | C | 21102 | .75 | .03 | .14 | .75 | .08 | .00 | .00 | .29 | -.19 | -.07 | .29 | -.25 |
| OP | 661346 | C | 21102 | .67 | .02 | .22 | .67 | .08 | .00 | .00 | .34 | -.16 | -.23 | .34 | -.13 |
| OP | 661349 | B | 21102 | .57 | .08 | .57 | .08 | .27 | .00 | .00 | .30 | -.12 | .30 | -.24 | -.12 |
| OP | 661351 | D | 21102 | .85 | .04 | .04 | .07 | .85 | .00 | .00 | .46 | -.24 | -.26 | -.26 | .46 |
| OP | 661354 | C | 21102 | .65 | .15 | .12 | .65 | .08 | .00 | .00 | .33 | -.08 | -.25 | .33 | -.17 |
| OP | 661357 | D | 21102 | .57 | .18 | .18 | .07 | .57 | .00 | .00 | .43 | -.14 | -.25 | -.26 | .43 |
| OP | 661361 | C | 21102 | .88 | .07 | .02 | .88 | .03 | .00 | .00 | .33 | -.24 | -.18 | .33 | -.11 |
| OP | 661363 | C | 21102 | .57 | .15 | .10 | .57 | .18 | .00 | .00 | .35 | -.23 | -.25 | .35 | -.04 |
| OP | 690278 | D | 21102 | .66 | .18 | .06 | .09 | .66 | .00 | .00 | .53 | -.21 | -.26 | -.35 | .53 |
| OP | 690279 | A | 21102 | .71 | .71 | .07 | .17 | .05 | .00 | .00 | .36 | .36 | -.28 | -.10 | -.23 |
| OP | 690281 | A | 21102 | .55 | .55 | .12 | .26 | .07 | .00 | .00 | .25 | .25 | -.14 | -.08 | -.17 |
| OP | 690284 | A | 21102 | .66 | .66 | .17 | .04 | .13 | .00 | .00 | .42 | .42 | -.24 | -.18 | -.21 |
| OP | 690291 | C | 21102 | .70 | .08 | .16 | .70 | .07 | .00 | .00 | .33 | -.23 | -.08 | .33 | -.24 |
| OP | 690292 | A | 21102 | .62 | .62 | .09 | .14 | .14 | .00 | .00 | .37 | .37 | -.22 | -.17 | -.16 |
| OP | 690295 | A | 21102 | .83 | .83 | .03 | .11 | .03 | .00 | .00 | .38 | .38 | -.26 | -.23 | -.16 |
| OP | 690297 | C | 21102 | .48 | .08 | .29 | .48 | .15 | .00 | .00 | .37 | -.29 | -.23 | .37 | .00 |
| OP | 690299 | A | 21102 | .58 | .58 | .12 | .26 | .05 | .00 | .00 | .36 | .36 | -.25 | -.13 | -.19 |
| OP | 690302 | A | 21102 | .83 | .83 | .04 | .09 | .04 | .00 | .00 | .44 | .44 | -.28 | -.24 | -.20 |
| OP | 690303 | C | 21102 | .84 | .10 | .04 | .84 | .02 | .00 | .00 | .39 | -.27 | -.20 | .39 | -.15 |
| OP | 690304 | C | 21102 | .66 | .26 | .02 | .66 | .05 | .00 | .00 | .49 | -.32 | -.21 | .49 | -.26 |
| OP | 690308 | C | 21102 | .62 | .08 | .13 | .62 | .17 | .00 | .00 | .30 | -.12 | -.31 | .30 | -.03 |
| OP | 690310 | A | 21102 | .76 | .76 | .03 | .03 | .17 | .00 | .00 | .41 | .41 | -.28 | -.24 | -.21 |
| OP | 690312 | B | 21102 | .62 | .05 | .62 | .07 | .25 | .00 | .00 | .44 | -.23 | .44 | -.18 | -.26 |
| OP | 690315 | B | 21102 | .76 | .04 | .76 | .13 | .07 | .00 | .00 | .42 | -.14 | .42 | -.34 | -.15 |
| OP | 690319 | B | 21102 | .84 | .06 | .84 | .05 | .05 | .00 | .00 | .42 | -.19 | .42 | -.26 | -.22 |
| OP | 690322 | C | 21102 | .76 | .08 | .10 | .76 | .06 | .00 | .00 | .42 | -.23 | -.19 | .42 | -.24 |
| OP | 690324 | C | 21102 | .39 | .10 | .32 | .39 | .19 | .00 | .00 | .27 | -.12 | -.12 | .27 | -.09 |
| OP | 690331 | C | 21102 | .65 | .20 | .07 | .65 | .08 | .00 | .00 | .32 | -.07 | -.30 | .32 | -.17 |

## Grade 11 Science

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 705818 | A | 4789 | .74 | .74 | .08 | .15 | .03 | .00 | .00 | .45 | .45 | -.22 | -.26 | -.24 |
| FT | 705819 | A | 5024 | .49 | .49 | .26 | .22 | .03 | .00 | .00 | .33 | .33 | -.20 | -.16 | -.08 |
| FT | 705820 | C | 3874 | .33 | .37 | .22 | .33 | .08 | .00 | .00 | .21 | -.15 | -.02 | .21 | -.06 |
| FT | 705821 | D | 4024 | .85 | .04 | .09 | .02 | .85 | .00 | .00 | .40 | -.14 | -.30 | -.21 | .40 |
| FT | 705822 | B | 4326 | .67 | .13 | .67 | .10 | .10 | .00 | .00 | .27 | -.33 | .27 | -.10 | .04 |
| FT | 705823 | A | 4081 | .61 | .61 | .22 | .03 | .14 | .00 | .00 | .30 | .30 | -.12 | -.09 | -.23 |
| FT | 705824 | C | 4732 | .64 | .04 | .10 | .64 | .21 | .00 | .00 | .31 | -.22 | -.28 | .31 | -.04 |
| FT | 705825 | C | 5256 | .31 | .21 | .34 | .31 | .13 | .00 | .00 | .10 | .07 | .03 | .10 | -.26 |
| FT | 705826 | D | 3439 | .84 | .03 | .04 | .09 | .84 | .00 | .00 | .38 | -.24 | -.26 | -.16 | .38 |
| FT | 705827 | B | 4568 | .36 | .09 | .36 | .51 | .04 | .00 | .00 | .24 | -.07 | .24 | -.16 | -.06 |
| FT | 705828 | D | 4163 | .71 | .10 | .06 | .13 | .71 | .00 | .00 | .38 | -.20 | -.16 | -.22 | .38 |
| FT | 705829 | B | 4013 | .67 | .05 | .67 | .02 | .25 | .00 | .00 | .32 | -.18 | .32 | -.11 | -.21 |
| FT | 705831 | C | 4103 | .48 | .29 | .03 | .48 | .20 | .00 | .00 | .23 | -.04 | -.15 | .23 | -.17 |
| FT | 705832 | D | 4909 | .18 | .22 | .43 | .17 | .18 | .00 | .00 | .27 | .02 | -.10 | -.17 | .27 |
| FT | 705833 | A | 4041 | .54 | .54 | .23 | .10 | .13 | .00 | .00 | .34 | .34 | -.18 | -.30 | .01 |
| FT | 705834 | D | 4135 | .77 | .06 | .05 | .13 | .77 | .00 | .00 | .42 | -.22 | -.19 | -.25 | .42 |
| FT | 705837 | B | 4011 | .85 | .02 | .85 | .10 | .03 | .00 | .00 | .29 | -.20 | .29 | -.19 | -.11 |
| FT | 705838 | C | 5334 | .62 | .29 | .05 | .62 | .03 | .00 | .00 | .32 | -.16 | -.24 | .32 | -.17 |
| FT | 705839 | A | 4812 | .29 | .29 | .09 | .29 | .34 | .00 | .00 | .12 | .12 | -.18 | -.05 | .04 |
| FT | 705840 | A | 3988 | .26 | .26 | .35 | .16 | .23 | .00 | .00 | .29 | .29 | -.01 | -.19 | -.11 |
| FT | 705841 | B | 4477 | .60 | .23 | .60 | .12 | .05 | .00 | .00 | .42 | -.20 | .42 | -.22 | -.22 |
| FT | 705842 | B | 3981 | .60 | .03 | .60 | .07 | .30 | .00 | .00 | .18 | -.17 | .18 | -.24 | .01 |
| FT | 705843 | A | 4402 | .73 | .73 | .13 | .10 | .04 | .00 | .00 | .39 | .39 | -.16 | -.29 | -.17 |
| FT | 705844 | A | 4538 | .28 | .28 | .19 | .28 | .24 | .00 | .00 | .19 | .19 | -.19 | .07 | -.09 |
| FT | 705845 | B | 4015 | .77 | .04 | .77 | .07 | .12 | .00 | .00 | .33 | -.16 | .33 | -.07 | -.28 |
| FT | 705846 | D | 4524 | .79 | .03 | .14 | .05 | .79 | .00 | .00 | .38 | -.20 | -.24 | -.19 | .38 |
| FT | 705847 | A | 3748 | .31 | .31 | .06 | .30 | .34 | .00 | .00 | .22 | .22 | -.18 | -.23 | .10 |
| FT | 705848 | A | 3822 | .35 | .35 | .36 | .05 | .25 | .00 | .00 | .19 | .19 | -.03 | -.17 | -.09 |
| FT | 705849 | C | 3988 | .61 | .03 | .22 | .61 | .14 | .00 | .00 | .24 | -.12 | -.11 | .24 | -.13 |
| FT | 705850 | B | 4059 | .31 | .11 | .31 | .19 | .39 | .00 | .00 | .17 | -.13 | .17 | -.20 | .08 |
| FT | 705851 | D | 4753 | .17 | .46 | .24 | .13 | .17 | .00 | .00 | .21 | .16 | -.17 | -.26 | .21 |
| FT | 705854 | C | 4391 | .88 | .08 | .02 | .88 | .01 | .00 | .00 | .08 | -.01 | -.09 | .08 | -.10 |
| FT | 705855 | A | 4771 | .69 | .69 | .19 | .09 | .03 | .00 | .00 | .35 | .35 | -.12 | -.27 | -.23 |
| FT | 705856 | C | 3655 | .60 | .10 | .15 | .60 | .15 | .00 | .00 | .37 | -.12 | -.18 | .37 | -.21 |
| FT | 705857 | B | 3386 | .69 | .11 | .69 | .10 | .10 | .00 | .00 | .37 | -.07 | .37 | -.27 | -.22 |
| FT | 705858 | B | 3878 | .33 | .15 | .33 | .24 | .27 | .00 | .00 | .16 | -.15 | .16 | -.13 | .08 |
| FT | 705859 | D | 3839 | .35 | .18 | .20 | .27 | .35 | .00 | .00 | .21 | -.15 | -.10 | -.01 | .21 |
| FT | 705860 | B | 3865 | .48 | .39 | .48 | .09 | .04 | .00 | .00 | .27 | -.07 | .27 | -.23 | -.17 |
| FT | 705861 | D | 4047 | .28 | .49 | .14 | .09 | .28 | .00 | .00 | .18 | .12 | -.20 | -.24 | .18 |
| FT | 705863 | A | 4599 | .59 | .59 | .01 | .29 | .11 | .00 | .00 | .10 | .10 | -.16 | -.08 | .02 |
| FT | 705864 | D | 3938 | .47 | .19 | .14 | .20 | .47 | .00 | .00 | .28 | -.10 | -.21 | -.06 | .28 |

**Grade 11 Science**

| GENERAL | | | COUNTS | PROPORTIONS | | | | | | | CORRELATIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | Key | *N* | *p*-value | A | B | C | D | - | * | Total | A | B | C | D |
| FT | 705865 | A | 3983 | .68 | .68 | .03 | .16 | .14 | .00 | .00 | .36 | .36 | -.22 | -.27 | -.10 |
| FT | 705868 | C | 4435 | .80 | .05 | .05 | .80 | .10 | .00 | .00 | .46 | -.24 | -.25 | .46 | -.25 |
| FT | 705870 | C | 4054 | .44 | .09 | .11 | .44 | .36 | .00 | .00 | .25 | -.11 | -.22 | .25 | -.04 |
| FT | 705871 | D | 4067 | .39 | .28 | .29 | .04 | .39 | .00 | .00 | .05 | -.10 | .16 | -.26 | .05 |
| FT | 705872 | D | 4069 | .27 | .17 | .13 | .43 | .27 | .00 | .00 | .13 | -.09 | -.09 | .02 | .13 |
| FT | 705873 | A | 4084 | .42 | .42 | .23 | .27 | .09 | .00 | .00 | .12 | .12 | -.01 | -.03 | -.14 |
| FT | 705874 | C | 3824 | .10 | .50 | .16 | .10 | .24 | .00 | .00 | .02 | .00 | -.10 | .02 | .07 |
| FT | 705875 | C | 4055 | .71 | .12 | .06 | .71 | .12 | .00 | .00 | .39 | -.29 | -.16 | .39 | -.15 |
| FT | 705876 | D | 4061 | .71 | .08 | .11 | .09 | .71 | .00 | .00 | .53 | -.23 | -.27 | -.31 | .53 |

# APPENDIX I: OVERVIEW OF RASCH MEASUREMENT

Most psychometricians agree that, when possible, the Rasch model is the preferred approach to manage the assessment and reporting processes (Rasch, 1960; Wright & Stone, 1979; Smith & Smith, 2004; Mead, 2008). For non-statisticians, the most compelling reasons may be that the Rasch model:

- is simple to apply, and
- preserves the number-correct ordering.

Simplicity makes the methods (relatively) easy to explain and the results to interpret. The results are straightforward and readily defended in front of administrators, parents, educators, and courts. And nontrivially, the simplicity helps meet the increasingly demanding time lines for reporting.

With number-correct scoring, students with more correct responses are always considered more proficient than students with fewer correct. This is intuitively obvious, based on more than a century of experience using and interpreting such scores.

For statisticians, the attractions of the Rasch model are more esoteric, including:

- an interval scale of measurement,
- meaningful estimates of the standard errors at each raw score, and,
- simple sufficient statistics for person and item parameters.

The interval scale makes it possible to construct a ruler and place the students and the items on the same ruler, along with any performance expectations or normative information. A difference of, say, 10 scale score units will have the same meaning at any point along the scale and will have the same implications when comparing a student to earlier assessments, to an item, to normative information, to expectations, to a growth target, or to another student.

The sufficient statistics are essential to the simplicity. They make it possible to derive estimation equations for person parameters that do not involve the item parameters and for the item parameters that do not involve person parameters. It does not matter which items are used for the assessment or which students are used for the calibration, given the items are appropriate for the students.

Still more compelling, once the sufficient statistics have been extracted, there is nothing remaining in the data that is directly relevant to the measurement. Any residual information can be used to control and monitor the model. The residuals contain diagnostic information about the student's performance on specific items or clusters of items.

The model does, however, place special demands on the item development and test construction processes. In essence, the model requires that all items, while imperfect, be equally valid and reliable instances of the construct. When sufficient care is taken in item and test development, most achievement test data can adequately satisfy the demands of the model and help realize its advantages of valid measurement, quality control, and effective, timely reporting.

**The Rasch Philosophy of Measurement**

George Rasch (1960), to derive data that he considered worthy of the name measurement, reasoned that the interaction between the person and the item must be governed by a single person parameter (ability) and a single item parameter (difficulty). If person *A* has more ability than person *B*, then *A* is more likely than *B* to answer any item correctly. If item *i* is more difficult than item *j*, then any person is less likely to answer item *i* correctly. These two common sense assertions are axiomatic to Rasch Measurement and must hold regardless of any other characteristics of the people or the items.

This reasoning led Rasch to the simple logistic model, which had several very useful and closely related properties touched on above (Rasch, 1960, 1977):

- *Simplicity*, which allows straightforward calculations, ready communication, and interpretation of the measures (Wright & Stone, 1979),
- *Separability* of the model parameters (Rasch, 1960),
- *Sufficiency* that does not involve the parameters (Andersen, 1977),
- *Specific objectivity*, sometimes called *person-free[d]* calibration and *item-free[d]* measurement (Wright, 1968), and

*Specific objectivity* means that the estimation equations for ability do not involve the difficulty parameters, and the equations for difficulty do not involve the ability parameters. Specific objectivity is possible when *sufficient statistics* for the parameters exist. The sufficient statistics exist because the parameters are *separable* in the model.

In practical terms, the students can be ordered on the measurement continuum by their number correct scores and the items can be ordered on the same continuum by the number of correct responses. No other information is necessary for the measurement and anything remaining in the data can be used to control and monitor fit to the model. Specific objectivity is the cornerstone of the Rasch family of measurement models (Wright & Mok, 1980).

# THE MODEL FOR MEASUREMENT

*Dichotomous Items*

Multiple-choice items (MC) are calibrated using the most familiar form of the model (Rasch, 1960; Wright & Panchapakesan, 1969; Wright & Stone 1979; Andrich, 1988; Fischer & Molenaar, 1995; Smith & Smith, 2004). The Rasch model applicable to dichotomously scored items, given person ability and item difficulty, can be seen in the basic statement of the model.

*The probability of success for a person with ability $\beta_v$ on an item with difficulty $\delta_i$ is a function of the difference between the ability of the person and the difficulty of the item; mathematically:*

**1.** $$P(right \mid \beta_v, \delta_i) = \frac{e^{\beta_v - \delta_i}}{1 + e^{\beta_v - \delta_i}} = \frac{B_v}{B_v + \Delta_,}, \text{ where } B_v = e^{\beta_v} \text{ and } \Delta_i = e^{\delta_i}.$$

This is the probability of scoring one rather than zero on an item for which those are the only possibilities. This expression results in the familiar S-shaped curve relating the ability-difficulty metric to number correct score. Its simplicity makes it especially suited for educational assessment by drawing a clear distinction between the information (captured in the parameter estimates by the sufficient statistics) relevant to estimating the ability property that all examinees share and the information relevant to describing unique characteristics of individuals.

The model returns the identical estimated ability for every student with the same number correct score on a form. In the estimation phase, there is no distinction between the student who passes the easy item and misses the difficult items and the student who misses the easy items and passes the difficult ones. At the control and diagnostic stage, there is a great deal of difference between the two situations. In the first, there is a very clear statement of the person's true location on the construct; in the second, there are two very different statements when the two halves of the test are viewed separately.

This is the stage at which Rasch focuses his concern for the control of the model. The model itself provides a probability statement about any outcome. Typically, one examines the residuals, which can be expressed as the odds against the observed response. When these are collected and dissected, the conclusion for the first student would be nothing surprising occurred; for the second student, most of the responses were surprising. This diagnostic information can be put to good use when reporting and interpreting the test scores.

The strong measurement model is the instrument for understanding the scores, whether it concludes the student was accurately and validly measured or not. It will help lead the teacher and students to the most appropriate next steps.

## CALIBRATION: ESTIMATING ITEM DIFFICULTIES

DRC uses the Rasch measurement model to estimate the student proficiencies and to control the assessment process. The model provides straightforward algorithms to compute ability estimates on a unidimensional, equal-interval scale of measurement from the number correct scores.

WINSTEPS (2015) implements the joint maximum likelihood estimation procedure (Linacre, 2015) for estimating item difficulties. This calibration software is commercially available and widely used in the testing industry. In addition to performing item calibration and ability estimation, the capabilities of the WINSTEPS program will be utilized to assess unidimensionality, item interdependence, and other deviations from the model. The program also has several options for exploring the person-item residual matrix (Mead, 1976, 2008; Ludlow 1986; Smith, 2000).

In the simplest formulation, estimating either the item difficulty or the person ability involves solving the fundamental equation that states the observed score must equal the expected score. For example, the ability estimate for a person who scores *r* on a set of *L* items is derived from:

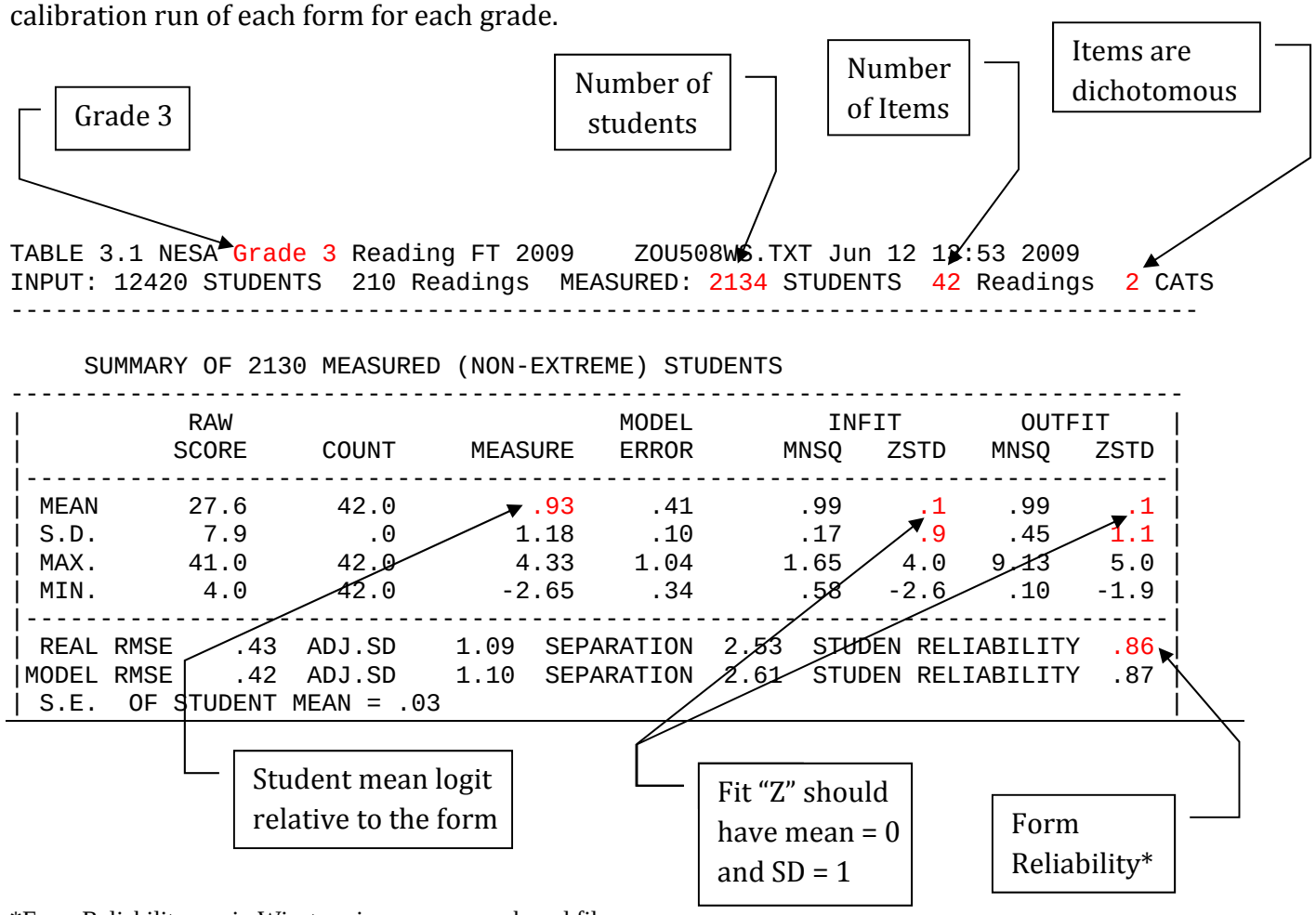
**2.** $r_v = \sum_{i=1}^{L} \sum_{k=0}^{m_i} k\hat{P}_{vik}$ , where $\hat{P}_{vik}$ is defined by (1) with estimates replacing the parameters.

Rasch calibration and scaling have become relatively routine operations. Members of the DRC psychometric staff have been instrumental in the development of the Rasch model and its application over several decades and are intimately familiar with the software for its application.

# Appendix J: Reading, Mathematics, and Science Operational Form Calibration Summaries

Winsteps Table 3.1 Interpretation Guide

Tables in this Appendix are taken directly from the Winsteps output file and summarize calibration run of each form for each grade.




*Form Reliability run in Winsteps is run on an anchored file

# Reading

## Grade 3

TABLE 3.1 State NE READING Spring 2015 TR G RE03_TR_A_OUT.txt Sep 16 2015 14:20
INPUT: 23013 Student 45 READ REPORTED: 23013 Student 45 READ 2 CATS WINSTEPS 3.90.0

SUMMARY OF 22752 MEASURED (NON-EXTREME) Student

| | TOTAL | | | MODEL | | INFIT | | OUTFIT | |
|---|---|---|---|---|---|---|---|---|---|
| | SCORE | COUNT | MEASURE | S.E. | MNSQ | ZSTD | MNSQ | ZSTD |
| MEAN | 30.4 | 45.0 | .6456 | .4033 | 1.00 | .1 | .99 | .1 |
| P.SD | 9.2 | .3 | 1.2203 | .1421 | .08 | .6 | .20 | .7 |
| S.SD | 9.2 | .3 | 1.2203 | .1421 | .08 | .6 | .20 | .7 |
| MAX. | 44.0 | 45.0 | 3.5892 | 1.0183 | 1.38 | 4.2 | 4.54 | 4.3 |
| MIN. | 3.0 | 18.0 | -3.1463 | .3101 | .74 | -3.6 | .42 | -3.4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| REAL RMSE | .4330 | TRUE SD | 1.1409 | SEPARATION | 2.64 | Studen RELIABILITY .87 |
| MODEL RMSE | .4276 | TRUE SD | 1.1429 | SEPARATION | 2.67 | Studen RELIABILITY .88 |

S.E. OF Student MEAN = .0081

## Grade 4

TABLE 3.1 State NE READING Spring 2015 TR G RE04_TR_A_OUT.txt Sep 16 2015 15:36
INPUT: 22590 Student 45 READ REPORTED: 22590 Student 45 READ 2 CATS WINSTEPS 3.90.0

SUMMARY OF 22456 MEASURED (NON-EXTREME) Student

| | TOTAL | | | MODEL | | INFIT | | OUTFIT | |
|---|---|---|---|---|---|---|---|---|---|
| | SCORE | COUNT | MEASURE | S.E. | MNSQ | ZSTD | MNSQ | ZSTD |
| MEAN | 30.5 | 45.0 | .4913 | .3905 | 1.01 | .1 | 1.01 | .1 |
| P.SD | 8.3 | .4 | 1.1013 | .1196 | .09 | .7 | .23 | .8 |
| S.SD | 8.3 | .4 | 1.1013 | .1196 | .09 | .7 | .23 | .8 |
| MAX. | 44.0 | 45.0 | 3.5016 | 1.0368 | 1.42 | 3.6 | 6.82 | 3.6 |
| MIN. | 2.0 | 20.0 | -3.7912 | .3135 | .74 | -3.1 | .29 | -2.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| REAL RMSE | .4153 | TRUE SD | 1.0200 | SEPARATION | 2.46 | Studen RELIABILITY .86 |
| MODEL RMSE | .4084 | TRUE SD | 1.0228 | SEPARATION | 2.50 | Studen RELIABILITY .86 |

S.E. OF Student MEAN = .0073

## Grade 5

TABLE 3.1 State NE READING Spring 2015 TR G RE05_TR_A_OUT.txt Sep 16 2015 15:36
INPUT: 22878 Student 48 READ REPORTED: 22878 Student 48 READ 2 CATS WINSTEPS 3.90.0

SUMMARY OF 22714 MEASURED (NON-EXTREME) Student

| | TOTAL | | | MODEL | | INFIT | | OUTFIT | |
|---|---|---|---|---|---|---|---|---|---|
| | SCORE | COUNT | MEASURE | S.E. | MNSQ | ZSTD | MNSQ | ZSTD |
| MEAN | 33.8 | 48.0 | .7154 | .3950 | 1.00 | .1 | .96 | .0 |
| P.SD | 8.9 | .2 | 1.1443 | .1281 | .10 | .7 | .23 | .8 |
| S.SD | 8.9 | .2 | 1.1444 | .1281 | .10 | .7 | .23 | .8 |
| MAX. | 47.0 | 48.0 | 3.6498 | 1.0209 | 1.52 | 4.9 | 4.78 | 4.8 |
| MIN. | 3.0 | 21.0 | -3.3703 | .3052 | .70 | -3.2 | .28 | -3.1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| REAL RMSE | .4211 | TRUE SD | 1.0640 | SEPARATION | 2.53 | Studen RELIABILITY .86 |
| MODEL RMSE | .4152 | TRUE SD | 1.0663 | SEPARATION | 2.57 | Studen RELIABILITY .87 |

S.E. OF Student MEAN = .0076

## Grade 6

```
TABLE 3.1 State NE READING Spring 2015 TR G RE06_TR_A_OUT.txt  Sep 16 2015 15:37
INPUT: 22377 Student  48 READ  REPORTED: 22377 Student  48 READ  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------------

     SUMMARY OF 22261 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      33.7      48.0       .5615   .3925      1.01     .2    .99     .1 |
| P.SD       8.9        .3      1.1368   .1236       .09     .7    .22     .8 |
| S.SD       8.9        .3      1.1368   .1236       .09     .7    .22     .8 |
| MAX.      47.0      48.0      3.5124  1.0210      1.45    4.0   4.07    3.7 |
| MIN.       3.0      20.0     -3.5247   .3059       .70   -3.5    .34   -3.3 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .4184 TRUE SD  1.0570  SEPARATION  2.53  Studen RELIABILITY  .86 |
|MODEL RMSE  .4115 TRUE SD  1.0597  SEPARATION  2.57  Studen RELIABILITY  .87 |
| S.E. OF Student MEAN = .0076                                                |
-------------------------------------------------------------------------------
```

## Grade 7

```
TABLE 3.1 State NE READING Spring 2015 TR G RE07_TR_A_OUT.txt  Sep 16 2015 15:38
INPUT: 22212 Student  48 READ  REPORTED: 22212 Student  48 READ  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------------

     SUMMARY OF 22041 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      33.2      48.0       .6215   .3942      1.00     .1    .96     .0 |
| P.SD       9.5        .5      1.1961   .1302       .09     .7    .20     .8 |
| S.SD       9.5        .5      1.1961   .1302       .09     .7    .20     .8 |
| MAX.      47.0      48.0      3.6091  1.0207      1.52    3.5   3.62    3.8 |
| MIN.       3.0      21.0     -3.3999   .3045       .73   -3.2    .29   -3.1 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .4212 TRUE SD  1.1195  SEPARATION  2.66  Studen RELIABILITY  .88 |
|MODEL RMSE  .4151 TRUE SD  1.1218  SEPARATION  2.70  Studen RELIABILITY  .88 |
| S.E. OF Student MEAN = .0081                                                |
-------------------------------------------------------------------------------
```

## Grade 8

```
TABLE 3.1 State NE READING Spring 2015 TR G RE08_TR_A_OUT.txt  Sep 17 2015  8:57
INPUT: 21904 Student  50 READ  REPORTED: 21904 Student  50 READ  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------------

     SUMMARY OF 21854 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      34.3      50.0       .4050   .3698      1.00     .1    .98     .0 |
| P.SD       9.3        .7      1.0772   .1020       .09     .7    .19     .8 |
| S.SD       9.3        .7      1.0772   .1020       .09     .7    .19     .8 |
| MAX.      49.0      50.0      3.4872  1.0191      1.40    4.0   4.42    4.1 |
| MIN.       4.0      19.0     -2.9738   .2963       .71   -3.4    .25   -3.2 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3892 TRUE SD  1.0044  SEPARATION  2.58  Studen RELIABILITY  .87 |
|MODEL RMSE  .3836 TRUE SD  1.0066  SEPARATION  2.62  Studen RELIABILITY  .87 |
| S.E. OF Student MEAN = .0073                                                |
-------------------------------------------------------------------------------
```

### Grade 11

```
TABLE 3.1 State NE READING Spring 2015 TR G RE11_TR_A_OUT.txt  Sep 16 2015 15:40
INPUT: 21125 Student  50 READ  REPORTED: 21125 Student  50 READ  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 21002 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      34.6      50.0       .2181   .3845      1.01     .1    .99     .1 |
| P.SD       9.6       1.0      1.1715   .1213       .10     .8    .24     .9 |
| S.SD       9.6       1.0      1.1715   .1213       .10     .8    .24     .9 |
| MAX.      49.0      50.0      3.2779  1.0397      1.47    4.1   4.15    4.2 |
| MIN.       2.0      20.0     -3.5869   .3028       .69   -3.3    .40   -3.2 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .4104 TRUE SD  1.0972  SEPARATION  2.67  Studen RELIABILITY  .88 |
|MODEL RMSE  .4032 TRUE SD  1.0999  SEPARATION  2.73  Studen RELIABILITY  .88 |
| S.E. OF Student MEAN = .0081                                                |
-------------------------------------------------------------------------------
```

# Mathematics

### Grade 3

```
TABLE 3.1 State NE MATH Spring 2015 Grade 3   MA03_TR_OUT.txt  Sep 17 2015  9:28
INPUT: 23130 Student  50 MATH  REPORTED: 23130 Student  50 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 22912 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      33.7      50.0       .3442   .3815      1.01     .1   1.02     .1 |
| P.SD       9.8        .2      1.2064   .1308       .09     .7    .27     .8 |
| S.SD       9.8        .2      1.2065   .1308       .09     .7    .27     .8 |
| MAX.      49.0      50.0      3.4884  1.0213      1.48    4.1   6.84    4.1 |
| MIN.       2.0      25.0     -4.1166   .3007       .70   -3.3    .33   -3.2 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .4107 TRUE SD  1.1344  SEPARATION  2.76  Studen RELIABILITY  .88 |
|MODEL RMSE  .4033 TRUE SD  1.1370  SEPARATION  2.82  Studen RELIABILITY  .89 |
| S.E. OF Student MEAN = .0080                                                |
-------------------------------------------------------------------------------
```

### Grade 4

```
TABLE 3.1 State NE MATH Spring 2015 Grade 4   MA04_TR_OUT.txt  Sep 17 2015  9:39
INPUT: 22685 Student  55 MATH  REPORTED: 22685 Student  55 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 22552 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      37.1      55.0       .3686   .3638      1.01     .1   1.00     .1 |
| P.SD      10.8        .2      1.2021   .1249       .09     .7    .24     .8 |
| S.SD      10.8        .2      1.2021   .1249       .09     .7    .24     .8 |
| MAX.      54.0      55.0      3.5951  1.0205      1.40    3.7   5.13    3.9 |
| MIN.       1.0      28.0     -4.9280   .2871       .72   -3.1    .34   -2.9 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3908 TRUE SD  1.1368  SEPARATION  2.91  Studen RELIABILITY  .89 |
|MODEL RMSE  .3846 TRUE SD  1.1389  SEPARATION  2.96  Studen RELIABILITY  .90 |
| S.E. OF Student MEAN = .0080                                                |
-------------------------------------------------------------------------------
```

## Grade 5

```
TABLE 3.1 State NE MATH Spring 2015 Grade 5   MA05_TR_OUT.txt  Sep 17 2015  9:40
INPUT: 22946 Student  55 MATH  REPORTED: 22946 Student  55 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------------

     SUMMARY OF 22643 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      37.8      55.0       .3989   .3733      1.02     .2   1.03     .2 |
| P.SD      10.7        .4      1.2291   .1435       .08     .7    .25     .8 |
| S.SD      10.7        .4      1.2291   .1435       .08     .7    .25     .8 |
| MAX.      54.0      55.0      3.5320  1.0200      1.39    4.0   6.59    4.1 |
| MIN.       1.0      28.0     -4.9436   .2846       .74   -3.3    .26   -3.1 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .4072 TRUE SD  1.1597  SEPARATION  2.85  Studen RELIABILITY  .89 |
|MODEL RMSE  .3999 TRUE SD  1.1622  SEPARATION  2.91  Studen RELIABILITY  .89 |
| S.E. OF Student MEAN = .0082                                                |
-------------------------------------------------------------------------------
```

## Grade 6

```
TABLE 3.1 State NE MATH Spring 2015 Grade 6   MA06_TR_OUT.txt  Sep 17 2015  9:40
INPUT: 22445 Student  58 MATH  REPORTED: 22445 Student  58 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------------

     SUMMARY OF 22272 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      38.9      58.0       .3538   .3541      1.00     .1    .99     .0 |
| P.SD      11.8        .3      1.2204   .1265       .08     .7    .20     .8 |
| S.SD      11.8        .3      1.2205   .1265       .08     .7    .20     .8 |
| MAX.      57.0      58.0      3.6169  1.0174      1.45    4.4   4.08    4.6 |
| MIN.       2.0      29.0     -4.1744   .2755       .76   -3.2    .32   -3.0 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3809 TRUE SD  1.1595  SEPARATION  3.04  Studen RELIABILITY  .90 |
|MODEL RMSE  .3760 TRUE SD  1.1611  SEPARATION  3.09  Studen RELIABILITY  .91 |
| S.E. OF Student MEAN = .0082                                                |
-------------------------------------------------------------------------------
```

## Grade 7

```
TABLE 3.1 State NE MATH Spring 2015 Grade 7   MA07_TR_OUT.txt  Sep 17 2015  9:41
INPUT: 22285 Student  58 MATH  REPORTED: 22203 Student  58 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------------

     SUMMARY OF 21925 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      38.5      58.0       .3922   .3598      1.00     .1    .98     .1 |
| P.SD      12.3        .9      1.2885   .1388       .09     .7    .21     .9 |
| S.SD      12.3        .9      1.2885   .1388       .09     .7    .21     .9 |
| MAX.      57.0      58.0      3.6753  1.0172      1.38    4.0   4.86    4.0 |
| MIN.       2.0      29.0     -4.0886   .2743       .75   -2.9    .25   -2.8 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3905 TRUE SD  1.2279  SEPARATION  3.14  Studen RELIABILITY  .91 |
|MODEL RMSE  .3856 TRUE SD  1.2294  SEPARATION  3.19  Studen RELIABILITY  .91 |
| S.E. OF Student MEAN = .0087                                                |
-------------------------------------------------------------------------------
```

### Grade 8

```
TABLE 3.1 State NE MATH Spring 2015 Grade 8   MA08_TR_OUT.txt  Sep 17 2015  9:41
INPUT: 21985 Student  60 MATH  REPORTED: 21985 Student  60 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 21722 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      39.4      60.0       .2608   .3512      1.01     .2   1.02     .2 |
| P.SD      12.6        .6      1.2871   .1344       .09     .8    .23     .9 |
| S.SD      12.6        .6      1.2871   .1344       .09     .8    .23     .9 |
| MAX.      59.0      60.0      3.6372  1.0180      1.40    4.0   5.00    4.0 |
| MIN.       1.0      30.0     -4.9806   .2722       .76   -3.3    .35   -3.1 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3823 TRUE SD  1.2290  SEPARATION  3.21  Studen RELIABILITY  .91 |
|MODEL RMSE  .3760 TRUE SD  1.2309  SEPARATION  3.27  Studen RELIABILITY  .91 |
| S.E. OF Student MEAN = .0087                                                |
-------------------------------------------------------------------------------
```

### Grade 11

```
TABLE 3.1 State NE MATH Spring 2015 Grade 11  MA11_TR_OUT.txt  Sep 17 2015  9:42
INPUT: 21107 Student  60 MATH  REPORTED: 21107 Student  60 MATH  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 20892 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      38.3      60.0       .1943   .3448      1.00     .1    .99     .1 |
| P.SD      12.9       1.0      1.2835   .1288       .08     .7    .19     .9 |
| S.SD      12.9       1.0      1.2835   .1288       .08     .7    .19     .9 |
| MAX.      59.0      60.0      3.6634  1.0172      1.32    3.7   5.25    3.8 |
| MIN.       1.0      30.0     -4.8990   .2697       .75   -3.7    .22   -3.4 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3733 TRUE SD  1.2280  SEPARATION  3.29  Studen RELIABILITY  .92 |
|MODEL RMSE  .3681 TRUE SD  1.2296  SEPARATION  3.34  Studen RELIABILITY  .92 |
| S.E. OF Student MEAN = .0089                                                |
-------------------------------------------------------------------------------
```

# Science

### Grade 5

```
TABLE 3.1 State NE SCIENCE Spring 2015 Grade  SC05_TR_OUT.txt  Sep 17 2015  9:57
INPUT: 22949 Student  50 SCIE  REPORTED: 22949 Student  50 SCIE  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 22891 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      33.9      50.0       .1978   .3642      1.01     .1    .99     .1 |
| P.SD       8.7        .2      1.0306   .0999       .10     .7    .20     .8 |
| S.SD       8.7        .2      1.0307   .0999       .10     .7    .20     .8 |
| MAX.      49.0      50.0      3.3702  1.0205      1.45    3.8   3.49    3.8 |
| MIN.       2.0      25.0     -4.1913   .3000       .69   -3.2    .34   -3.1 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3843 TRUE SD   .9563  SEPARATION  2.49  Studen RELIABILITY  .86 |
|MODEL RMSE  .3777 TRUE SD   .9590  SEPARATION  2.54  Studen RELIABILITY  .87 |
| S.E. OF Student MEAN = .0068                                                |
-------------------------------------------------------------------------------
```

## Grade 8

```
TABLE 3.1 State NE SCIENCE Spring 2015 Grade  SC08_TR_OUT.txt  Sep 17 2015  9:57
INPUT: 21993 Student  60 SCIE  REPORTED: 21993 Student  60 SCIE  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 21946 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      39.6      60.0       .1893   .3311      1.00     .1   1.00     .1 |
| P.SD      11.2        .8      1.0876   .0991       .08     .7    .19     .9 |
| S.SD      11.2        .8      1.0876   .0992       .08     .7    .19     .9 |
| MAX.      59.0      60.0      3.5989  1.0181      1.42    4.5   5.20    4.5 |
| MIN.       1.0      30.0     -5.0254   .2726       .73   -3.6    .38   -3.4 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3505 TRUE SD  1.0296  SEPARATION  2.94  Studen RELIABILITY  .90 |
|MODEL RMSE  .3457 TRUE SD  1.0312  SEPARATION  2.98  Studen RELIABILITY  .90 |
| S.E. OF Student MEAN = .0073                                                |
-------------------------------------------------------------------------------
```

## Grade 11

```
TABLE 3.1 State NE SCIENCE Spring 2015 Grade  SC11_TR_OUT.txt  Sep 17 2015  9:58
INPUT: 21102 Student  60 SCIE  REPORTED: 21102 Student  60 SCIE  2 CATS WINSTEPS 3.90.0
-------------------------------------------------------------------------------

     SUMMARY OF 21063 MEASURED (NON-EXTREME) Student
-------------------------------------------------------------------------------
|          TOTAL                          MODEL         INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE    S.E.      MNSQ   ZSTD   MNSQ   ZSTD |
|-----------------------------------------------------------------------------|
| MEAN      39.9      60.0       .2024   .3303      1.00     .1    .99     .0 |
| P.SD      11.2        .9      1.0720   .0949       .08     .7    .16     .8 |
| S.SD      11.2        .9      1.0720   .0949       .08     .7    .16     .8 |
| MAX.      59.0      60.0      3.5872  1.0169      1.36    4.1   3.74    4.2 |
| MIN.       3.0      30.0     -3.8282   .2703       .76   -3.3    .30   -3.2 |
|-----------------------------------------------------------------------------|
| REAL RMSE  .3484 TRUE SD  1.0138  SEPARATION  2.91  Studen RELIABILITY  .89 |
|MODEL RMSE  .3437 TRUE SD  1.0154  SEPARATION  2.95  Studen RELIABILITY  .90 |
| S.E. OF Student MEAN = .0074                                                |
-------------------------------------------------------------------------------
```

# Appendix K: Reading Item Bank Difficulties

## Grade 3 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16096 | 23027 | -.5464A | .0162 | .98 | -2.5 | .92 | -5.6 | .45 | .40 | 75.3 | 75.4 | .1111 | 658138_OP |
| 2 | 13755 | 23027 | -.1470A | .0155 | 1.06 | 9.4 | 1.08 | 6.1 | .42 | .42 | 69.5 | 72.5 | .2757 | 658139_OP |
| 3 | 12237 | 23027 | .5917A | .0150 | 1.00 | -.6 | 1.00 | .3 | .43 | .43 | 70.8 | 70.2 | -.1218 | 658140_OP |
| 4 | 14861 | 23027 | .0305A | .0153 | .98 | -2.4 | 1.00 | -.3 | .41 | .42 | 72.7 | 71.5 | -.1660 | 658142_OP |
| 5 | 17307 | 23027 | -.7922A | .0169 | .87 | -9.9 | .76 | -9.9 | .51 | .38 | 80.4 | 77.7 | .0309 | 658144_OP |
| 6 | 18684 | 23027 | -1.3515A | .0190 | 1.00 | -.2 | .85 | -6.7 | .45 | .34 | 82.4 | 83.6 | .1731 | 658147_OP |
| 7 | 16047 | 23027 | -.4134A | .0159 | .92 | -9.9 | .85 | -9.9 | .47 | .40 | 76.5 | 74.3 | -.0120 | 658151_OP |
| 8 | 20060 | 23027 | -1.4074A | .0193 | .79 | -9.9 | .62 | -9.9 | .39 | .33 | 87.6 | 84.1 | -.3126 | 658152_OP |
| 9 | 17908 | 23027 | -.7452A | .0168 | .91 | -9.9 | .85 | -9.3 | .40 | .38 | 79.9 | 77.3 | -.1989 | 658159_OP |
| 10 | 17169 | 23027 | -.6977A | .0166 | 1.01 | 1.6 | 1.01 | .8 | .37 | .39 | 76.6 | 76.8 | -.0265 | 658160_OP |
| 11 | 11223 | 23027 | .6441A | .0150 | 1.15 | 9.9 | 1.21 | 9.9 | .30 | .43 | 64.2 | 70.2 | .0528 | 658162_OP |
| 12 | 16161 | 23021 | -.6145A | .0164 | 1.06 | 7.1 | 1.12 | 7.2 | .40 | .39 | 74.8 | 76.1 | .1627 | 658165_OP |
| 13 | 13284 | 23021 | .1390A | .0152 | 1.06 | 9.5 | 1.06 | 5.4 | .38 | .43 | 68.6 | 71.0 | .0946 | 658166_OP |
| 14 | 14332 | 23021 | -.3425A | .0158 | 1.04 | 5.5 | 1.02 | 1.4 | .47 | .41 | 72.0 | 73.8 | .3379 | 658167_OP |
| 15 | 18095 | 23021 | -.9959A | .0176 | 1.02 | 2.5 | 1.05 | 2.7 | .34 | .37 | 79.9 | 79.8 | .0004 | 658170_OP |
| 16 | 15514 | 23021 | -.2929A | .0157 | 1.12 | 9.9 | 1.17 | 9.9 | .30 | .41 | 69.0 | 73.4 | .0005 | 658171_OP |
| 17 | 17087 | 23021 | -.9519A | .0174 | 1.07 | 7.6 | .98 | -1.0 | .43 | .37 | 76.7 | 79.3 | .2558 | 658172_OP |
| 18 | 17389 | 23021 | -1.1647A | .0182 | 1.14 | 9.9 | 1.07 | 3.3 | .43 | .35 | 77.1 | 81.6 | .3857 | 658173_OP |
| 19 | 17194 | 23021 | -.4702A | .0161 | .92 | -9.9 | .86 | -9.9 | .40 | .40 | 77.1 | 74.8 | -.2694 | 658175_OP |
| 20 | 13719 | 23021 | .2824A | .0151 | 1.06 | 9.9 | 1.08 | 7.6 | .36 | .43 | 67.9 | 70.6 | -.1501 | 687491_OP |
| 21 | 17572 | 23021 | -.9366A | .0174 | .94 | -7.3 | .85 | -8.5 | .48 | .37 | 80.2 | 79.2 | .1001 | 687492_OP |
| 22 | 14492 | 23021 | .0170A | .0153 | .98 | -2.5 | .99 | -1.1 | .43 | .42 | 72.6 | 71.6 | -.0640 | 687493_OP |
| 23 | 11905 | 23021 | .5430A | .0150 | 1.07 | 9.9 | 1.11 | 9.9 | .38 | .43 | 67.5 | 70.2 | .0006 | 687494_OP |
| 24 | 17532 | 23021 | -.8281A | .0170 | 1.01 | 1.1 | 1.00 | .2 | .37 | .38 | 77.7 | 78.1 | .0003 | 687495_OP |
| 25 | 11334 | 23021 | .6985A | .0150 | .97 | -5.6 | .95 | -5.5 | .46 | .43 | 71.7 | 70.3 | -.0267 | 687496_OP |
| 26 | 11537 | 23021 | .6853A | .0150 | .99 | -1.9 | .98 | -2.2 | .44 | .43 | 70.7 | 70.3 | -.0590 | 687499_OP |
| 27 | 14063 | 23021 | -.1189A | .0154 | .97 | -4.1 | .90 | -8.6 | .48 | .42 | 72.2 | 72.3 | .1750 | 687501_OP |
| 28 | 15599 | 23021 | -.2206A | .0156 | .87 | -9.9 | .78 | -9.9 | .52 | .41 | 77.3 | 72.9 | -.0946 | 687503_OP |
| 29 | 16383 | 23021 | -.2719A | .0157 | .88 | -9.9 | .82 | -9.9 | .47 | .41 | 77.2 | 73.3 | -.2470 | 687504_OP |
| 30 | 17829 | 23021 | -.6119A | .0164 | .83 | -9.9 | .72 | -9.9 | .46 | .39 | 80.9 | 76.0 | -.3140 | 687510_OP |
| 31 | 16295 | 23021 | -.7230A | .0167 | 1.08 | 9.7 | 1.08 | 4.8 | .41 | .39 | 74.6 | 77.1 | .2379 | 687511_OP |
| 32 | 14039 | 23021 | .0616A | .0152 | 1.07 | 9.9 | 1.07 | 6.0 | .37 | .42 | 68.3 | 71.4 | -.0020 | 687512_OP |
| 33 | 13827 | 23021 | .1027A | .0152 | .94 | -9.9 | .89 | -9.9 | .48 | .43 | 73.2 | 71.2 | .0060 | 687514_OP |
| 34 | 15260 | 23027 | -.0314A | .0153 | .92 | -9.9 | .87 | -9.9 | .46 | .42 | 74.8 | 71.8 | -.2013 | 687515_OP |
| 35 | 14129 | 23027 | -.2450A | .0156 | 1.13 | 9.9 | 1.24 | 9.9 | .37 | .41 | 69.4 | 73.1 | .2878 | 687518_OP |
| 36 | 14633 | 23027 | .1920A | .0151 | .91 | -9.9 | .87 | -9.9 | .49 | .43 | 74.5 | 70.8 | -.2741 | 687519_OP |
| 37 | 14173 | 23027 | -.0656A | .0154 | 1.11 | 9.9 | 1.16 | 9.9 | .34 | .42 | 67.9 | 72.0 | .0960 | 687521_OP |
| 38 | 17282 | 23027 | -.6563A | .0165 | .91 | -9.9 | .81 | -9.9 | .45 | .39 | 78.8 | 76.4 | -.1018 | 687522_OP |
| 39 | 15309 | 23027 | -.2058A | .0156 | .89 | -9.9 | .82 | -9.9 | .51 | .41 | 76.7 | 72.8 | -.0359 | 687523_OP |
| 40 | 13604 | 23027 | .3475A | .0150 | 1.13 | 9.9 | 1.16 | 9.9 | .30 | .43 | 64.7 | 70.4 | -.1881 | 687525_OP |
| 41 | 14813 | 23021 | -.1708A | .0155 | 1.05 | 7.1 | 1.07 | 5.9 | .38 | .42 | 71.1 | 72.6 | .0492 | 687528_OP |
| 42 | 16100 | 23021 | -.6371A | .0165 | 1.02 | 2.2 | .97 | -2.0 | .45 | .39 | 75.2 | 76.3 | .2014 | 687531_OP |
| 43 | 18588 | 23021 | -.8950A | .0172 | .84 | -9.9 | .74 | -9.9 | .42 | .37 | 82.9 | 78.8 | -.2682 | 687533_OP |
| 44 | 18580 | 23021 | -1.2305A | .0185 | 1.10 | 9.3 | 1.32 | 9.9 | .28 | .35 | 81.2 | 82.3 | .0827 | 687534_OP |
| 45 | 20240 | 23021 | -1.7246A | .0211 | .90 | -7.8 | .82 | -6.4 | .36 | .30 | 88.2 | 87.3 | -.0671 | 687535_OP |
| 46 | 1714 | 6280 | 1.6813 | .0321 | 1.27 | 9.9 | 1.67 | 9.9 | .15 | .40 | 72.8 | 77.6 | -.0004 | 706352_FT |
| 47 | 5321 | 6280 | -1.6802 | .0375 | .85 | -7.0 | .64 | -8.3 | .47 | .31 | 85.5 | 84.8 | -.0005 | 706353_FT |
| 48 | 4389 | 6280 | -.6465 | .0305 | .95 | -3.5 | .90 | -3.7 | .44 | .40 | 75.2 | 74.1 | -.0005 | 706354_FT |
| 49 | 2767 | 6280 | .7248 | .0289 | 1.19 | 9.9 | 1.26 | 9.9 | .27 | .43 | 63.8 | 71.0 | -.0004 | 706355_FT |
| 50 | 3619 | 6280 | .0227 | .0288 | 1.10 | 8.1 | 1.15 | 7.2 | .34 | .43 | 66.9 | 70.4 | -.0005 | 706356_FT |
| 51 | 3050 | 6280 | .4905 | .0287 | 1.17 | 9.9 | 1.25 | 9.9 | .28 | .43 | 63.9 | 70.3 | -.0004 | 706357_FT |
| 52 | 2775 | 6280 | .7181 | .0289 | 1.08 | 6.2 | 1.11 | 5.9 | .36 | .43 | 68.5 | 70.9 | -.0004 | 706358_FT |
| 53 | 4517 | 6280 | -.7675 | .0310 | .88 | -9.0 | .78 | -8.0 | .50 | .39 | 78.5 | 75.2 | -.0006 | 706359_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | 5547 | 6280 | -2.0311 | .0415 | .97 | -.9 | .92 | -1.4 | .30 | .28 | 88.5 | 88.3 | -.0005 | 706360_FT |
| 55 | 3457 | 6280 | .1565 | .0287 | 1.09 | 7.8 | 1.11 | 5.6 | .35 | .43 | 65.9 | 70.2 | -.0005 | 706362_FT |
| 56 | 2355 | 4247 | .4724 | .0350 | 1.14 | 9.4 | 1.16 | 6.7 | .30 | .43 | 64.6 | 70.3 | .0007 | 706364_FT |
| 57 | 3681 | 4247 | -1.5437 | .0482 | .89 | -3.6 | .75 | -4.1 | .42 | .31 | 87.3 | 86.7 | .0006 | 706365_FT |
| 58 | 3511 | 4247 | -1.1853 | .0439 | .88 | -5.2 | .75 | -5.0 | .47 | .34 | 84.7 | 83.1 | .0007 | 706367_FT |
| 59 | 2324 | 4247 | .5102 | .0349 | 1.07 | 5.1 | 1.09 | 3.9 | .36 | .43 | 67.0 | 70.2 | .0008 | 706369_FT |
| 60 | 1779 | 4247 | 1.1777 | .0354 | 1.10 | 6.7 | 1.16 | 6.8 | .33 | .42 | 67.6 | 71.2 | .0007 | 706370_FT |
| 61 | 2607 | 4247 | .1599 | .0355 | 1.05 | 3.5 | 1.05 | 1.9 | .38 | .42 | 69.6 | 71.4 | .0007 | 706371_FT |
| 62 | 1955 | 4247 | .9598 | .0350 | 1.02 | 1.4 | 1.05 | 2.4 | .40 | .43 | 69.9 | 70.4 | .0008 | 706372_FT |
| 63 | 2659 | 4247 | .0940 | .0357 | 1.13 | 8.4 | 1.15 | 5.4 | .31 | .42 | 66.5 | 71.8 | .0007 | 706373_FT |
| 64 | 2775 | 4247 | -.0557 | .0362 | .96 | -2.7 | .96 | -1.3 | .46 | .42 | 74.4 | 72.7 | .0007 | 706374_FT |
| 65 | 2240 | 4247 | .6126 | .0349 | 1.02 | 1.4 | 1.03 | 1.6 | .40 | .43 | 69.8 | 70.1 | .0008 | 706375_FT |
| 66 | 3674 | 4393 | -1.3475 | .0440 | 1.01 | .2 | 1.10 | 1.8 | .32 | .34 | 84.6 | 84.0 | .0008 | 706376_FT |
| 67 | 2148 | 4393 | .7306 | .0343 | .98 | -1.2 | .98 | -1.0 | .43 | .43 | 71.7 | 70.4 | .0010 | 706377_FT |
| 68 | 925 | 4393 | 2.3614 | .0412 | 1.19 | 8.1 | 1.68 | 9.9 | .18 | .35 | 78.6 | 81.2 | .0014 | 706379_FT |
| 69 | 2405 | 4393 | .4281 | .0344 | 1.05 | 3.7 | 1.06 | 2.6 | .38 | .43 | 68.1 | 70.5 | .0010 | 706380_FT |
| 70 | 2611 | 4393 | .1826 | .0347 | 1.00 | -.1 | .96 | -1.8 | .43 | .43 | 70.4 | 71.2 | .0009 | 706381_FT |
| 71 | 1053 | 4393 | 2.1528 | .0396 | 1.23 | 9.9 | 1.72 | 9.9 | .15 | .37 | 75.7 | 79.2 | .0014 | 706382_FT |
| 72 | 2327 | 4393 | .5200 | .0343 | 1.04 | 2.5 | 1.05 | 2.2 | .39 | .43 | 68.6 | 70.3 | .0010 | 706383_FT |
| 73 | 2502 | 4393 | .3131 | .0345 | .93 | -5.4 | .88 | -5.3 | .49 | .43 | 73.6 | 70.7 | .0009 | 706384_FT |
| 74 | 3105 | 4393 | -.4443 | .0369 | .92 | -5.1 | .85 | -4.7 | .48 | .40 | 77.0 | 75.1 | .0008 | 706385_FT |
| 75 | 2612 | 4393 | .1814 | .0347 | 1.13 | 8.7 | 1.16 | 6.3 | .31 | .43 | 65.9 | 71.2 | .0009 | 706386_FT |
| 76 | 1153 | 4051 | 1.9016 | .0390 | 1.43 | 9.9 | 2.05 | 9.9 | -.02 | .37 | 67.2 | 76.2 | .0002 | 706388_FT |
| 77 | 2907 | 4051 | -.4497 | .0387 | .99 | -.3 | 1.01 | .3 | .40 | .40 | 76.5 | 75.7 | .0000 | 706389_FT |
| 78 | 2746 | 4051 | -.2161 | .0375 | 1.01 | .7 | .99 | -.2 | .40 | .41 | 73.8 | 73.8 | .0000 | 706390_FT |
| 79 | 2825 | 4051 | -.3289 | .0381 | 1.00 | .2 | 1.00 | -.1 | .40 | .40 | 74.6 | 74.7 | .0000 | 706391_FT |
| 80 | 2566 | 4051 | .0310 | .0366 | 1.03 | 1.7 | 1.01 | .6 | .39 | .42 | 71.1 | 72.1 | .0000 | 706392_FT |
| 81 | 2644 | 4051 | -.0746 | .0370 | 1.15 | 9.1 | 1.18 | 6.1 | .27 | .41 | 67.1 | 72.8 | .0000 | 706393_FT |
| 82 | 1836 | 4051 | .9681 | .0357 | 1.24 | 9.9 | 1.35 | 9.9 | .22 | .42 | 61.1 | 70.3 | .0001 | 706394_FT |
| 83 | 3539 | 4051 | -1.6327 | .0503 | .97 | -1.1 | .85 | -2.2 | .35 | .30 | 87.6 | 87.4 | .0000 | 706396_FT |
| 84 | 2696 | 4051 | -.1461 | .0372 | 1.04 | 2.2 | 1.06 | 2.0 | .38 | .41 | 72.5 | 73.3 | .0000 | 706397_FT |
| 85 | 2954 | 4051 | -.5210 | .0391 | .94 | -3.0 | .87 | -3.7 | .45 | .39 | 78.0 | 76.3 | .0000 | 706398_FT |
| 86 | 2013 | 4056 | .7102 | .0355 | 1.19 | 9.9 | 1.24 | 9.9 | .24 | .42 | 62.1 | 70.0 | .0022 | 706399_FT |
| 87 | 1633 | 4056 | 1.1948 | .0361 | 1.07 | 4.7 | 1.11 | 4.8 | .35 | .41 | 68.4 | 71.3 | .0024 | 706400_FT |
| 88 | 2328 | 4056 | .3120 | .0358 | 1.11 | 7.4 | 1.20 | 8.4 | .32 | .42 | 67.2 | 70.4 | .0021 | 706401_FT |
| 89 | 2040 | 4056 | .6762 | .0355 | 1.10 | 6.9 | 1.13 | 6.1 | .33 | .42 | 65.4 | 69.9 | .0022 | 706402_FT |
| 90 | 1634 | 4056 | 1.1935 | .0361 | 1.09 | 5.9 | 1.15 | 6.5 | .33 | .41 | 68.1 | 71.3 | .0024 | 706403_FT |
| 91 | 1870 | 4056 | .8906 | .0356 | 1.12 | 8.2 | 1.17 | 8.0 | .31 | .42 | 66.1 | 70.2 | .0023 | 706404_FT |
| 92 | 2871 | 4056 | -.4213 | .0383 | 1.07 | 3.8 | 1.30 | 8.4 | .32 | .39 | 75.0 | 74.9 | .0020 | 706405_FT |
| 93 | 2010 | 4056 | .7139 | .0355 | 1.07 | 4.9 | 1.09 | 4.2 | .35 | .42 | 66.8 | 70.0 | .0022 | 706406_FT |
| 94 | 2638 | 4056 | -.0942 | .0368 | .89 | -7.0 | .85 | -5.9 | .51 | .41 | 76.1 | 72.4 | .0021 | 706409_FT |
| 95 | 1054 | 4056 | 2.0158 | .0399 | 1.22 | 9.9 | 1.65 | 9.9 | .14 | .36 | 74.2 | 77.4 | .0026 | 706410_FT |
| MEAN | 8795.8 | 13330 | -.0474 | .0268 | 1.03 | 1.6 | 1.04 | .9 | | | 73.4 | 74.5 | | |
| P.SD | 6696.3 | 9216.7 | .8630 | .0105 | .11 | 7.1 | .23 | 6.8 | | | 6.4 | 4.7 | | |

## Grade 4 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12387 | 22593 | .2380A | .0149 | 1.03 | 6.0 | 1.04 | 4.6 | .36 | .39 | 67.0 | 68.7 | .0007 | 633012_OP |
| 2 | 16218 | 22593 | -.8201A | .0166 | 1.08 | 9.9 | 1.18 | 9.9 | .34 | .35 | 75.0 | 76.5 | .1609 | 633014_OP |
| 3 | 15163 | 22593 | -.3977A | .0156 | .96 | -6.8 | .98 | -1.8 | .42 | .38 | 74.7 | 72.3 | .0006 | 633017_OP |
| 4 | 20149 | 22593 | -2.2214A | .0241 | 1.10 | 5.8 | 1.11 | 3.2 | .32 | .25 | 89.3 | 90.9 | .2133 | 633019_OP |
| 5 | 17653 | 22593 | -1.4801A | .0192 | 1.22 | 9.9 | 1.22 | 9.0 | .37 | .31 | 79.1 | 83.9 | .4233 | 633024_OP |
| 6 | 14701 | 22593 | .1316A | .0149 | 1.02 | 3.2 | 1.02 | 2.0 | .34 | .39 | 68.0 | 69.0 | -.4223 | 633025_OP |
| 7 | 10236 | 22593 | .4467A | .0148 | 1.12 | 9.9 | 1.14 | 9.9 | .28 | .39 | 63.0 | 68.5 | .2644 | 645794_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 16992 | 22593 | -.8893A | .0168 | .90 | -9.9 | .81 | -9.9 | .46 | .35 | 79.1 | 77.3 | .0183 | 645795_OP |
| 9 | 10513 | 22593 | .3536A | .0148 | 1.15 | 9.9 | 1.23 | 9.9 | .26 | .39 | 62.4 | 68.5 | .2966 | 645799_OP |
| 10 | 17591 | 22593 | -1.0455A | .0173 | 1.00 | -.1 | 1.02 | 1.0 | .34 | .34 | 79.2 | 79.1 | .0006 | 645800_OP |
| 11 | 17689 | 22593 | -.9501A | .0170 | .88 | -9.9 | .77 | -9.9 | .43 | .35 | 80.8 | 78.0 | -.1281 | 645802_OP |
| 12 | 18524 | 22593 | -1.6383A | .0201 | 1.05 | 3.8 | .86 | -6.1 | .47 | .29 | 82.8 | 85.6 | .3001 | 645806_OP |
| 13 | 10438 | 22597 | .7490A | .0149 | 1.01 | 1.7 | 1.02 | 2.4 | .38 | .39 | 69.0 | 69.1 | -.0807 | 658230_OP |
| 14 | 16037 | 22597 | -.5916A | .0160 | .98 | -2.4 | .96 | -2.9 | .38 | .37 | 74.7 | 74.2 | -.0232 | 658233_OP |
| 15 | 12571 | 22597 | .2848A | .0148 | .96 | -7.6 | .95 | -6.4 | .42 | .39 | 70.6 | 68.6 | -.0863 | 658234_OP |
| 16 | 15528 | 22597 | -.4308A | .0156 | 1.00 | -.7 | 1.00 | .3 | .36 | .37 | 73.0 | 72.6 | -.0560 | 658235_OP |
| 17 | 11948 | 22597 | .4697A | .0148 | 1.01 | 2.6 | 1.02 | 2.1 | .38 | .39 | 67.7 | 68.5 | -.1335 | 658236_OP |
| 18 | 17397 | 22597 | -1.2165A | .0180 | 1.07 | 6.5 | .96 | -2.3 | .40 | .33 | 78.5 | 81.0 | .2346 | 658237_OP |
| 19 | 16858 | 22597 | -1.0847A | .0175 | 1.07 | 7.3 | .99 | -.5 | .41 | .34 | 76.6 | 79.5 | .2562 | 658239_OP |
| 20 | 15712 | 22597 | -.2141A | .0153 | .87 | -9.9 | .80 | -9.9 | .46 | .38 | 76.0 | 70.9 | -.3234 | 658240_OP |
| 21 | 15407 | 22597 | -.3199A | .0154 | .92 | -9.9 | .88 | -9.9 | .42 | .38 | 74.2 | 71.7 | -.1383 | 687538_OP |
| 22 | 16856 | 22597 | -.6979A | .0162 | .87 | -9.9 | .76 | -9.9 | .45 | .36 | 78.5 | 75.2 | -.1378 | 687543_OP |
| 23 | 20811 | 22597 | -2.0385A | .0227 | .71 | -9.9 | .52 | -9.9 | .35 | .26 | 92.2 | 89.4 | -.3669 | 687544_OP |
| 24 | 14668 | 22597 | -.3448A | .0155 | 1.08 | 9.9 | 1.15 | 9.9 | .32 | .38 | 69.6 | 71.9 | .0676 | 687545_OP |
| 25 | 11355 | 22597 | .0150A | .0150 | 1.21 | 9.9 | 1.29 | 9.9 | .26 | .39 | 61.1 | 69.5 | .4520 | 687546_OP |
| 26 | 18270 | 22597 | -1.3205A | .0185 | 1.08 | 7.4 | 1.30 | 9.9 | .26 | .32 | 81.4 | 82.2 | .0647 | 687547_OP |
| 27 | 16010 | 22597 | -.3793A | .0155 | .87 | -9.9 | .80 | -9.9 | .46 | .38 | 76.9 | 72.2 | -.2328 | 687548_OP |
| 28 | 12776 | 22597 | .1497A | .0149 | 1.01 | .9 | 1.00 | -.3 | .38 | .39 | 68.4 | 69.0 | .0036 | 687550_OP |
| 29 | 13481 | 22597 | -.0356A | .0151 | 1.13 | 9.9 | 1.14 | 9.9 | .26 | .39 | 63.7 | 69.8 | .0314 | 687554_OP |
| 30 | 15737 | 22597 | -.6504A | .0161 | 1.06 | 7.9 | 1.10 | 7.0 | .35 | .36 | 72.8 | 74.7 | .1142 | 687555_OP |
| 31 | 15749 | 22597 | -.5569A | .0159 | .98 | -2.9 | .92 | -6.1 | .40 | .37 | 73.3 | 73.8 | .0161 | 687558_OP |
| 32 | 14457 | 22597 | -.6546A | .0161 | 1.15 | 9.9 | 1.14 | 9.9 | .39 | .36 | 68.6 | 74.8 | .4305 | 687559_OP |
| 33 | 9665 | 22593 | 1.0244A | .0152 | 1.04 | 6.0 | 1.10 | 9.9 | .36 | .38 | 70.1 | 70.5 | -.1827 | 687562_OP |
| 34 | 16350 | 22593 | -.7577A | .0164 | 1.07 | 8.4 | 1.09 | 6.2 | .31 | .36 | 74.0 | 75.9 | .0622 | 687563_OP |
| 35 | 16780 | 22593 | -.5429A | .0159 | .85 | -9.9 | .79 | -9.9 | .44 | .37 | 78.9 | 73.7 | -.2762 | 687565_OP |
| 36 | 13475 | 22593 | .1334A | .0149 | .92 | -9.9 | .89 | -9.9 | .45 | .39 | 72.3 | 69.0 | -.1378 | 687566_OP |
| 37 | 16850 | 22593 | -.7256A | .0163 | .93 | -9.9 | .87 | -9.3 | .40 | .36 | 77.7 | 75.5 | -.1085 | 687568_OP |
| 38 | 13805 | 22593 | -.1217A | .0152 | .99 | -2.1 | .97 | -3.4 | .40 | .38 | 70.5 | 70.3 | .0437 | 687571_OP |
| 39 | 17891 | 22593 | -1.1031A | .0175 | 1.00 | .4 | 1.15 | 7.9 | .30 | .34 | 81.0 | 79.7 | -.0347 | 687872_OP |
| 40 | 16519 | 22593 | -.6297A | .0161 | 1.01 | 1.4 | 1.02 | 1.4 | .31 | .37 | 74.5 | 74.5 | -.1146 | 687874_OP |
| 41 | 15953 | 22593 | -.3455A | .0155 | .94 | -9.9 | .94 | -5.7 | .38 | .38 | 75.1 | 71.9 | -.2530 | 687878_OP |
| 42 | 14530 | 22593 | -.0650A | .0151 | .97 | -5.0 | .96 | -3.9 | .39 | .39 | 71.3 | 69.9 | -.1833 | 687879_OP |
| 43 | 18412 | 22593 | -1.0375A | .0173 | .85 | -9.9 | .76 | -9.9 | .38 | .34 | 82.5 | 79.0 | -.2777 | 687880_OP |
| 44 | 16901 | 22593 | -1.0810A | .0175 | 1.12 | 9.9 | 1.18 | 9.7 | .34 | .34 | 77.1 | 79.5 | .2396 | 687881_OP |
| 45 | 14230 | 22593 | -.2576A | .0153 | 1.02 | 3.9 | 1.00 | .2 | .38 | .38 | 69.7 | 71.2 | .0824 | 687882_OP |
| 46 | 3455 | 5794 | -.2660 | .0297 | .96 | -3.5 | .98 | -1.2 | .43 | .39 | 71.4 | 69.6 | -.0008 | 706610_FT |
| 47 | 3564 | 5794 | -.3626 | .0299 | 1.02 | 2.0 | 1.04 | 2.1 | .36 | .39 | 69.2 | 70.1 | -.0009 | 706611_FT |
| 48 | 4751 | 5794 | -1.6051 | .0366 | .84 | -8.3 | .64 | -9.9 | .49 | .31 | 83.5 | 82.3 | -.0009 | 706614_FT |
| 49 | 3362 | 5794 | -.1845 | .0295 | 1.12 | 9.9 | 1.19 | 9.5 | .28 | .39 | 65.1 | 69.2 | -.0009 | 706615_FT |
| 50 | 3419 | 5794 | -.2343 | .0296 | 1.00 | .1 | 1.00 | .0 | .39 | .39 | 69.7 | 69.4 | -.0009 | 706616_FT |
| 51 | 3121 | 5794 | .0240 | .0293 | 1.09 | 7.6 | 1.11 | 6.3 | .31 | .40 | 64.8 | 68.7 | -.0008 | 706617_FT |
| 52 | 3177 | 5794 | -.0241 | .0294 | 1.12 | 9.9 | 1.16 | 8.5 | .28 | .40 | 63.4 | 68.8 | -.0009 | 706618_FT |
| 53 | 2492 | 5794 | .5666 | .0296 | 1.08 | 6.6 | 1.12 | 6.5 | .32 | .40 | 66.6 | 69.7 | -.0007 | 706619_FT |
| 54 | 3934 | 5794 | -.7030 | .0309 | 1.03 | 2.6 | 1.06 | 2.5 | .34 | .37 | 71.6 | 72.6 | -.0009 | 706620_FT |
| 55 | 1646 | 4390 | 1.1585 | .0343 | 1.02 | 1.2 | 1.09 | 4.3 | .31 | .36 | 71.3 | 70.4 | .0033 | 706621_FT |
| 56 | 1919 | 4390 | .8452 | .0335 | 1.02 | 1.5 | 1.04 | 2.3 | .34 | .37 | 67.5 | 68.5 | .0032 | 706623_FT |
| 57 | 1657 | 4390 | 1.1456 | .0343 | 1.13 | 8.7 | 1.17 | 8.0 | .25 | .36 | 65.1 | 70.3 | .0033 | 706624_FT |
| 58 | 1795 | 4390 | .9858 | .0338 | 1.04 | 2.9 | 1.05 | 2.7 | .32 | .36 | 68.0 | 69.2 | .0032 | 706625_FT |
| 59 | 3020 | 4390 | -.4128 | .0355 | 1.00 | .0 | 1.03 | 1.3 | .35 | .35 | 73.0 | 72.8 | .0029 | 706626_FT |
| 60 | 3001 | 4390 | -.3890 | .0354 | 1.02 | 1.3 | 1.00 | .2 | .33 | .35 | 71.8 | 72.5 | .0028 | 706627_FT |
| 61 | 2147 | 4390 | .5911 | .0333 | 1.14 | 9.9 | 1.18 | 9.7 | .23 | .37 | 60.7 | 67.7 | .0031 | 706628_FT |
| 62 | 2766 | 4390 | -.1054 | .0342 | .96 | -3.0 | .96 | -1.8 | .41 | .36 | 72.7 | 70.1 | .0030 | 706629_FT |
| 63 | 2851 | 4390 | -.2060 | .0346 | 1.03 | 2.2 | 1.01 | .3 | .33 | .36 | 69.4 | 70.9 | .0029 | 706630_FT |
| 64 | 2227 | 4390 | .5025 | .0333 | 1.21 | 9.9 | 1.32 | 9.9 | .16 | .37 | 59.4 | 67.7 | .0031 | 706631_FT |
| 65 | 1982 | 5794 | 1.0302 | .0308 | 1.15 | 9.9 | 1.26 | 9.9 | .24 | .38 | 68.8 | 72.9 | -.0007 | 706632_FT |
| 66 | 3603 | 4263 | -1.4360 | .0452 | .88 | -4.7 | .68 | -6.7 | .46 | .31 | 85.8 | 84.8 | .0001 | 706633_FT |
| 67 | 2852 | 4263 | -.2625 | .0359 | .87 | -8.6 | .79 | -8.2 | .51 | .38 | 76.1 | 72.4 | .0002 | 706635_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | 3143 | 4263 | -.6586 | .0380 | .89 | -6.0 | .81 | -5.8 | .48 | .36 | 78.5 | 76.2 | .0002 | 706636_FT |
| 69 | 3599 | 4263 | -1.4277 | .0451 | .92 | -2.9 | .86 | -2.7 | .40 | .31 | 85.0 | 84.7 | .0002 | 706637_FT |
| 70 | 2047 | 4263 | .7069 | .0343 | 1.07 | 4.9 | 1.12 | 5.8 | .32 | .39 | 66.8 | 68.9 | .0004 | 706638_FT |
| 71 | 3126 | 4263 | -.6341 | .0379 | .94 | -3.5 | .87 | -3.9 | .43 | .37 | 77.1 | 75.9 | .0002 | 706639_FT |
| 72 | 3356 | 4263 | -.9860 | .0405 | .99 | -.3 | 1.09 | 2.0 | .35 | .34 | 80.4 | 79.8 | .0002 | 706640_FT |
| 73 | 3113 | 4263 | -.6155 | .0378 | 1.06 | 3.5 | 1.15 | 4.2 | .30 | .37 | 74.2 | 75.7 | .0002 | 706641_FT |
| 74 | 2219 | 4263 | .5052 | .0342 | 1.08 | 5.9 | 1.13 | 6.2 | .31 | .40 | 65.8 | 68.8 | .0004 | 706642_FT |
| 75 | 1408 | 4263 | 1.4905 | .0363 | 1.13 | 7.8 | 1.38 | 9.9 | .20 | .37 | 71.4 | 73.3 | .0005 | 706643_FT |
| 76 | 3120 | 3970 | -.9972 | .0418 | .83 | -8.3 | .68 | -8.5 | .53 | .34 | 82.2 | 79.6 | -.0004 | 706645_FT |
| 77 | 2607 | 3970 | -.2203 | .0368 | .95 | -3.5 | .91 | -3.6 | .43 | .38 | 73.7 | 71.6 | -.0003 | 706646_FT |
| 78 | 2320 | 3970 | .1559 | .0357 | 1.08 | 5.5 | 1.10 | 4.3 | .31 | .39 | 66.2 | 69.3 | -.0003 | 706647_FT |
| 79 | 2739 | 3970 | -.4032 | .0377 | .93 | -4.4 | .85 | -5.1 | .45 | .37 | 74.9 | 73.3 | -.0004 | 706649_FT |
| 80 | 3043 | 3970 | -.8663 | .0407 | 1.08 | 3.8 | 1.34 | 7.7 | .25 | .35 | 78.0 | 78.1 | -.0004 | 706650_FT |
| 81 | 3144 | 3970 | -1.0395 | .0422 | .94 | -2.7 | .89 | -2.5 | .40 | .34 | 80.9 | 80.1 | -.0003 | 706651_FT |
| 82 | 2973 | 3970 | -.7530 | .0398 | .98 | -1.2 | .89 | -3.2 | .38 | .35 | 76.8 | 76.9 | -.0004 | 706652_FT |
| 83 | 1771 | 3970 | .8458 | .0356 | 1.18 | 9.9 | 1.25 | 9.9 | .20 | .38 | 62.6 | 69.1 | -.0003 | 706654_FT |
| 84 | 2508 | 3970 | -.0878 | .0364 | 1.05 | 3.3 | 1.07 | 2.9 | .33 | .38 | 68.8 | 70.6 | -.0003 | 706655_FT |
| 85 | 2978 | 3970 | -.7609 | .0399 | .89 | -5.6 | .80 | -5.7 | .47 | .35 | 79.5 | 77.0 | -.0004 | 706656_FT |
| 86 | 2949 | 4180 | -.5114 | .0370 | .95 | -2.8 | .91 | -3.0 | .41 | .36 | 75.4 | 74.0 | .0019 | 706657_FT |
| 87 | 1349 | 4180 | 1.4497 | .0364 | 1.23 | 9.9 | 1.34 | 9.9 | .15 | .35 | 65.2 | 72.9 | .0025 | 706658_FT |
| 88 | 3107 | 4180 | -.7354 | .0384 | .89 | -6.1 | .79 | -6.6 | .47 | .34 | 78.6 | 76.4 | .0019 | 706659_FT |
| 89 | 2310 | 4180 | .2871 | .0344 | 1.04 | 2.9 | 1.06 | 3.2 | .34 | .38 | 67.0 | 68.3 | .0021 | 706660_FT |
| 90 | 1956 | 4180 | .7023 | .0343 | .99 | -.5 | 1.01 | .8 | .37 | .38 | 69.1 | 68.2 | .0023 | 706661_FT |
| 91 | 1101 | 4180 | 1.7959 | .0384 | 1.24 | 9.9 | 1.68 | 9.9 | .04 | .33 | 74.0 | 76.6 | .0026 | 706662_FT |
| 92 | 2730 | 4180 | -.2234 | .0356 | .99 | -.4 | .98 | -.9 | .37 | .37 | 71.9 | 71.3 | .0020 | 706664_FT |
| 93 | 1317 | 4180 | 1.4924 | .0366 | 1.10 | 5.9 | 1.24 | 8.7 | .22 | .35 | 72.0 | 73.3 | .0025 | 706665_FT |
| 94 | 3493 | 4180 | -1.3852 | .0445 | .93 | -2.6 | .83 | -3.5 | .38 | .30 | 84.4 | 83.8 | .0017 | 706666_FT |
| 95 | 2765 | 4180 | -.2681 | .0358 | 1.01 | .8 | 1.00 | .1 | .35 | .37 | 71.2 | 71.7 | .0020 | 706667_FT |
| MEAN | 8697.6 | 13081 | -.2646 | .0266 | 1.01 | 1.0 | 1.02 | .9 | | | 73.1 | 73.8 | | |
| P.SD | 6585.3 | 9037.5 | .8016 | .0102 | .10 | 6.7 | .18 | 6.7 | | | 6.5 | 5.2 | | |

## Grade 5 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17317 | 22892 | -.6935A | .0169 | .94 | -7.4 | .81 | -9.9 | .45 | .38 | 78.1 | 78.1 | -.0003 | 633267_OP |
| 2 | 14247 | 22892 | -.5051A | .0164 | 1.17 | 9.9 | 1.18 | 9.9 | .46 | .39 | 69.8 | 76.2 | .5959 | 633270_OP |
| 3 | 16898 | 22892 | -.9401A | .0178 | 1.16 | 9.9 | 1.22 | 9.9 | .40 | .36 | 76.7 | 80.6 | .3696 | 633272_OP |
| 4 | 17377 | 22892 | -.6003A | .0167 | .92 | -9.8 | .82 | -9.9 | .43 | .38 | 78.4 | 77.1 | -.1135 | 633274_OP |
| 5 | 16562 | 22892 | -.4848A | .0163 | 1.03 | 3.5 | .99 | -.5 | .37 | .39 | 74.5 | 76.0 | -.0003 | 633278_OP |
| 6 | 15466 | 22892 | -.4981A | .0164 | 1.19 | 9.9 | 1.24 | 9.9 | .32 | .39 | 69.8 | 76.1 | .2973 | 633297_OP |
| 7 | 16553 | 22892 | .0207A | .0153 | .95 | -7.7 | .89 | -9.9 | .37 | .41 | 73.0 | 71.8 | -.5124 | 633299_OP |
| 8 | 19488 | 22892 | -1.7804A | .0222 | 1.18 | 9.9 | 1.01 | .5 | .41 | .30 | 85.4 | 88.8 | .3708 | 633302_OP |
| 9 | 18699 | 22892 | -1.2774A | .0193 | .96 | -3.6 | .77 | -9.9 | .48 | .34 | 83.4 | 84.0 | .1556 | 633303_OP |
| 10 | 16619 | 22892 | -.4999A | .0164 | 1.00 | -.3 | .93 | -4.6 | .39 | .39 | 75.6 | 76.1 | -.0004 | 633305_OP |
| 11 | 14632 | 22899 | -.0170A | .0154 | .96 | -6.1 | .91 | -8.6 | .45 | .41 | 72.6 | 72.1 | .0147 | 658253_OP |
| 12 | 14764 | 22899 | -.2166A | .0157 | 1.10 | 9.9 | 1.13 | 9.9 | .36 | .40 | 69.7 | 73.6 | .1848 | 658256_OP |
| 13 | 17027 | 22899 | -.4501A | .0162 | .87 | -9.9 | .78 | -9.9 | .47 | .39 | 78.8 | 75.7 | -.1642 | 658258_OP |
| 14 | 14310 | 22899 | .1600A | .0152 | 1.06 | 9.0 | 1.05 | 4.4 | .34 | .41 | 68.2 | 71.0 | -.0874 | 658259_OP |
| 15 | 13356 | 22899 | .2380A | .0151 | 1.13 | 9.9 | 1.18 | 9.9 | .30 | .41 | 65.6 | 70.6 | .0539 | 658260_OP |
| 16 | 14185 | 22899 | .2860A | .0150 | .94 | -9.9 | .91 | -9.9 | .44 | .41 | 72.2 | 70.3 | -.1846 | 658262_OP |
| 17 | 15661 | 22899 | .0867A | .0152 | .90 | -9.9 | .84 | -9.9 | .45 | .41 | 74.4 | 71.4 | -.3429 | 658265_OP |
| 18 | 10764 | 22892 | .6135A | .0149 | 1.12 | 9.9 | 1.17 | 9.9 | .30 | .41 | 64.3 | 69.4 | .2523 | 658300_OP |
| 19 | 17988 | 22892 | -1.0097A | .0181 | 1.13 | 9.9 | 1.31 | 9.9 | .29 | .36 | 79.5 | 81.3 | .1188 | 658301_OP |
| 20 | 11115 | 22892 | .7603A | .0149 | 1.14 | 9.9 | 1.20 | 9.9 | .27 | .41 | 63.6 | 69.3 | .0287 | 658305_OP |
| 21 | 18169 | 22892 | -.8139A | .0173 | .85 | -9.9 | .70 | -9.9 | .47 | .37 | 82.2 | 79.3 | -.1405 | 658306_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | 17654 | 22892 | -1.2432A | .0191 | 1.27 | 9.9 | 1.53 | 9.9 | .36 | .34 | 78.8 | 83.7 | .4580 | 658308_OP |
| 23 | 10229 | 22892 | .7467A | .0149 | 1.14 | 9.9 | 1.21 | 9.9 | .28 | .41 | 63.7 | 69.3 | .2375 | 687585_OP |
| 24 | 17394 | 22892 | -.7096A | .0170 | .89 | -9.9 | .77 | -9.9 | .49 | .38 | 79.8 | 78.2 | -.0065 | 687587_OP |
| 25 | 15889 | 22892 | -.1812A | .0157 | .95 | -7.7 | .92 | -7.0 | .42 | .40 | 75.3 | 73.3 | -.1309 | 687590_OP |
| 26 | 17383 | 22892 | -.8868A | .0176 | 1.14 | 9.9 | 1.39 | 9.9 | .31 | .37 | 78.1 | 80.0 | .1777 | 687591_OP |
| 27 | 18013 | 22892 | -.9189A | .0177 | .89 | -9.9 | .72 | -9.9 | .50 | .37 | 81.4 | 80.4 | .0178 | 687592_OP |
| 28 | 16205 | 22892 | -.3118A | .0159 | .91 | -9.9 | .82 | -9.9 | .47 | .40 | 76.6 | 74.4 | -.0807 | 687594_OP |
| 29 | 15408 | 22899 | .0547A | .0153 | 1.08 | 9.9 | 1.13 | 9.9 | .29 | .41 | 68.7 | 71.6 | -.2468 | 687598_OP |
| 30 | 18205 | 22899 | -.9090A | .0177 | 1.03 | 3.0 | 1.10 | 5.4 | .31 | .37 | 80.4 | 80.3 | -.0530 | 687600_OP |
| 31 | 18859 | 22899 | -.9902A | .0180 | .80 | -9.9 | .65 | -9.9 | .47 | .36 | 84.8 | 81.1 | -.1959 | 687601_OP |
| 32 | 17022 | 22899 | -.6091A | .0167 | .91 | -9.9 | .82 | -9.9 | .48 | .38 | 79.2 | 77.2 | -.0004 | 687603_OP |
| 33 | 13606 | 22899 | .3458A | .0150 | 1.10 | 9.9 | 1.11 | 9.9 | .31 | .41 | 65.5 | 70.1 | -.1109 | 687607_OP |
| 34 | 9436 | 22892 | 1.1362A | .0150 | 1.05 | 8.3 | 1.10 | 9.9 | .34 | .40 | 68.4 | 70.2 | .0276 | 687609_OP |
| 35 | 18198 | 22892 | -1.0042A | .0180 | .95 | -5.0 | .85 | -8.1 | .44 | .36 | 81.3 | 81.2 | .0456 | 687610_OP |
| 36 | 13108 | 22892 | .2415A | .0151 | 1.05 | 7.7 | 1.07 | 7.4 | .38 | .41 | 68.6 | 70.5 | .1058 | 687612_OP |
| 37 | 19245 | 22892 | -1.1502A | .0187 | .81 | -9.9 | .67 | -9.9 | .46 | .35 | 86.2 | 82.7 | -.1782 | 687616_OP |
| 38 | 16085 | 22892 | -.4324A | .0162 | 1.03 | 3.4 | 1.02 | 1.2 | .39 | .39 | 74.6 | 75.5 | .0735 | 687617_OP |
| 39 | 17052 | 22892 | -.6473A | .0168 | 1.04 | 4.3 | 1.05 | 2.8 | .36 | .38 | 76.7 | 77.6 | .0290 | 687618_OP |
| 40 | 19452 | 22899 | -1.0522A | .0182 | .71 | -9.9 | .55 | -9.9 | .49 | .36 | 87.6 | 81.7 | -.3625 | 687621_OP |
| 41 | 21189 | 22899 | -1.8692A | .0228 | .65 | -9.9 | .40 | -9.9 | .41 | .29 | 92.7 | 89.5 | -.4359 | 687622_OP |
| 42 | 21042 | 22899 | -1.7750A | .0222 | .71 | -9.9 | .54 | -9.9 | .35 | .30 | 92.1 | 88.7 | -.4316 | 687624_OP |
| 43 | 14577 | 22899 | .1543A | .0152 | .89 | -9.9 | .84 | -9.9 | .49 | .41 | 75.1 | 71.0 | -.1448 | 687625_OP |
| 44 | 18965 | 22899 | -1.1191A | .0185 | .91 | -8.9 | .89 | -5.7 | .39 | .35 | 84.6 | 82.4 | -.1017 | 687626_OP |
| 45 | 12554 | 22899 | .4212A | .0149 | 1.12 | 9.9 | 1.14 | 9.9 | .31 | .41 | 64.8 | 69.8 | .0502 | 687627_OP |
| 46 | 14676 | 22899 | -.2289A | .0158 | 1.04 | 5.9 | 1.04 | 3.5 | .42 | .40 | 72.3 | 73.7 | .2182 | 687628_OP |
| 47 | 20777 | 22899 | -1.6152A | .0211 | .68 | -9.9 | .47 | -9.9 | .41 | .31 | 91.1 | 87.3 | -.4294 | 687630_OP |
| 48 | 11955 | 22899 | .6693A | .0149 | 1.08 | 9.9 | 1.12 | 9.9 | .33 | .41 | 66.3 | 69.4 | -.0648 | 687631_OP |
| 49 | 1856 | 4140 | 1.0352 | .0349 | 1.30 | 9.9 | 1.47 | 9.9 | .12 | .39 | 57.8 | 69.2 | .0001 | 706443_FT |
| 50 | 3440 | 4140 | -1.1625 | .0447 | .94 | -2.3 | .89 | -2.3 | .40 | .33 | 84.3 | 83.6 | -.0003 | 706444_FT |
| 51 | 2569 | 4140 | .1631 | .0357 | 1.09 | 5.9 | 1.14 | 5.9 | .31 | .40 | 68.2 | 71.1 | -.0001 | 706445_FT |
| 52 | 3549 | 4140 | -1.3936 | .0475 | .93 | -2.3 | .77 | -4.2 | .40 | .32 | 86.4 | 85.9 | -.0002 | 706447_FT |
| 53 | 2995 | 4140 | -.4134 | .0383 | .91 | -5.3 | .86 | -4.3 | .48 | .38 | 78.4 | 75.8 | -.0002 | 706448_FT |
| 54 | 1250 | 4140 | 1.8151 | .0374 | 1.23 | 9.9 | 1.53 | 9.9 | .12 | .35 | 69.9 | 74.3 | .0002 | 706449_FT |
| 55 | 2551 | 4140 | .1860 | .0356 | 1.10 | 6.7 | 1.15 | 6.0 | .30 | .40 | 67.1 | 71.0 | -.0001 | 706450_FT |
| 56 | 2714 | 4140 | -.0245 | .0363 | .99 | -.9 | .99 | -.3 | .41 | .40 | 73.2 | 72.4 | -.0001 | 706451_FT |
| 57 | 3292 | 4140 | -.8862 | .0419 | .93 | -2.9 | .84 | -3.8 | .42 | .35 | 81.8 | 80.7 | -.0003 | 706452_FT |
| 58 | 3391 | 4140 | -1.0670 | .0436 | .92 | -3.2 | .78 | -4.9 | .43 | .34 | 83.2 | 82.6 | -.0003 | 706454_FT |
| 59 | 2381 | 5870 | .9202 | .0302 | 1.07 | 5.2 | 1.16 | 7.3 | .35 | .42 | 69.9 | 71.5 | -.0014 | 706455_FT |
| 60 | 4831 | 5870 | -1.4838 | .0371 | .92 | -3.7 | .89 | -2.6 | .42 | .35 | 83.7 | 82.8 | -.0020 | 706456_FT |
| 61 | 1617 | 5870 | 1.6667 | .0328 | 1.25 | 9.9 | 1.65 | 9.9 | .16 | .38 | 72.6 | 76.9 | -.0013 | 706457_FT |
| 62 | 2591 | 5870 | .7313 | .0299 | 1.19 | 9.9 | 1.28 | 9.9 | .26 | .43 | 63.9 | 70.8 | -.0015 | 706458_FT |
| 63 | 4750 | 5870 | -1.3750 | .0362 | .94 | -2.9 | .81 | -4.7 | .42 | .36 | 82.1 | 81.7 | -.0020 | 706459_FT |
| 64 | 2920 | 5870 | .4407 | .0296 | 1.07 | 5.5 | 1.12 | 6.4 | .37 | .43 | 67.7 | 70.3 | -.0015 | 706460_FT |
| 65 | 4908 | 5870 | -1.5925 | .0381 | .92 | -3.9 | .76 | -5.2 | .43 | .34 | 84.7 | 84.0 | -.0021 | 706461_FT |
| 66 | 4144 | 5870 | -.6847 | .0319 | .98 | -1.6 | .98 | -.6 | .43 | .41 | 75.9 | 75.0 | -.0018 | 706462_FT |
| 67 | 4167 | 5870 | -.7082 | .0320 | .86 | -9.7 | .74 | -9.9 | .53 | .40 | 78.6 | 75.2 | -.0019 | 706464_FT |
| 68 | 4996 | 5870 | -1.7248 | .0394 | .85 | -6.8 | .65 | -7.7 | .48 | .33 | 86.1 | 85.3 | -.0020 | 706466_FT |
| 69 | 3108 | 4214 | -.4570 | .0384 | .97 | -1.4 | 1.00 | .1 | .40 | .37 | 77.6 | 76.5 | .0001 | 706468_FT |
| 70 | 2942 | 4214 | -.2214 | .0370 | 1.05 | 2.8 | 1.07 | 2.3 | .34 | .38 | 72.5 | 74.2 | .0001 | 706469_FT |
| 71 | 2157 | 4214 | .7560 | .0344 | 1.18 | 9.9 | 1.24 | 9.9 | .23 | .39 | 61.6 | 68.7 | .0001 | 706470_FT |
| 72 | 3059 | 4214 | -.3856 | .0379 | .93 | -4.1 | .89 | -3.6 | .45 | .38 | 77.7 | 75.8 | .0001 | 706471_FT |
| 73 | 3901 | 4214 | -2.1624 | .0613 | .92 | -1.8 | .73 | -3.4 | .34 | .25 | 92.6 | 92.6 | .0003 | 706472_FT |
| 74 | 2277 | 4214 | .6136 | .0345 | 1.11 | 7.8 | 1.13 | 6.1 | .28 | .40 | 63.9 | 68.9 | .0001 | 706473_FT |
| 75 | 2792 | 4214 | -.0213 | .0361 | 1.00 | .0 | .98 | -.9 | .39 | .39 | 71.3 | 72.4 | .0001 | 706474_FT |
| 76 | 2249 | 4214 | .6469 | .0345 | 1.11 | 8.0 | 1.16 | 7.7 | .30 | .39 | 64.0 | 68.9 | .0001 | 706476_FT |
| 77 | 3970 | 4214 | -2.4507 | .0683 | .89 | -2.1 | .49 | -6.4 | .38 | .22 | 94.2 | 94.2 | .0003 | 706477_FT |
| 78 | 3219 | 4214 | -.6257 | .0396 | .91 | -4.7 | .81 | -5.2 | .46 | .36 | 79.8 | 78.3 | .0001 | 706478_FT |
| 79 | 2550 | 4663 | .6031 | .0328 | 1.15 | 9.9 | 1.22 | 9.9 | .26 | .39 | 63.0 | 69.1 | .0007 | 706479_FT |
| 80 | 3893 | 4663 | -1.1313 | .0425 | .92 | -3.3 | .83 | -3.6 | .42 | .33 | 85.1 | 84.1 | .0004 | 706480_FT |
| 81 | 3642 | 4663 | -.7215 | .0386 | .99 | -.5 | .93 | -1.7 | .37 | .36 | 79.7 | 79.8 | .0004 | 706481_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EXP. | EXACT MATCH OBS% | EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | 2423 | 4663 | .7395 | .0327 | 1.07 | 5.1 | 1.10 | 4.9 | .32 | .39 | 66.6 | 68.9 | .0007 | 706482_FT |
| 83 | 2281 | 4663 | .8914 | .0327 | 1.06 | 4.4 | 1.09 | 4.9 | .33 | .39 | 66.7 | 68.8 | .0007 | 706484_FT |
| 84 | 4105 | 4663 | -1.5613 | .0480 | .90 | -3.4 | .65 | -6.3 | .43 | .30 | 88.5 | 88.2 | .0004 | 706485_FT |
| 85 | 3207 | 4663 | -.1402 | .0349 | .92 | -4.9 | .86 | -5.5 | .46 | .39 | 76.0 | 73.8 | .0005 | 706486_FT |
| 86 | 1091 | 4663 | 2.2988 | .0379 | 1.14 | 7.0 | 1.44 | 9.9 | .18 | .32 | 76.6 | 78.9 | .0009 | 706488_FT |
| 87 | 3296 | 4663 | -.2504 | .0355 | .96 | -2.3 | .91 | -3.2 | .42 | .38 | 75.6 | 74.8 | .0005 | 706489_FT |
| 88 | 4293 | 4663 | -2.0691 | .0568 | .93 | -1.8 | .94 | -.7 | .33 | .26 | 92.1 | 92.1 | .0003 | 706490_FT |
| 89 | 2657 | 4012 | -.0193 | .0369 | .93 | -4.5 | .88 | -4.7 | .46 | .39 | 74.6 | 72.3 | .0007 | 706492_FT |
| 90 | 3377 | 4012 | -1.2053 | .0464 | 1.03 | 1.0 | 1.03 | .6 | .29 | .32 | 84.5 | 84.5 | .0006 | 706494_FT |
| 91 | 1692 | 4012 | 1.2091 | .0357 | 1.28 | 9.9 | 1.43 | 9.9 | .12 | .38 | 59.3 | 69.7 | .0008 | 706495_FT |
| 92 | 2212 | 4012 | .5580 | .0354 | 1.05 | 3.9 | 1.10 | 4.7 | .35 | .40 | 67.4 | 69.0 | .0007 | 706496_FT |
| 93 | 2274 | 4012 | .4800 | .0355 | 1.04 | 3.0 | 1.05 | 2.2 | .35 | .40 | 67.9 | 69.2 | .0007 | 706497_FT |
| 94 | 2462 | 4012 | .2398 | .0360 | 1.03 | 1.9 | 1.03 | 1.3 | .37 | .39 | 69.1 | 70.4 | .0007 | 706498_FT |
| 95 | 2679 | 4012 | -.0495 | .0371 | 1.01 | .5 | 1.00 | .1 | .38 | .39 | 72.3 | 72.5 | .0007 | 706499_FT |
| 96 | 3108 | 4012 | -.6963 | .0411 | .86 | -6.8 | .74 | -6.9 | .51 | .36 | 81.6 | 79.0 | .0006 | 706500_FT |
| 97 | 2460 | 4012 | .2424 | .0360 | .96 | -2.5 | .92 | -3.3 | .42 | .39 | 71.1 | 70.4 | .0007 | 706501_FT |
| 98 | 2654 | 4012 | -.0152 | .0369 | .99 | -.8 | .95 | -1.8 | .40 | .39 | 72.8 | 72.3 | .0007 | 706502_FT |
| MEAN | 9452.2 | 13551 | -.3262 | .0279 | 1.00 | .5 | .98 | -.1 | | | 75.6 | 76.5 | | |
| P.SD | 6874.3 | 9168.7 | .9072 | .0121 | .13 | 7.3 | .24 | 7.5 | | | 8.3 | 6.3 | | |

## Grade 6 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EXP. | EXACT MATCH OBS% | EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18962 | 22384 | -1.7569A | .0213 | 1.02 | 1.3 | .84 | -6.2 | .46 | .31 | 85.5 | 87.3 | .2346 | 563699_OP |
| 2 | 15220 | 22379 | -.6942A | .0166 | 1.15 | 9.9 | 1.16 | 9.9 | .37 | .38 | 71.9 | 76.5 | .3161 | 563827_OP |
| 3 | 16172 | 22379 | -.9023A | .0173 | 1.14 | 9.9 | 1.19 | 9.9 | .36 | .37 | 74.8 | 78.7 | .2757 | 563828_OP |
| 4 | 20516 | 22379 | -2.3030A | .0254 | .93 | -3.9 | .70 | -9.5 | .35 | .26 | 91.8 | 91.7 | .0005 | 563829_OP |
| 5 | 18580 | 22379 | -1.7463A | .0212 | 1.10 | 6.8 | .86 | -5.2 | .49 | .31 | 83.8 | 87.2 | .3711 | 563834_OP |
| 6 | 15892 | 22379 | -.5563A | .0163 | 1.08 | 9.9 | 1.09 | 6.4 | .31 | .39 | 72.3 | 75.2 | .0006 | 563838_OP |
| 7 | 14613 | 22384 | -.2313A | .0156 | 1.03 | 4.7 | 1.01 | 1.2 | .37 | .40 | 70.7 | 72.3 | .0007 | 565375_OP |
| 8 | 13898 | 22384 | -.0598A | .0154 | 1.09 | 9.9 | 1.14 | 9.9 | .32 | .40 | 68.1 | 71.1 | .0008 | 565377_OP |
| 9 | 19802 | 22384 | -1.8714A | .0221 | .92 | -5.4 | .85 | -5.6 | .36 | .30 | 88.9 | 88.3 | -.0290 | 565521_OP |
| 10 | 17034 | 22384 | -.8744A | .0172 | 1.05 | 5.6 | 1.12 | 6.9 | .32 | .37 | 77.6 | 78.4 | .0006 | 565525_OP |
| 11 | 14474 | 22384 | -.4061A | .0159 | 1.07 | 9.3 | 1.09 | 7.3 | .39 | .40 | 71.5 | 73.8 | .2113 | 602532_OP |
| 12 | 16996 | 22384 | -1.2859A | .0188 | 1.06 | 5.1 | .83 | -8.3 | .56 | .35 | 78.9 | 82.6 | .4296 | 602533_OP |
| 13 | 15489 | 22384 | -.4505A | .0160 | 1.03 | 4.7 | 1.02 | 1.9 | .36 | .39 | 72.8 | 74.2 | .0006 | 602534_OP |
| 14 | 17144 | 22384 | -1.2012A | .0184 | 1.06 | 5.5 | .94 | -3.1 | .47 | .35 | 79.3 | 81.8 | .2999 | 602535_OP |
| 15 | 11042 | 22384 | .7691A | .0150 | 1.10 | 9.9 | 1.17 | 9.9 | .31 | .40 | 65.6 | 69.3 | -.1752 | 602537_OP |
| 16 | 10009 | 22379 | .7354A | .0150 | 1.07 | 9.9 | 1.11 | 9.9 | .32 | .40 | 66.9 | 69.2 | .0880 | 632772_OP |
| 17 | 17759 | 22379 | -1.2947A | .0188 | 1.01 | .9 | .88 | -6.1 | .46 | .35 | 81.8 | 82.7 | .2004 | 632773_OP |
| 18 | 18085 | 22379 | -.6974A | .0167 | .76 | -9.9 | .65 | -9.9 | .46 | .38 | 83.0 | 76.6 | -.5262 | 632774_OP |
| 19 | 17464 | 22379 | -1.0055A | .0176 | .94 | -6.5 | .80 | -9.9 | .43 | .37 | 79.9 | 79.7 | .0006 | 632777_OP |
| 20 | 12922 | 22379 | .1511A | .0151 | .99 | -1.9 | .96 | -4.3 | .41 | .41 | 70.2 | 70.0 | .0161 | 632778_OP |
| 21 | 15514 | 22379 | -.4574A | .0161 | .97 | -4.2 | .92 | -6.7 | .42 | .39 | 74.6 | 74.3 | .0007 | 632780_OP |
| 22 | 17899 | 22379 | -1.4418A | .0195 | 1.28 | 9.9 | 1.61 | 9.9 | .24 | .34 | 80.5 | 84.2 | .3033 | 632781_OP |
| 23 | 18264 | 22379 | -.9845A | .0176 | .89 | -9.9 | .80 | -9.9 | .35 | .37 | 82.0 | 79.5 | -.2931 | 646001_OP |
| 24 | 15548 | 22379 | -.4537A | .0161 | .96 | -5.8 | .96 | -2.8 | .43 | .39 | 76.0 | 74.2 | -.0120 | 646004_OP |
| 25 | 14431 | 22379 | -.2885A | .0157 | 1.24 | 9.9 | 1.43 | 9.9 | .20 | .40 | 65.6 | 72.8 | .1026 | 646006_OP |
| 26 | 13933 | 22379 | -.0409A | .0153 | 1.05 | 8.1 | 1.06 | 6.0 | .35 | .40 | 68.9 | 71.0 | -.0270 | 646007_OP |
| 27 | 10562 | 22379 | .2116A | .0151 | 1.28 | 9.9 | 1.40 | 9.9 | .21 | .41 | 58.9 | 69.7 | .4870 | 646008_OP |
| 28 | 17997 | 22384 | -1.2117A | .0185 | 1.04 | 3.4 | 1.03 | 1.6 | .34 | .35 | 81.5 | 81.9 | .0365 | 658337_OP |
| 29 | 16077 | 22384 | -.6477A | .0165 | .98 | -2.3 | .93 | -4.6 | .42 | .39 | 75.9 | 76.1 | .0440 | 658340_OP |
| 30 | 14188 | 22384 | .1870A | .0151 | .91 | -9.9 | .88 | -9.9 | .46 | .41 | 73.5 | 69.8 | -.3162 | 658343_OP |
| 31 | 18682 | 22384 | -1.3285A | .0190 | .91 | -8.6 | .79 | -9.9 | .39 | .34 | 84.3 | 83.1 | -.0934 | 658348_OP |
| 32 | 13041 | 22384 | .5474A | .0150 | 1.06 | 9.9 | 1.09 | 9.9 | .35 | .40 | 66.6 | 69.0 | -.4049 | 658350_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | 15571 | 22384 | -.4502A | .0160 | .95 | -7.3 | .94 | -4.8 | .44 | .39 | 75.9 | 74.2 | -.0211 | 658366_OP |
| 34 | 14644 | 22384 | -.1876A | .0156 | .96 | -6.0 | .94 | -5.6 | .43 | .40 | 73.3 | 72.0 | -.0510 | 658368_OP |
| 35 | 15723 | 22384 | -.6063A | .0164 | .98 | -2.0 | .94 | -4.0 | .44 | .39 | 75.9 | 75.7 | .0973 | 658369_OP |
| 36 | 15901 | 22384 | -.3588A | .0159 | .92 | -9.9 | .87 | -9.9 | .43 | .40 | 76.0 | 73.4 | -.2018 | 658374_OP |
| 37 | 15596 | 22384 | -.5735A | .0163 | 1.05 | 6.0 | 1.04 | 2.6 | .38 | .39 | 73.7 | 75.3 | .0975 | 658378_OP |
| 38 | 12110 | 22379 | .3737A | .0150 | 1.12 | 9.9 | 1.18 | 9.9 | .30 | .40 | 64.9 | 69.2 | -.0220 | 687665_OP |
| 39 | 15684 | 22379 | -.2821A | .0157 | .94 | -9.5 | .88 | -9.9 | .41 | .40 | 74.4 | 72.7 | -.2220 | 687667_OP |
| 40 | 12878 | 22379 | .1383A | .0152 | .94 | -9.9 | .91 | -9.9 | .46 | .41 | 72.8 | 70.0 | .0391 | 687669_OP |
| 41 | 19169 | 22379 | -1.2952A | .0188 | .70 | -9.9 | .52 | -9.9 | .51 | .35 | 87.9 | 82.7 | -.3305 | 687670_OP |
| 42 | 11894 | 22379 | .4867A | .0150 | 1.03 | 5.4 | 1.06 | 6.5 | .37 | .40 | 68.2 | 69.1 | -.0859 | 687672_OP |
| 43 | 15751 | 22379 | -.4962A | .0161 | 1.01 | 1.5 | 1.07 | 5.4 | .37 | .39 | 74.6 | 74.6 | -.0225 | 687673_OP |
| 44 | 18851 | 22379 | -1.3326A | .0190 | .83 | -9.9 | .77 | -9.9 | .43 | .34 | 86.1 | 83.1 | -.1576 | 687674_OP |
| 45 | 19197 | 22379 | -1.4202A | .0194 | .79 | -9.9 | .63 | -9.9 | .45 | .34 | 87.2 | 84.0 | -.2127 | 687675_OP |
| 46 | 11536 | 22379 | .5707A | .0150 | .97 | -6.0 | .97 | -3.7 | .43 | .40 | 71.0 | 69.0 | -.0893 | 687676_OP |
| 47 | 14368 | 22379 | .0338A | .0153 | 1.00 | -.5 | .97 | -2.8 | .38 | .40 | 70.2 | 70.6 | -.2068 | 687681_OP |
| 48 | 18176 | 22379 | -1.2478A | .0186 | 1.04 | 4.1 | 1.13 | 6.2 | .30 | .35 | 82.5 | 82.2 | .0102 | 687682_OP |
| 49 | 2903 | 4236 | -.3088 | .0365 | 1.09 | 5.1 | 1.24 | 7.9 | .30 | .38 | 72.3 | 73.6 | .0014 | 706503_FT |
| 50 | 3322 | 4236 | -.9241 | .0406 | 1.04 | 1.7 | 1.06 | 1.3 | .32 | .35 | 79.6 | 79.9 | .0014 | 706504_FT |
| 51 | 3247 | 4236 | -.8034 | .0396 | .98 | -.9 | .98 | -.4 | .38 | .36 | 79.1 | 78.6 | .0014 | 706505_FT |
| 52 | 2993 | 4236 | -.4309 | .0372 | .99 | -.3 | .98 | -.7 | .39 | .38 | 74.9 | 74.7 | .0014 | 706506_FT |
| 53 | 1441 | 4236 | 1.4740 | .0360 | 1.20 | 9.9 | 1.41 | 9.9 | .16 | .36 | 67.6 | 72.4 | .0020 | 706507_FT |
| 54 | 3369 | 4236 | -1.0030 | .0413 | .95 | -2.2 | .83 | -4.0 | .41 | .35 | 80.9 | 80.7 | .0013 | 706508_FT |
| 55 | 2666 | 4236 | -.0039 | .0353 | .89 | -8.0 | .83 | -7.5 | .50 | .39 | 75.4 | 71.1 | .0016 | 706510_FT |
| 56 | 838 | 4236 | 2.3692 | .0421 | 1.13 | 5.2 | 1.94 | 9.9 | .11 | .30 | 81.1 | 81.7 | .0021 | 706511_FT |
| 57 | 2146 | 4236 | .6194 | .0343 | 1.02 | 1.6 | 1.03 | 1.4 | .36 | .39 | 68.3 | 68.6 | .0017 | 706513_FT |
| 58 | 2724 | 4236 | -.0767 | .0356 | 1.03 | 2.1 | 1.01 | .5 | .36 | .39 | 69.9 | 71.6 | .0015 | 706514_FT |
| 59 | 2272 | 3979 | .3004 | .0354 | 1.16 | 9.9 | 1.23 | 9.9 | .22 | .38 | 62.4 | 68.8 | .0015 | 706515_FT |
| 60 | 1233 | 3979 | 1.6186 | .0375 | 1.26 | 9.9 | 1.44 | 9.9 | .10 | .33 | 65.1 | 73.2 | .0016 | 706516_FT |
| 61 | 3262 | 3979 | -1.1656 | .0444 | .96 | -1.6 | .92 | -1.7 | .37 | .33 | 83.2 | 82.7 | .0014 | 706517_FT |
| 62 | 2446 | 3979 | .0799 | .0359 | 1.12 | 7.9 | 1.17 | 7.2 | .26 | .38 | 66.1 | 70.1 | .0015 | 706518_FT |
| 63 | 3003 | 3979 | -.7082 | .0401 | .96 | -2.0 | .93 | -1.9 | .40 | .35 | 78.2 | 77.7 | .0013 | 706519_FT |
| 64 | 2844 | 3979 | -.4641 | .0384 | 1.07 | 3.8 | 1.07 | 2.3 | .29 | .36 | 72.6 | 75.0 | .0013 | 706520_FT |
| 65 | 2353 | 3979 | .1986 | .0356 | .99 | -.8 | .97 | -1.6 | .38 | .38 | 69.6 | 69.3 | .0014 | 706522_FT |
| 66 | 2394 | 3979 | .1465 | .0357 | 1.03 | 2.1 | 1.03 | 1.6 | .34 | .38 | 68.3 | 69.6 | .0015 | 706523_FT |
| 67 | 3008 | 3979 | -.7163 | .0401 | .88 | -6.3 | .79 | -6.3 | .49 | .35 | 79.7 | 77.8 | .0014 | 706524_FT |
| 68 | 3535 | 3979 | -1.8008 | .0532 | .95 | -1.5 | .89 | -1.6 | .34 | .28 | 89.2 | 88.9 | .0013 | 706525_FT |
| 69 | 3148 | 4253 | -.6197 | .0382 | 1.01 | .3 | .96 | -1.2 | .36 | .37 | 76.0 | 76.6 | .0004 | 706526_FT |
| 70 | 3685 | 4253 | -1.5786 | .0480 | .95 | -1.5 | .91 | -1.6 | .36 | .30 | 87.3 | 86.8 | .0005 | 706527_FT |
| 71 | 2675 | 4253 | .0088 | .0351 | 1.05 | 3.6 | 1.08 | 3.3 | .33 | .39 | 69.4 | 70.7 | .0005 | 706528_FT |
| 72 | 3345 | 4253 | -.9246 | .0406 | .98 | -.7 | .95 | -1.3 | .37 | .35 | 80.2 | 80.0 | .0004 | 706529_FT |
| 73 | 3319 | 4253 | -.8821 | .0402 | 1.03 | 1.5 | 1.09 | 2.2 | .32 | .35 | 79.1 | 79.5 | .0005 | 706530_FT |
| 74 | 2855 | 4253 | -.2183 | .0360 | .94 | -3.9 | .93 | -2.7 | .44 | .38 | 75.0 | 72.6 | .0005 | 706531_FT |
| 75 | 3339 | 4253 | -.9147 | .0405 | 1.05 | 2.3 | 1.14 | 3.4 | .29 | .35 | 79.3 | 79.9 | .0005 | 706532_FT |
| 76 | 2393 | 4253 | .3478 | .0343 | 1.21 | 9.9 | 1.31 | 9.9 | .19 | .39 | 60.4 | 68.9 | .0005 | 706534_FT |
| 77 | 2897 | 4253 | -.2731 | .0362 | 1.00 | -.1 | .96 | -1.6 | .38 | .38 | 72.2 | 73.1 | .0004 | 706535_FT |
| 78 | 2416 | 4253 | .3207 | .0344 | 1.08 | 5.7 | 1.11 | 5.1 | .31 | .39 | 66.1 | 69.0 | .0005 | 706536_FT |
| 79 | 2015 | 4116 | .6970 | .0347 | 1.04 | 3.3 | 1.07 | 3.6 | .34 | .39 | 66.4 | 68.6 | .0018 | 706540_FT |
| 80 | 3350 | 4116 | -1.1351 | .0431 | 1.00 | .2 | 1.04 | .9 | .32 | .33 | 82.2 | 82.1 | .0017 | 706541_FT |
| 81 | 1655 | 4116 | 1.1372 | .0354 | 1.01 | .8 | 1.08 | 3.8 | .34 | .38 | 70.5 | 70.2 | .0018 | 706542_FT |
| 82 | 1629 | 4116 | 1.1698 | .0355 | 1.16 | 9.9 | 1.29 | 9.9 | .20 | .37 | 65.5 | 70.4 | .0018 | 706543_FT |
| 83 | 3275 | 4116 | -1.0003 | .0418 | .96 | -1.8 | .87 | -3.2 | .39 | .34 | 80.9 | 80.6 | .0017 | 706544_FT |
| 84 | 3980 | 4116 | -3.2115 | .0891 | .94 | -.7 | .90 | -.7 | .24 | .17 | 96.7 | 96.7 | .0022 | 706545_FT |
| 85 | 3236 | 4116 | -.9333 | .0411 | 1.01 | .6 | .98 | -.5 | .33 | .34 | 79.7 | 79.8 | .0018 | 706546_FT |
| 86 | 2547 | 4116 | .0476 | .0355 | 1.03 | 2.2 | 1.05 | 2.1 | .35 | .39 | 69.7 | 70.4 | .0018 | 706547_FT |
| 87 | 1984 | 4116 | .7344 | .0347 | 1.05 | 3.6 | 1.08 | 3.9 | .33 | .39 | 66.8 | 68.7 | .0018 | 706548_FT |
| 88 | 3485 | 4116 | -1.4030 | .0462 | .98 | -.8 | .97 | -.6 | .33 | .31 | 85.4 | 85.0 | .0018 | 706549_FT |
| 89 | 3001 | 5800 | .1839 | .0299 | .97 | -2.2 | .97 | -1.4 | .45 | .44 | 71.9 | 70.4 | -.0007 | 706552_FT |
| 90 | 2772 | 5800 | .3885 | .0299 | 1.07 | 5.2 | 1.12 | 6.5 | .39 | .44 | 68.4 | 70.5 | -.0007 | 706553_FT |
| 91 | 3195 | 5800 | .0102 | .0300 | .96 | -3.7 | .94 | -3.5 | .47 | .44 | 72.6 | 70.6 | -.0007 | 706554_FT |
| 92 | 3778 | 5800 | -.5284 | .0310 | 1.07 | 5.1 | 1.11 | 4.6 | .36 | .43 | 70.8 | 73.0 | -.0008 | 706555_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EXP. | EXACT MATCH OBS% | EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93 | 3787 | 5800 | -.5370 | .0310 | 1.03 | 2.1 | 1.02 | .9 | .40 | .43 | 72.0 | 73.0 | -.0008 | 706556_FT |
| 94 | 4365 | 5800 | -1.1357 | .0337 | .86 | -8.5 | .76 | -7.7 | .52 | .39 | 81.1 | 77.8 | -.0009 | 706558_FT |
| 95 | 2994 | 5800 | .1902 | .0299 | .98 | -1.6 | .98 | -1.0 | .44 | .44 | 72.0 | 70.4 | -.0008 | 706559_FT |
| 96 | 4445 | 5800 | -1.2279 | .0342 | .89 | -6.7 | .78 | -6.4 | .49 | .39 | 80.9 | 78.6 | -.0009 | 706560_FT |
| 97 | 2637 | 5800 | .5097 | .0300 | 1.09 | 7.3 | 1.17 | 8.5 | .35 | .43 | 68.0 | 70.7 | -.0007 | 706561_FT |
| 98 | 3979 | 5800 | -.7257 | .0317 | 1.15 | 9.8 | 1.29 | 9.7 | .28 | .42 | 70.5 | 74.3 | -.0009 | 706562_FT |
| MEAN | 9177.9 | 13246 | -.4218 | .0278 | 1.02 | 1.1 | 1.02 | .4 | | | 75.1 | 75.9 | | |
| P.SD | 6685.8 | 8963.0 | .8643 | .0123 | .10 | 6.2 | .20 | 6.5 | | | 7.3 | 6.1 | | |

## Grade 7 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EXP. | EXACT MATCH OBS% | EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17903 | 22216 | -1.1548A | .0185 | .99 | -1.2 | .98 | -.8 | .38 | .37 | 82.1 | 81.7 | -.0003 | 564023_OP |
| 2 | 15685 | 22216 | -.4880A | .0164 | .94 | -7.5 | .89 | -8.0 | .46 | .41 | 76.6 | 75.4 | -.0001 | 564024_OP |
| 3 | 13880 | 22216 | -.3949A | .0162 | 1.18 | 9.9 | 1.26 | 9.9 | .36 | .41 | 68.7 | 74.6 | .3685 | 564025_OP |
| 4 | 16762 | 22216 | -.8477A | .0174 | 1.09 | 9.5 | 1.24 | 9.9 | .32 | .39 | 77.0 | 78.7 | .0569 | 565519_OP |
| 5 | 15614 | 22216 | -.4690A | .0164 | 1.04 | 5.2 | 1.05 | 3.4 | .37 | .41 | 73.9 | 75.2 | -.0001 | 565522_OP |
| 6 | 16009 | 22216 | -.4610A | .0163 | .99 | -1.8 | .97 | -2.1 | .39 | .41 | 75.5 | 75.1 | -.1177 | 658383_OP |
| 7 | 13568 | 22216 | .1931A | .0153 | .92 | -9.9 | .89 | -9.9 | .48 | .42 | 74.2 | 70.7 | -.1476 | 658386_OP |
| 8 | 13092 | 22216 | -.1859A | .0158 | 1.12 | 9.9 | 1.12 | 9.4 | .39 | .42 | 68.1 | 72.9 | .3469 | 658387_OP |
| 9 | 14249 | 22216 | -.2485A | .0159 | 1.04 | 6.2 | 1.02 | 1.3 | .41 | .41 | 70.9 | 73.4 | .1303 | 658390_OP |
| 10 | 16596 | 22216 | -.9208A | .0177 | .96 | -4.0 | .83 | -9.7 | .50 | .38 | 79.2 | 79.4 | .1811 | 658393_OP |
| 11 | 16338 | 22216 | -.7267A | .0170 | 1.01 | 1.0 | .97 | -2.0 | .41 | .39 | 76.9 | 77.5 | .0590 | 658413_OP |
| 12 | 13635 | 22216 | -.0968A | .0157 | 1.01 | 1.4 | .96 | -3.3 | .43 | .42 | 71.0 | 72.3 | .1276 | 658414_OP |
| 13 | 14909 | 22216 | -.2375A | .0159 | .92 | -9.9 | .87 | -9.9 | .48 | .42 | 75.9 | 73.3 | -.0480 | 658420_OP |
| 14 | 15699 | 22216 | -.4678A | .0164 | .99 | -1.6 | .93 | -4.9 | .41 | .41 | 74.7 | 75.2 | -.0245 | 658422_OP |
| 15 | 12386 | 22216 | .0173A | .0155 | 1.06 | 8.6 | 1.06 | 5.5 | .42 | .42 | 69.0 | 71.6 | .3080 | 658429_OP |
| 16 | 9858 | 22218 | .8312A | .0152 | .89 | -9.9 | .89 | -9.9 | .48 | .41 | 74.9 | 69.9 | .0755 | 658447_OP |
| 17 | 13090 | 22218 | -.1821A | .0158 | 1.21 | 9.9 | 1.33 | 9.9 | .31 | .42 | 65.9 | 72.9 | .3437 | 658448_OP |
| 18 | 14102 | 22218 | -.1490A | .0157 | 1.08 | 9.9 | 1.09 | 7.8 | .36 | .42 | 70.0 | 72.6 | .0664 | 658450_OP |
| 19 | 8880 | 22218 | 1.0300A | .0153 | 1.01 | .8 | 1.08 | 8.2 | .36 | .41 | 72.0 | 70.5 | .1059 | 658451_OP |
| 20 | 14603 | 22218 | -.0948A | .0157 | .91 | -9.9 | .83 | -9.9 | .48 | .42 | 74.9 | 72.3 | -.1135 | 658454_OP |
| 21 | 16958 | 22218 | -.7213A | .0170 | .93 | -8.8 | .87 | -8.0 | .42 | .39 | 79.0 | 77.5 | -.1324 | 687694_OP |
| 22 | 19380 | 22218 | -1.7378A | .0215 | .85 | -9.9 | .64 | -9.9 | .47 | .32 | 88.0 | 87.3 | -.0003 | 687695_OP |
| 23 | 11668 | 22218 | .4317A | .0152 | 1.00 | .2 | 1.00 | .3 | .41 | .42 | 69.8 | 69.9 | .0586 | 687696_OP |
| 24 | 13419 | 22218 | .3884A | .0152 | 1.05 | 8.3 | 1.08 | 8.2 | .37 | .42 | 68.6 | 70.0 | -.3066 | 687698_OP |
| 25 | 19866 | 22218 | -1.9798A | .0232 | .85 | -9.9 | .54 | -9.9 | .46 | .30 | 89.6 | 89.4 | -.0005 | 687700_OP |
| 26 | 15109 | 22218 | -.2585A | .0159 | 1.06 | 7.7 | 1.11 | 8.6 | .35 | .41 | 72.3 | 73.4 | -.0787 | 687701_OP |
| 27 | 19712 | 22218 | -1.5437A | .0204 | .79 | -9.9 | .71 | -9.9 | .34 | .34 | 89.0 | 85.5 | -.3723 | 687704_OP |
| 28 | 14572 | 22218 | -.2504A | .0159 | 1.03 | 3.9 | 1.03 | 2.6 | .40 | .41 | 72.5 | 73.4 | .0514 | 687706_OP |
| 29 | 14987 | 22216 | -.1372A | .0157 | .94 | -9.4 | .92 | -7.5 | .44 | .42 | 75.0 | 72.5 | -.1697 | 687707_OP |
| 30 | 18110 | 22216 | -1.1247A | .0184 | .79 | -9.9 | .63 | -9.9 | .53 | .37 | 85.1 | 81.4 | -.1061 | 687708_OP |
| 31 | 16887 | 22216 | -.8063A | .0173 | .99 | -.7 | 1.00 | .1 | .39 | .39 | 78.9 | 78.3 | -.0237 | 687712_OP |
| 32 | 17393 | 22216 | -.9165A | .0176 | 1.03 | 2.8 | 1.11 | 5.6 | .32 | .38 | 79.4 | 79.4 | -.0717 | 687714_OP |
| 33 | 18696 | 22216 | -1.3858A | .0196 | .90 | -8.9 | .99 | -.4 | .40 | .35 | 86.0 | 84.0 | -.0630 | 687718_OP |
| 34 | 15987 | 22216 | -.4710A | .0164 | .97 | -3.4 | .96 | -2.6 | .40 | .41 | 76.2 | 75.2 | -.1013 | 687720_OP |
| 35 | 14955 | 22216 | -.5363A | .0165 | 1.13 | 9.9 | 1.16 | 9.9 | .37 | .40 | 71.4 | 75.8 | .2425 | 687722_OP |
| 36 | 19221 | 22216 | -1.4223A | .0198 | .73 | -9.9 | .54 | -9.9 | .48 | .35 | 88.3 | 84.4 | -.2545 | 687724_OP |
| 37 | 11054 | 22216 | .5914A | .0152 | 1.10 | 9.9 | 1.16 | 9.9 | .33 | .42 | 65.7 | 69.7 | .0400 | 687725_OP |
| 38 | 19548 | 22216 | -1.8183A | .0220 | .86 | -9.9 | .60 | -9.9 | .46 | .31 | 88.6 | 88.1 | -.0004 | 687726_OP |
| 39 | 16702 | 22216 | -.8956A | .0176 | .93 | -7.4 | .81 | -9.9 | .50 | .38 | 80.0 | 79.2 | .1239 | 687727_OP |
| 40 | 14186 | 22216 | -.1477A | .0157 | 1.00 | .3 | 1.00 | .3 | .43 | .42 | 72.6 | 72.6 | .0442 | 687729_OP |
| 41 | 19624 | 22218 | -1.7487A | .0216 | .81 | -9.9 | .56 | -9.9 | .45 | .32 | 88.9 | 87.4 | -.1107 | 687731_OP |
| 42 | 14479 | 22218 | -.0400A | .0156 | 1.06 | 9.4 | 1.11 | 9.2 | .34 | .42 | 69.8 | 71.9 | -.1375 | 687732_OP |
| 43 | 16721 | 22218 | -.7793A | .0172 | .95 | -6.4 | .89 | -6.6 | .45 | .39 | 78.9 | 78.0 | -.0003 | 687733_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 17583 | 22218 | -1.0471A | .0181 | .93 | -7.3 | .89 | -5.8 | .44 | .37 | 81.8 | 80.7 | -.0003 | 687735_OP |
| 45 | 11464 | 22218 | .5537A | .0152 | 1.25 | 9.9 | 1.35 | 9.9 | .22 | .42 | 59.9 | 69.7 | -.0162 | 687737_OP |
| 46 | 12058 | 22218 | .7140A | .0152 | .95 | -8.4 | .97 | -3.4 | .47 | .42 | 73.0 | 69.7 | -.3106 | 687738_OP |
| 47 | 17413 | 22218 | -.6349A | .0168 | .74 | -9.9 | .61 | -9.9 | .54 | .40 | 83.8 | 76.7 | -.3680 | 687739_OP |
| 48 | 14606 | 22218 | -.1098A | .0157 | .97 | -3.8 | .92 | -7.1 | .42 | .42 | 72.3 | 72.4 | -.0993 | 687741_OP |
| 49 | 2475 | 4168 | .2504 | .0354 | .97 | -2.3 | .95 | -2.3 | .44 | .41 | 72.6 | 70.6 | .0006 | 706685_FT |
| 50 | 3621 | 4168 | -1.5712 | .0490 | .97 | -1.0 | .89 | -1.7 | .35 | .31 | 87.2 | 87.0 | .0003 | 706686_FT |
| 51 | 3544 | 4168 | -1.3954 | .0466 | .99 | -.5 | .93 | -1.2 | .34 | .33 | 85.7 | 85.3 | .0003 | 706689_FT |
| 52 | 2772 | 4168 | -.1333 | .0366 | .91 | -6.1 | .83 | -6.5 | .49 | .41 | 75.7 | 72.9 | .0005 | 706690_FT |
| 53 | 2082 | 4168 | .7341 | .0349 | 1.14 | 9.8 | 1.20 | 9.4 | .30 | .41 | 64.5 | 69.5 | .0006 | 706691_FT |
| 54 | 1686 | 4168 | 1.2239 | .0356 | 1.11 | 7.3 | 1.25 | 9.9 | .28 | .40 | 68.6 | 70.9 | .0007 | 706692_FT |
| 55 | 1842 | 4168 | 1.0287 | .0352 | 1.05 | 3.4 | 1.07 | 3.0 | .36 | .41 | 67.5 | 70.1 | .0007 | 706693_FT |
| 56 | 2444 | 4168 | .2892 | .0353 | 1.13 | 8.9 | 1.20 | 8.4 | .30 | .41 | 65.5 | 70.4 | .0005 | 706694_FT |
| 57 | 2978 | 4168 | -.4191 | .0380 | .96 | -2.5 | .89 | -3.5 | .44 | .39 | 76.1 | 75.3 | .0005 | 706695_FT |
| 58 | 3075 | 4168 | -.5621 | .0389 | .90 | -5.5 | .79 | -6.1 | .49 | .39 | 78.0 | 76.7 | .0004 | 706696_FT |
| 59 | 4083 | 5585 | -.9834 | .0338 | 1.08 | 4.8 | 1.37 | 9.6 | .34 | .42 | 75.7 | 76.8 | -.0029 | 706699_FT |
| 60 | 3762 | 5585 | -.6336 | .0323 | .91 | -6.2 | .81 | -7.2 | .52 | .44 | 76.4 | 74.4 | -.0028 | 706700_FT |
| 61 | 4224 | 5585 | -1.1487 | .0347 | .98 | -1.3 | .95 | -1.4 | .42 | .41 | 79.7 | 78.2 | -.0029 | 706701_FT |
| 62 | 1405 | 3971 | 1.4558 | .0366 | 1.26 | 9.9 | 1.47 | 9.9 | .11 | .36 | 63.1 | 71.4 | .0017 | 706703_FT |
| 63 | 2401 | 3971 | .1948 | .0359 | 1.27 | 9.9 | 1.37 | 9.9 | .13 | .39 | 59.7 | 69.9 | .0015 | 706706_FT |
| 64 | 3062 | 3971 | -.7562 | .0410 | .94 | -2.7 | .85 | -4.1 | .42 | .35 | 79.6 | 78.8 | .0013 | 706707_FT |
| 65 | 2035 | 3971 | .6553 | .0352 | 1.14 | 9.9 | 1.20 | 9.9 | .24 | .38 | 61.7 | 68.3 | .0016 | 706708_FT |
| 66 | 3428 | 3971 | -1.4822 | .0492 | .90 | -3.3 | .73 | -4.9 | .42 | .30 | 86.8 | 86.5 | .0011 | 706709_FT |
| 67 | 2138 | 3971 | .5273 | .0353 | 1.26 | 9.9 | 1.35 | 9.9 | .13 | .39 | 57.0 | 68.5 | .0015 | 706710_FT |
| 68 | 2441 | 3971 | .1430 | .0361 | 1.05 | 3.3 | 1.07 | 3.1 | .34 | .38 | 68.5 | 70.2 | .0014 | 706711_FT |
| 69 | 2972 | 3971 | -.6091 | .0399 | 1.07 | 3.2 | 1.09 | 2.5 | .29 | .36 | 76.6 | 77.2 | .0013 | 706712_FT |
| 70 | 2664 | 3971 | -.1551 | .0372 | 1.07 | 4.2 | 1.08 | 2.8 | .31 | .38 | 70.0 | 72.6 | .0013 | 706713_FT |
| 71 | 1391 | 3971 | 1.4746 | .0367 | 1.14 | 8.6 | 1.26 | 9.6 | .22 | .36 | 67.3 | 71.6 | .0017 | 706714_FT |
| 72 | 2726 | 4507 | .1604 | .0340 | .99 | -1.0 | .96 | -1.8 | .41 | .40 | 70.4 | 70.4 | .0014 | 706715_FT |
| 73 | 1785 | 4507 | 1.2178 | .0340 | 1.19 | 9.9 | 1.29 | 9.9 | .23 | .38 | 63.9 | 70.4 | .0017 | 706716_FT |
| 74 | 2246 | 4507 | .6995 | .0333 | 1.23 | 9.9 | 1.32 | 9.9 | .17 | .40 | 58.8 | 68.9 | .0016 | 706718_FT |
| 75 | 1631 | 4507 | 1.3980 | .0345 | 1.01 | .9 | 1.12 | 5.0 | .33 | .37 | 72.8 | 71.6 | .0018 | 706719_FT |
| 76 | 3689 | 4507 | -1.1479 | .0418 | .85 | -6.3 | .67 | -8.2 | .50 | .34 | 84.4 | 82.7 | .0011 | 706720_FT |
| 77 | 1969 | 4507 | 1.0083 | .0335 | 1.23 | 9.9 | 1.33 | 9.9 | .19 | .39 | 59.4 | 69.4 | .0017 | 706721_FT |
| 78 | 3472 | 4507 | -.7978 | .0387 | 1.08 | 3.8 | 1.32 | 7.8 | .28 | .37 | 78.8 | 79.0 | .0012 | 706722_FT |
| 79 | 3669 | 4507 | -1.1133 | .0415 | .97 | -1.2 | .89 | -2.5 | .38 | .35 | 82.2 | 82.3 | .0011 | 706724_FT |
| 80 | 2190 | 4507 | .7617 | .0333 | 1.09 | 6.7 | 1.15 | 7.7 | .30 | .40 | 65.4 | 68.9 | .0016 | 706725_FT |
| 81 | 3470 | 4507 | -.7948 | .0387 | .88 | -6.1 | .76 | -7.0 | .49 | .37 | 81.0 | 79.0 | .0012 | 706726_FT |
| 82 | 3235 | 3987 | -1.0723 | .0440 | .96 | -1.8 | .97 | -.7 | .39 | .35 | 83.0 | 82.0 | .0001 | 706728_FT |
| 83 | 1957 | 3987 | .7693 | .0356 | 1.18 | 9.9 | 1.31 | 9.9 | .25 | .41 | 62.9 | 69.3 | .0004 | 706729_FT |
| 84 | 1289 | 3987 | 1.6519 | .0378 | 1.06 | 3.7 | 1.23 | 7.5 | .28 | .37 | 73.6 | 73.7 | .0005 | 706730_FT |
| 85 | 3129 | 5585 | -.0054 | .0309 | .97 | -2.5 | .93 | -3.3 | .48 | .46 | 73.2 | 71.7 | -.0026 | 706731_FT |
| 86 | 4220 | 5585 | -1.1439 | .0347 | .94 | -3.3 | 1.02 | .6 | .45 | .41 | 80.6 | 78.2 | -.0029 | 706732_FT |
| 87 | 3254 | 3987 | -1.1093 | .0443 | .96 | -1.4 | .90 | -1.9 | .39 | .35 | 82.7 | 82.4 | .0000 | 706733_FT |
| 88 | 2902 | 3987 | -.5026 | .0393 | .96 | -2.0 | .91 | -2.5 | .43 | .39 | 76.6 | 76.2 | .0001 | 706734_FT |
| 89 | 3065 | 5585 | .0558 | .0309 | 1.21 | 9.9 | 1.26 | 9.9 | .29 | .46 | 63.4 | 71.6 | -.0026 | 706735_FT |
| 90 | 3999 | 5585 | -.8887 | .0333 | 1.00 | -.1 | 1.01 | .2 | .43 | .42 | 75.7 | 76.1 | -.0028 | 706736_FT |
| 91 | 3030 | 5585 | .0892 | .0309 | 1.24 | 9.9 | 1.35 | 9.9 | .28 | .46 | 63.5 | 71.5 | -.0026 | 706737_FT |
| 92 | 2807 | 5585 | .3010 | .0308 | .91 | -6.9 | .91 | -4.6 | .52 | .46 | 76.0 | 71.3 | -.0025 | 706738_FT |
| 93 | 2031 | 5585 | 1.0549 | .0319 | 1.20 | 9.9 | 1.36 | 9.9 | .27 | .44 | 68.0 | 73.6 | -.0024 | 706739_FT |
| 94 | 2625 | 3987 | -.0996 | .0372 | 1.01 | .7 | .99 | -.4 | .39 | .40 | 72.3 | 72.6 | .0002 | 706740_FT |
| 95 | 3321 | 3987 | -1.2454 | .0458 | 1.00 | -.1 | .99 | -.2 | .34 | .34 | 84.3 | 83.8 | .0001 | 706742_FT |
| 96 | 2616 | 3987 | -.0872 | .0371 | .98 | -1.3 | .96 | -1.4 | .42 | .40 | 73.4 | 72.5 | .0002 | 706865_FT |
| 97 | 2421 | 3987 | .1751 | .0363 | 1.08 | 5.2 | 1.15 | 6.0 | .33 | .41 | 68.4 | 70.8 | .0003 | 706866_FT |
| 98 | 2055 | 3987 | .6453 | .0356 | .96 | -2.7 | .94 | -2.8 | .43 | .41 | 70.7 | 69.3 | .0003 | 706867_FT |
| MEAN | 8944.3 | 13149 | -.2529 | .0272 | 1.01 | .5 | 1.01 | .6 | | | 74.3 | 75.3 | | |
| P.SD | 6607.2 | 8895.2 | .8328 | .0106 | .12 | 7.0 | .21 | 7.1 | | | 7.7 | 5.3 | | |

## Grade 8 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EXP. | EXACT MATCH OBS% | EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15885 | 21900 | -.4813A | .0159 | .93 | -9.5 | .87 | -9.9 | .38 | .39 | 74.7 | 73.1 | -.3059 | 564170_OP |
| 2 | 16110 | 21900 | -.8457A | .0168 | .94 | -7.3 | .86 | -9.9 | .44 | .37 | 77.2 | 76.6 | -.0002 | 564171_OP |
| 3 | 18319 | 21900 | -1.8577A | .0213 | 1.09 | 6.1 | .92 | -3.4 | .44 | .31 | 84.5 | 87.0 | .2989 | 564173_OP |
| 4 | 15497 | 21900 | -.6775A | .0163 | 1.05 | 6.8 | 1.05 | 3.5 | .33 | .38 | 73.1 | 74.9 | -.0002 | 564177_OP |
| 5 | 13302 | 21900 | -.1311A | .0153 | 1.09 | 9.9 | 1.10 | 9.9 | .31 | .39 | 66.6 | 70.4 | .0000 | 564184_OP |
| 6 | 11276 | 21900 | .0901A | .0151 | 1.06 | 9.9 | 1.08 | 8.8 | .35 | .39 | 66.2 | 69.2 | .2421 | 602765_OP |
| 7 | 14612 | 21900 | -.6454A | .0163 | 1.06 | 8.1 | 1.07 | 5.2 | .39 | .38 | 72.2 | 74.6 | .1983 | 602766_OP |
| 8 | 12474 | 21900 | -.1802A | .0154 | 1.24 | 9.9 | 1.30 | 9.9 | .22 | .39 | 60.9 | 70.7 | .2414 | 602767_OP |
| 9 | 16690 | 21900 | -1.0143A | .0173 | 1.00 | -.2 | 1.02 | 1.3 | .37 | .37 | 78.7 | 78.4 | -.0003 | 602769_OP |
| 10 | 15999 | 21900 | -.9752A | .0172 | .95 | -5.6 | .87 | -9.0 | .49 | .37 | 78.0 | 78.0 | .1629 | 602771_OP |
| 11 | 16637 | 21900 | -1.1497A | .0178 | 1.00 | .2 | .97 | -1.6 | .43 | .36 | 79.5 | 79.8 | .1535 | 602775_OP |
| 12 | 10674 | 21900 | .1370A | .0151 | 1.00 | .2 | 1.01 | 1.2 | .41 | .39 | 69.1 | 69.0 | .3302 | 602776_OP |
| 13 | 19793 | 21913 | -1.9071A | .0216 | .80 | -9.9 | .79 | -8.4 | .29 | .30 | 90.6 | 87.5 | -.3536 | 633372_OP |
| 14 | 14954 | 21913 | -.1591A | .0154 | 1.01 | .8 | .99 | -.9 | .33 | .39 | 69.9 | 70.6 | -.3766 | 633374_OP |
| 15 | 17172 | 21913 | -1.0272A | .0174 | .90 | -9.9 | .88 | -7.9 | .40 | .36 | 81.2 | 78.5 | -.1369 | 633376_OP |
| 16 | 16648 | 21913 | -.6552A | .0163 | .88 | -9.9 | .86 | -9.9 | .39 | .38 | 79.1 | 74.7 | -.3511 | 633378_OP |
| 17 | 15034 | 21913 | -.2316A | .0155 | 1.08 | 9.9 | 1.12 | 9.9 | .26 | .39 | 68.4 | 71.1 | -.3248 | 633380_OP |
| 18 | 18102 | 21913 | -1.2346A | .0181 | .85 | -9.9 | .82 | -9.9 | .38 | .35 | 84.5 | 80.7 | -.2520 | 633382_OP |
| 19 | 16951 | 21913 | -1.1289A | .0177 | 1.01 | .7 | 1.12 | 6.7 | .36 | .36 | 80.5 | 79.6 | .0379 | 633383_OP |
| 20 | 15842 | 21900 | -.9015A | .0170 | 1.00 | -.1 | .93 | -4.8 | .43 | .37 | 76.1 | 77.2 | .1321 | 646094_OP |
| 21 | 15118 | 21900 | -.5863A | .0161 | .87 | -9.9 | .77 | -9.9 | .52 | .38 | 77.3 | 74.1 | .0085 | 646095_OP |
| 22 | 16944 | 21900 | -1.0662A | .0175 | .97 | -3.1 | .95 | -3.4 | .38 | .36 | 80.0 | 78.9 | -.0265 | 646099_OP |
| 23 | 15136 | 21900 | -.5823A | .0161 | .94 | -8.5 | .89 | -9.0 | .45 | .38 | 75.6 | 74.0 | -.0001 | 646100_OP |
| 24 | 11766 | 21900 | .4030A | .0150 | 1.09 | 9.9 | 1.12 | 9.9 | .31 | .39 | 64.4 | 68.3 | -.1786 | 646101_OP |
| 25 | 10905 | 21900 | .0654A | .0151 | 1.16 | 9.9 | 1.23 | 9.9 | .28 | .39 | 63.0 | 69.3 | .3500 | 646104_OP |
| 26 | 17339 | 21913 | -1.1962A | .0180 | .88 | -9.9 | .79 | -9.9 | .47 | .35 | 82.8 | 80.3 | -.0191 | 658456_OP |
| 27 | 9345 | 21913 | 1.0540A | .0154 | 1.08 | 9.9 | 1.16 | 9.9 | .35 | .36 | 67.6 | 70.4 | -.2762 | 658457_OP |
| 28 | 18108 | 21913 | -1.4767A | .0192 | .92 | -7.2 | .77 | -9.9 | .43 | .34 | 83.9 | 83.2 | -.0048 | 658460_OP |
| 29 | 12333 | 21913 | .3407A | .0150 | .98 | -3.5 | .98 | -2.2 | .40 | .39 | 69.4 | 68.4 | -.2436 | 658461_OP |
| 30 | 12599 | 21913 | .1906A | .0151 | .98 | -3.2 | .97 | -3.8 | .40 | .39 | 69.3 | 68.8 | -.1559 | 658463_OP |
| 31 | 11367 | 21913 | .0610A | .0151 | 1.20 | 9.9 | 1.28 | 9.9 | .24 | .39 | 61.4 | 69.3 | .2520 | 658464_OP |
| 32 | 10076 | 21913 | .5033A | .0150 | 1.10 | 9.9 | 1.13 | 9.9 | .29 | .38 | 63.6 | 68.3 | .1003 | 658465_OP |
| 33 | 16899 | 21900 | -1.1367A | .0178 | .99 | -1.0 | 1.07 | 4.0 | .39 | .36 | 80.6 | 79.7 | .0596 | 687745_OP |
| 34 | 16212 | 21900 | -1.0696A | .0175 | 1.02 | 2.0 | .92 | -5.0 | .45 | .36 | 77.2 | 79.0 | .1977 | 687746_OP |
| 35 | 15375 | 21900 | -.9032A | .0170 | 1.00 | .3 | .89 | -7.4 | .49 | .37 | 75.0 | 77.2 | .2609 | 687747_OP |
| 36 | 14692 | 21900 | -.5690A | .0161 | 1.10 | 9.9 | 1.13 | 9.9 | .31 | .38 | 70.9 | 73.9 | .1011 | 687750_OP |
| 37 | 16320 | 21900 | -.7375A | .0165 | .84 | -9.9 | .74 | -9.9 | .48 | .38 | 79.2 | 75.5 | -.1713 | 687751_OP |
| 38 | 11847 | 21900 | .0629A | .0151 | .97 | -5.4 | .94 | -6.8 | .43 | .39 | 70.0 | 69.3 | .1408 | 687752_OP |
| 39 | 16504 | 21913 | -.9819A | .0172 | .96 | -4.7 | .87 | -9.0 | .43 | .37 | 78.2 | 78.0 | .0253 | 687755_OP |
| 40 | 15256 | 21913 | -.7699A | .0166 | 1.05 | 6.0 | 1.05 | 3.4 | .39 | .38 | 74.4 | 75.9 | .1598 | 687758_OP |
| 41 | 15711 | 21913 | -.3829A | .0157 | .87 | -9.9 | .85 | -9.9 | .44 | .39 | 77.4 | 72.3 | -.3545 | 687761_OP |
| 42 | 15832 | 21913 | -.4466A | .0158 | .93 | -9.9 | .88 | -9.9 | .38 | .39 | 74.8 | 72.8 | -.3239 | 687762_OP |
| 43 | 18981 | 21913 | -1.8351A | .0212 | .92 | -6.4 | .77 | -9.6 | .40 | .31 | 87.2 | 86.8 | -.0003 | 687764_OP |
| 44 | 10188 | 21900 | .3068A | .0150 | 1.05 | 8.2 | 1.07 | 8.8 | .34 | .39 | 66.7 | 68.5 | .2696 | 687775_OP |
| 45 | 14092 | 21900 | -.2694A | .0155 | .98 | -2.5 | .99 | -1.4 | .40 | .39 | 72.5 | 71.4 | -.0509 | 687776_OP |
| 46 | 17808 | 21900 | -1.3209A | .0185 | .80 | -9.9 | .61 | -9.9 | .54 | .35 | 84.3 | 81.6 | -.0572 | 687778_OP |
| 47 | 13233 | 21900 | -.1132A | .0153 | 1.18 | 9.9 | 1.26 | 9.9 | .22 | .39 | 63.8 | 70.3 | -.0017 | 687782_OP |
| 48 | 17668 | 21900 | -1.4123A | .0189 | .96 | -3.7 | .81 | -9.9 | .44 | .34 | 82.5 | 82.6 | .0863 | 687783_OP |
| 49 | 17002 | 21900 | -1.1734A | .0179 | 1.03 | 2.8 | .99 | -.4 | .36 | .36 | 79.1 | 80.1 | .0645 | 687784_OP |
| 50 | 16588 | 21900 | -.8611A | .0168 | 1.07 | 7.7 | 1.16 | 9.9 | .25 | .37 | 75.8 | 76.8 | -.1254 | 687785_OP |
| 51 | 1782 | 3933 | .7104 | .0351 | 1.14 | 9.9 | 1.21 | 9.9 | .19 | .35 | 61.9 | 67.4 | .0006 | 706743_FT |
| 52 | 2079 | 3933 | .3474 | .0350 | 1.14 | 9.9 | 1.19 | 9.9 | .22 | .36 | 60.0 | 67.3 | .0005 | 706744_FT |
| 53 | 2694 | 3933 | -.4424 | .0373 | 1.06 | 3.6 | 1.10 | 3.7 | .29 | .35 | 70.8 | 72.7 | .0004 | 706745_FT |
| 54 | 406 | 3933 | 2.9880 | .0549 | 1.16 | 3.8 | 2.50 | 9.9 | -.05 | .21 | 89.5 | 89.8 | .0009 | 706747_FT |
| 55 | 2427 | 3933 | -.0866 | .0358 | 1.00 | .0 | .97 | -1.3 | .36 | .36 | 68.9 | 69.5 | .0004 | 706748_FT |
| 56 | 2654 | 3933 | -.3871 | .0370 | 1.04 | 2.6 | 1.04 | 1.5 | .31 | .35 | 69.8 | 72.2 | .0004 | 706749_FT |
| 57 | 3577 | 3933 | -2.1796 | .0579 | .88 | -3.0 | .66 | -5.3 | .40 | .24 | 91.1 | 91.0 | .0003 | 706751_FT |
| 58 | 2595 | 3933 | -.3070 | .0367 | 1.05 | 3.3 | 1.04 | 1.8 | .30 | .35 | 68.6 | 71.4 | .0004 | 706752_FT |
| 59 | 1715 | 3933 | .7929 | .0352 | 1.06 | 4.3 | 1.09 | 4.9 | .28 | .35 | 65.6 | 67.7 | .0006 | 706753_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 2783 | 3933 | -.5685 | .0380 | .94 | -3.4 | .90 | -3.6 | .41 | .35 | 76.3 | 74.1 | .0004 | 706754_FT |
| 61 | 3476 | 4227 | -1.3333 | .0430 | .95 | -2.1 | .86 | -3.5 | .38 | .31 | 83.9 | 82.9 | .0014 | 706755_FT |
| 62 | 3694 | 4227 | -1.7886 | .0489 | 1.02 | .5 | 1.01 | .3 | .26 | .28 | 87.6 | 87.5 | .0013 | 706756_FT |
| 63 | 1924 | 4227 | .6879 | .0338 | 1.27 | 9.9 | 1.38 | 9.9 | .08 | .35 | 55.7 | 67.3 | .0020 | 706757_FT |
| 64 | 3713 | 4227 | -1.8348 | .0497 | .95 | -1.6 | .85 | -2.8 | .34 | .28 | 88.5 | 88.0 | .0013 | 706758_FT |
| 65 | 2191 | 4227 | .3849 | .0337 | 1.10 | 8.3 | 1.15 | 8.4 | .25 | .36 | 62.0 | 67.2 | .0019 | 706759_FT |
| 66 | 3329 | 4227 | -1.0785 | .0404 | .98 | -1.1 | .91 | -2.5 | .36 | .33 | 80.3 | 80.0 | .0015 | 706760_FT |
| 67 | 2818 | 4227 | -.3553 | .0356 | .95 | -3.4 | .93 | -3.0 | .41 | .36 | 73.9 | 71.8 | .0017 | 706761_FT |
| 68 | 1214 | 4227 | 1.5501 | .0367 | 1.24 | 9.9 | 1.50 | 9.9 | .05 | .31 | 67.0 | 73.9 | .0022 | 706762_FT |
| 69 | 1614 | 4227 | 1.0475 | .0345 | 1.08 | 5.6 | 1.21 | 9.7 | .23 | .34 | 67.7 | 69.0 | .0021 | 706764_FT |
| 70 | 1541 | 4227 | 1.1349 | .0348 | 1.04 | 3.1 | 1.11 | 5.0 | .27 | .33 | 68.8 | 69.7 | .0021 | 706766_FT |
| 71 | 3891 | 5533 | -.9726 | .0328 | .84 | -9.9 | .73 | -9.9 | .56 | .41 | 79.4 | 75.2 | -.0026 | 706768_FT |
| 72 | 3901 | 5533 | -.9833 | .0329 | 1.21 | 9.9 | 1.57 | 9.9 | .20 | .41 | 70.4 | 75.3 | -.0026 | 706769_FT |
| 73 | 1958 | 5533 | .8885 | .0315 | 1.37 | 9.9 | 1.59 | 9.9 | .10 | .40 | 60.6 | 72.3 | -.0020 | 706771_FT |
| 74 | 3955 | 5533 | -1.0422 | .0331 | .94 | -4.2 | .86 | -5.2 | .47 | .41 | 77.3 | 75.7 | -.0025 | 706772_FT |
| 75 | 3876 | 5533 | -.9563 | .0328 | .93 | -4.9 | .83 | -6.8 | .48 | .41 | 76.6 | 75.1 | -.0026 | 706773_FT |
| 76 | 3226 | 5533 | -.3063 | .0308 | 1.08 | 5.8 | 1.09 | 4.7 | .36 | .43 | 68.3 | 71.3 | -.0024 | 706774_FT |
| 77 | 3451 | 5533 | -.5229 | .0313 | .92 | -6.4 | .87 | -6.2 | .50 | .43 | 74.7 | 72.3 | -.0024 | 706775_FT |
| 78 | 3981 | 5533 | -1.0709 | .0333 | .94 | -3.6 | .87 | -4.8 | .46 | .41 | 77.4 | 76.0 | -.0025 | 706776_FT |
| 79 | 4110 | 5533 | -1.2172 | .0341 | .87 | -8.1 | .72 | -9.8 | .52 | .40 | 79.5 | 77.2 | -.0026 | 706777_FT |
| 80 | 3939 | 5533 | -1.0247 | .0331 | .97 | -2.0 | 1.03 | .9 | .43 | .41 | 77.5 | 75.6 | -.0025 | 706778_FT |
| 81 | 3031 | 4168 | -.6650 | .0380 | .89 | -6.5 | .81 | -6.6 | .49 | .36 | 78.4 | 75.9 | .0002 | 706779_FT |
| 82 | 1917 | 4168 | .7194 | .0343 | 1.00 | .1 | 1.02 | .9 | .36 | .37 | 68.1 | 68.0 | .0003 | 706780_FT |
| 83 | 3245 | 4168 | -.9929 | .0405 | .97 | -1.6 | 1.01 | .2 | .38 | .35 | 80.4 | 79.4 | .0002 | 706781_FT |
| 84 | 3763 | 4168 | -2.1014 | .0550 | .85 | -3.9 | .55 | -7.7 | .46 | .27 | 90.4 | 90.3 | .0002 | 706782_FT |
| 85 | 2967 | 4168 | -.5740 | .0374 | .96 | -2.5 | 1.00 | .0 | .41 | .37 | 77.1 | 74.9 | .0002 | 706783_FT |
| 86 | 3145 | 4168 | -.8345 | .0392 | .90 | -5.0 | .78 | -6.8 | .46 | .36 | 78.6 | 77.7 | .0002 | 706784_FT |
| 87 | 2154 | 4168 | .4416 | .0342 | 1.09 | 6.8 | 1.12 | 6.3 | .28 | .38 | 64.3 | 67.9 | .0003 | 706785_FT |
| 88 | 2628 | 4168 | -.1276 | .0354 | 1.02 | 1.2 | 1.02 | .8 | .36 | .38 | 70.7 | 70.8 | .0003 | 706787_FT |
| 89 | 2944 | 4168 | -.5419 | .0372 | .94 | -3.5 | .86 | -5.1 | .43 | .37 | 75.5 | 74.6 | .0002 | 706788_FT |
| 90 | 3021 | 4168 | -.6506 | .0379 | .98 | -.9 | .92 | -2.5 | .38 | .37 | 75.5 | 75.7 | .0001 | 706789_FT |
| 91 | 3449 | 4052 | -1.5799 | .0471 | .89 | -3.9 | .68 | -6.5 | .45 | .31 | 85.7 | 85.4 | .0004 | 706791_FT |
| 92 | 3849 | 4052 | -2.8956 | .0742 | .93 | -1.1 | .59 | -4.5 | .31 | .20 | 95.0 | 95.0 | .0004 | 706792_FT |
| 93 | 1770 | 4052 | .8184 | .0351 | 1.11 | 8.1 | 1.16 | 7.6 | .26 | .37 | 63.9 | 68.7 | .0006 | 706793_FT |
| 94 | 2603 | 4052 | -.2120 | .0362 | 1.06 | 3.9 | 1.06 | 2.3 | .32 | .38 | 68.7 | 71.3 | .0004 | 706794_FT |
| 95 | 3132 | 4052 | -.9785 | .0407 | .91 | -4.1 | .87 | -3.5 | .44 | .35 | 81.3 | 78.9 | .0004 | 706795_FT |
| 96 | 3188 | 4052 | -1.0732 | .0415 | .91 | -4.3 | .80 | -5.1 | .45 | .35 | 81.5 | 80.0 | .0004 | 706796_FT |
| 97 | 3093 | 4052 | -.9147 | .0402 | .91 | -4.7 | .80 | -5.6 | .46 | .36 | 80.3 | 78.2 | .0003 | 706797_FT |
| 98 | 3478 | 4052 | -1.6456 | .0480 | .88 | -4.0 | .75 | -4.7 | .44 | .31 | 86.8 | 86.0 | .0004 | 706799_FT |
| 99 | 1770 | 4052 | .8184 | .0351 | 1.14 | 9.9 | 1.27 | 9.9 | .20 | .37 | 65.7 | 68.7 | .0006 | 706800_FT |
| 100 | 1590 | 4052 | 1.0432 | .0356 | .95 | -3.9 | 1.01 | .7 | .38 | .37 | 73.2 | 69.9 | .0006 | 706801_FT |
| MEAN | 8944.7 | 13144 | -.5075 | .0278 | 1.00 | .1 | .99 | -.5 | | | 74.8 | 75.5 | | |
| P.SD | 6404.7 | 8770.9 | .9004 | .0125 | .11 | 6.6 | .24 | 7.1 | | | 8.1 | 6.2 | | |

## Grade 11 Reading

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 13614 | 21113 | -.7665A | .0165 | 1.22 | 9.9 | 1.34 | 9.9 | .28 | .41 | 68.1 | 74.4 | .2353 | 602805_OP |
| 2 | 13282 | 21113 | -.3896A | .0159 | 1.07 | 9.9 | 1.09 | 8.0 | .34 | .41 | 68.5 | 71.5 | -.0584 | 602808_OP |
| 3 | 13501 | 21113 | -.3700A | .0158 | .87 | -9.9 | .81 | -9.9 | .51 | .41 | 76.4 | 71.4 | -.1343 | 602810_OP |
| 4 | 12096 | 21113 | -.2182A | .0157 | 1.02 | 2.7 | 1.02 | 2.3 | .40 | .42 | 69.8 | 70.5 | .0653 | 602811_OP |
| 5 | 11718 | 21113 | .1252A | .0155 | .98 | -3.1 | .99 | -.7 | .42 | .41 | 70.8 | 69.3 | -.1849 | 602818_OP |
| 6 | 17011 | 21113 | -1.6921A | .0197 | 1.07 | 6.3 | 1.09 | 3.7 | .37 | .36 | 81.9 | 83.2 | .1501 | 632827_OP |
| 7 | 19117 | 21113 | -2.5978A | .0256 | .88 | -7.1 | .54 | -9.9 | .48 | .28 | 90.7 | 91.2 | .0868 | 632828_OP |
| 8 | 15853 | 21113 | -1.2115A | .0177 | 1.02 | 1.9 | 1.07 | 4.1 | .39 | .39 | 78.7 | 78.6 | .0525 | 632830_OP |
| 9 | 17463 | 21113 | -2.0523A | .0216 | 1.20 | 9.9 | 1.27 | 9.0 | .36 | .33 | 83.5 | 86.7 | .3439 | 632832_OP |
| 10 | 16271 | 21113 | -1.6056A | .0193 | 1.07 | 6.1 | 1.04 | 1.8 | .47 | .36 | 80.4 | 82.4 | .3187 | 632833_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | READ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 13176 | 21113 | -.4318A | .0159 | 1.10 | 9.9 | 1.16 | 9.9 | .33 | .41 | 68.9 | 71.8 | .0110 | 632835_OP |
| 12 | 16128 | 21113 | -1.6606A | .0195 | 1.08 | 7.1 | .94 | -2.9 | .53 | .36 | 79.7 | 82.9 | .4205 | 632837_OP |
| 13 | 11389 | 21141 | -.2045A | .0157 | 1.02 | 3.4 | 1.00 | .0 | .41 | .42 | 69.0 | 70.4 | .2253 | 646185_OP |
| 14 | 10349 | 21141 | .2121A | .0155 | 1.01 | 1.1 | 1.03 | 3.4 | .39 | .41 | 69.6 | 69.2 | .0574 | 646188_OP |
| 15 | 17688 | 21141 | -1.3467A | .0182 | .70 | -9.9 | .54 | -9.9 | .51 | .38 | 86.9 | 79.9 | -.4669 | 646189_OP |
| 16 | 13644 | 21141 | -.3107A | .0158 | .98 | -3.1 | .96 | -3.5 | .40 | .41 | 71.5 | 71.0 | -.2273 | 646193_OP |
| 17 | 13576 | 21141 | -.7926A | .0166 | 1.05 | 6.5 | 1.05 | 4.0 | .44 | .41 | 72.6 | 74.6 | .2751 | 646194_OP |
| 18 | 13751 | 21141 | -.6569A | .0163 | 1.05 | 7.1 | 1.05 | 4.0 | .39 | .41 | 71.1 | 73.5 | .0928 | 646195_OP |
| 19 | 13804 | 21113 | -.8554A | .0167 | 1.23 | 9.9 | 1.52 | 9.9 | .28 | .40 | 69.2 | 75.2 | .2752 | 658536_OP |
| 20 | 8775 | 21113 | .3342A | .0155 | .99 | -1.4 | 1.01 | .8 | .38 | .41 | 69.8 | 69.2 | .3102 | 658539_OP |
| 21 | 16752 | 21113 | -1.6060A | .0193 | .96 | -3.5 | .78 | -9.9 | .49 | .36 | 81.8 | 82.4 | .1556 | 658541_OP |
| 22 | 13634 | 21113 | -.6577A | .0163 | .96 | -6.2 | .92 | -7.0 | .48 | .41 | 74.5 | 73.5 | .1205 | 658543_OP |
| 23 | 9844 | 21113 | .3404A | .0155 | 1.02 | 3.3 | 1.06 | 6.4 | .37 | .41 | 69.2 | 69.2 | .0475 | 658544_OP |
| 24 | 15519 | 21113 | -.9989A | .0171 | .95 | -5.7 | 1.04 | 2.5 | .42 | .40 | 78.6 | 76.5 | -.0609 | 658546_OP |
| 25 | 13041 | 21113 | -.3499A | .0158 | 1.03 | 3.9 | 1.01 | .7 | .38 | .41 | 69.9 | 71.2 | -.0370 | 658559_OP |
| 26 | 14431 | 21113 | -.8775A | .0168 | 1.04 | 4.6 | 1.01 | .9 | .41 | .40 | 73.7 | 75.4 | .1294 | 658560_OP |
| 27 | 15484 | 21113 | -1.4374A | .0186 | 1.25 | 9.9 | 1.36 | 9.9 | .34 | .37 | 75.6 | 80.8 | .3944 | 658561_OP |
| 28 | 12849 | 21113 | .1531A | .0155 | 1.05 | 8.8 | 1.08 | 8.5 | .38 | .41 | 67.3 | 69.3 | -.4885 | 658564_OP |
| 29 | 15205 | 21113 | -1.0724A | .0173 | 1.06 | 7.3 | 1.12 | 7.1 | .37 | .39 | 75.6 | 77.2 | .1075 | 658567_OP |
| 30 | 17145 | 21113 | -1.4345A | .0186 | .74 | -9.9 | .56 | -9.9 | .57 | .37 | 85.7 | 80.7 | -.1647 | 658570_OP |
| 31 | 17915 | 21141 | -1.6293A | .0194 | .86 | -9.9 | .85 | -7.1 | .36 | .36 | 86.1 | 82.6 | -.2719 | 687802_OP |
| 32 | 17452 | 21141 | -1.2797A | .0180 | .71 | -9.9 | .57 | -9.9 | .52 | .38 | 86.4 | 79.2 | -.4381 | 687803_OP |
| 33 | 13768 | 21141 | -.3176A | .0158 | .97 | -3.8 | .96 | -4.0 | .40 | .41 | 72.2 | 71.0 | -.2527 | 687804_OP |
| 34 | 11535 | 21141 | .2188A | .0155 | 1.05 | 8.9 | 1.08 | 8.6 | .36 | .41 | 67.1 | 69.2 | -.2307 | 687805_OP |
| 35 | 16508 | 21141 | -1.3649A | .0183 | .99 | -1.4 | .92 | -4.1 | .40 | .38 | 79.8 | 80.1 | .0002 | 687806_OP |
| 36 | 11926 | 21141 | .0806A | .0155 | 1.03 | 5.7 | 1.05 | 5.5 | .37 | .41 | 68.2 | 69.4 | -.1880 | 687807_OP |
| 37 | 16618 | 21141 | -1.4017A | .0184 | 1.00 | -.1 | 1.07 | 3.8 | .37 | .38 | 81.4 | 80.4 | .0002 | 687810_OP |
| 38 | 17729 | 21113 | -1.6460A | .0195 | .86 | -9.9 | .77 | -9.9 | .41 | .36 | 85.5 | 82.8 | -.1819 | 687825_OP |
| 39 | 12983 | 21113 | -.2597A | .0157 | 1.06 | 9.3 | 1.06 | 5.7 | .34 | .42 | 68.0 | 70.7 | -.1126 | 687826_OP |
| 40 | 19061 | 21113 | -2.1637A | .0223 | .71 | -9.9 | .51 | -9.9 | .42 | .32 | 90.9 | 87.7 | -.3295 | 687828_OP |
| 41 | 11272 | 21113 | -.2904A | .0158 | 1.18 | 9.9 | 1.22 | 9.9 | .31 | .42 | 63.4 | 70.9 | .3366 | 687831_OP |
| 42 | 18063 | 21113 | -1.6713A | .0196 | .71 | -9.9 | .51 | -9.9 | .51 | .36 | 88.2 | 83.0 | -.3052 | 687832_OP |
| 43 | 16974 | 21113 | -1.4110A | .0185 | .84 | -9.9 | .68 | -9.9 | .48 | .38 | 83.1 | 80.5 | -.1244 | 687836_OP |
| 44 | 18509 | 21141 | -2.1656A | .0223 | .88 | -8.9 | .68 | -9.9 | .45 | .32 | 88.3 | 87.7 | .0002 | 687850_OP |
| 45 | 15115 | 21141 | -.9362A | .0169 | 1.02 | 3.0 | 1.11 | 7.1 | .38 | .40 | 75.9 | 75.9 | .0003 | 687851_OP |
| 46 | 11633 | 21141 | .0485A | .0155 | 1.09 | 9.9 | 1.13 | 9.9 | .32 | .41 | 65.9 | 69.5 | -.0856 | 687852_OP |
| 47 | 11127 | 21141 | .0744A | .0155 | 1.09 | 9.9 | 1.13 | 9.9 | .31 | .41 | 66.1 | 69.4 | .0095 | 687853_OP |
| 48 | 18458 | 21141 | -2.1403A | .0222 | .88 | -9.0 | .62 | -9.9 | .46 | .32 | 87.8 | 87.5 | .0003 | 687857_OP |
| 49 | 12417 | 21141 | -.1644A | .0156 | 1.01 | 2.1 | 1.03 | 3.2 | .40 | .41 | 70.3 | 70.2 | -.0639 | 687858_OP |
| 50 | 17923 | 21141 | -1.8955A | .0207 | .97 | -2.5 | .98 | -.8 | .36 | .34 | 86.0 | 85.2 | .0001 | 687860_OP |
| 51 | 3380 | 4734 | -1.1445 | .0361 | 1.02 | 1.2 | 1.05 | 1.6 | .40 | .42 | 75.7 | 76.1 | -.0017 | 706802_FT |
| 52 | 2436 | 4734 | -.0411 | .0332 | 1.12 | 8.1 | 1.18 | 7.9 | .35 | .45 | 66.9 | 70.8 | -.0016 | 706803_FT |
| 53 | 3134 | 4734 | -.8366 | .0348 | 1.02 | 1.2 | 1.01 | .5 | .42 | .44 | 73.0 | 74.0 | -.0017 | 706806_FT |
| 54 | 3176 | 4734 | -.8876 | .0349 | 1.09 | 5.5 | 1.19 | 6.0 | .36 | .43 | 72.2 | 74.3 | -.0017 | 706807_FT |
| 55 | 3348 | 4734 | -1.1030 | .0359 | .97 | -2.0 | .96 | -1.2 | .45 | .42 | 76.8 | 75.8 | -.0018 | 706808_FT |
| 56 | 2492 | 4734 | -.1030 | .0332 | 1.21 | 9.9 | 1.31 | 9.9 | .28 | .45 | 62.5 | 70.9 | -.0015 | 706810_FT |
| 57 | 3484 | 4734 | -1.2827 | .0368 | .92 | -4.5 | .88 | -3.5 | .48 | .41 | 79.5 | 77.2 | -.0018 | 706811_FT |
| 58 | 2903 | 4734 | -.5646 | .0339 | 1.00 | -.2 | .99 | -.6 | .44 | .44 | 72.7 | 72.4 | -.0017 | 706812_FT |
| 59 | 2970 | 4734 | -.6421 | .0341 | .83 | -9.9 | .75 | -9.9 | .59 | .44 | 79.2 | 72.8 | -.0017 | 706813_FT |
| 60 | 2469 | 4166 | -.1776 | .0352 | 1.01 | .5 | .98 | -.8 | .40 | .40 | 69.4 | 70.2 | .0011 | 706814_FT |
| 61 | 3059 | 4166 | -.9683 | .0387 | .90 | -5.4 | .77 | -7.3 | .49 | .39 | 77.8 | 76.8 | .0010 | 706815_FT |
| 62 | 2624 | 4166 | -.3724 | .0357 | 1.04 | 2.4 | 1.04 | 1.5 | .37 | .40 | 70.1 | 71.4 | .0010 | 706816_FT |
| 63 | 2891 | 4166 | -.7267 | .0372 | 1.01 | .7 | 1.00 | -.1 | .39 | .39 | 73.5 | 74.4 | .0010 | 706817_FT |
| 64 | 2772 | 4166 | -.5652 | .0365 | 1.06 | 3.7 | 1.08 | 2.9 | .34 | .40 | 70.8 | 73.0 | .0010 | 706818_FT |
| 65 | 2402 | 4166 | -.0951 | .0350 | 1.19 | 9.9 | 1.22 | 9.7 | .23 | .40 | 61.5 | 69.7 | .0011 | 706819_FT |
| 66 | 2263 | 4166 | .0741 | .0348 | 1.22 | 9.9 | 1.32 | 9.9 | .21 | .40 | 59.9 | 69.1 | .0010 | 706820_FT |
| 67 | 2896 | 4166 | -.7337 | .0373 | 1.02 | 1.4 | 1.05 | 1.6 | .37 | .39 | 74.4 | 74.5 | .0010 | 706821_FT |
| 68 | 2016 | 4166 | .3712 | .0347 | .97 | -2.6 | .98 | -.8 | .42 | .40 | 70.5 | 68.8 | .0011 | 706823_FT |
| 69 | 2849 | 4166 | -.6689 | .0370 | 1.21 | 9.9 | 1.41 | 9.9 | .19 | .40 | 68.4 | 73.9 | .0010 | 706824_FT |
| 70 | 2222 | 4174 | .0889 | .0345 | 1.00 | -.2 | 1.00 | -.2 | .38 | .39 | 68.6 | 68.7 | .0014 | 706826_FT |
| 71 | 2655 | 4174 | -.4413 | .0357 | 1.01 | .9 | 1.01 | .4 | .39 | .40 | 70.7 | 71.7 | .0013 | 706827_FT |
| 72 | 3590 | 4174 | -1.9468 | .0479 | .90 | -3.3 | .73 | -5.2 | .43 | .32 | 86.9 | 86.3 | .0010 | 706828_FT |
| 73 | 2903 | 4174 | -.7697 | .0372 | .94 | -3.8 | .87 | -4.8 | .45 | .39 | 75.8 | 74.5 | .0012 | 706829_FT |
| 74 | 2667 | 4174 | -.4567 | .0358 | .90 | -7.1 | .83 | -7.4 | .49 | .40 | 75.2 | 71.8 | .0013 | 706830_FT |
| 75 | 2042 | 4174 | .3027 | .0344 | 1.18 | 9.9 | 1.22 | 9.9 | .23 | .39 | 60.7 | 68.4 | .0014 | 706831_FT |
| 76 | 3279 | 4174 | -1.3403 | .0412 | 1.24 | 9.9 | 1.80 | 9.9 | .09 | .36 | 77.3 | 80.4 | .0011 | 706832_FT |
| 77 | 1115 | 4174 | 1.4816 | .0382 | 1.33 | 9.9 | 1.85 | 9.9 | .01 | .33 | 69.6 | 76.1 | .0016 | 706833_FT |
| 78 | 3196 | 4174 | -1.2035 | .0400 | .99 | -.3 | 1.05 | 1.3 | .37 | .37 | 79.3 | 78.9 | .0011 | 706834_FT |
| 79 | 1937 | 4174 | .4274 | .0345 | 1.35 | 9.9 | 1.53 | 9.9 | .07 | .39 | 54.8 | 68.5 | .0015 | 706835_FT |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 3594 | 4160 | -1.9753 | .0484 | .84 | -5.5 | .61 | -7.4 | .49 | .31 | 87.4 | 86.7 | .0017 | 706837_FT |
| 81 | 1692 | 4160 | .7161 | .0350 | 1.16 | 9.9 | 1.31 | 9.9 | .21 | .38 | 64.9 | 69.6 | .0021 | 706838_FT |
| 82 | 1767 | 4160 | .6246 | .0348 | 1.37 | 9.9 | 1.55 | 9.9 | .04 | .38 | 55.4 | 69.2 | .0021 | 706840_FT |
| 83 | 2778 | 4160 | -.6109 | .0364 | .94 | -3.5 | .91 | -3.4 | .44 | .39 | 75.0 | 72.8 | .0019 | 706841_FT |
| 84 | 2608 | 4160 | -.3913 | .0356 | 1.11 | 7.5 | 1.13 | 5.3 | .28 | .39 | 66.2 | 71.0 | .0019 | 706842_FT |
| 85 | 1466 | 4160 | .9998 | .0359 | 1.15 | 9.4 | 1.34 | 9.9 | .20 | .36 | 68.0 | 71.6 | .0022 | 706843_FT |
| 86 | 2492 | 4160 | -.2465 | .0351 | 1.14 | 9.5 | 1.27 | 9.9 | .27 | .39 | 66.0 | 70.0 | .0020 | 706844_FT |
| 87 | 2093 | 4160 | .2343 | .0345 | 1.09 | 6.6 | 1.15 | 7.4 | .29 | .39 | 66.4 | 68.4 | .0020 | 706845_FT |
| 88 | 3296 | 4160 | -1.3823 | .0416 | .90 | -4.6 | .82 | -4.5 | .46 | .36 | 82.5 | 80.7 | .0017 | 706846_FT |
| 89 | 2682 | 4160 | -.4856 | .0359 | .93 | -5.0 | .88 | -4.8 | .47 | .39 | 73.8 | 71.7 | .0019 | 706848_FT |
| 90 | 3594 | 3907 | -2.6723 | .0621 | .86 | -3.1 | .59 | -5.2 | .43 | .27 | 92.1 | 92.0 | -.0001 | 706850_FT |
| 91 | 2786 | 3907 | -.8699 | .0394 | .99 | -.5 | 1.08 | 2.3 | .42 | .40 | 76.7 | 75.9 | -.0001 | 706851_FT |
| 92 | 2824 | 3907 | -.9294 | .0398 | .94 | -3.3 | .83 | -5.2 | .47 | .40 | 77.0 | 76.5 | -.0001 | 706852_FT |
| 93 | 3390 | 3907 | -2.0365 | .0508 | .87 | -4.1 | .68 | -5.4 | .47 | .33 | 87.7 | 87.0 | -.0001 | 706853_FT |
| 94 | 2529 | 3907 | -.4910 | .0375 | 1.01 | .6 | 1.02 | .8 | .40 | .41 | 72.3 | 72.7 | -.0001 | 706856_FT |
| 95 | 2249 | 3907 | -.1093 | .0364 | 1.03 | 2.3 | 1.08 | 3.3 | .39 | .42 | 69.7 | 70.3 | -.0001 | 706857_FT |
| 96 | 3210 | 3907 | -1.6210 | .0456 | .95 | -1.8 | .91 | -1.7 | .41 | .36 | 84.0 | 83.2 | -.0002 | 706858_FT |
| 97 | 2672 | 3907 | -.6973 | .0385 | 1.00 | -.1 | .95 | -1.6 | .41 | .41 | 74.0 | 74.4 | -.0001 | 706859_FT |
| 98 | 1814 | 3907 | .4592 | .0361 | 1.15 | 9.9 | 1.25 | 9.9 | .26 | .41 | 64.1 | 69.4 | .0000 | 706860_FT |
| 99 | 2454 | 3907 | -.3863 | .0372 | .97 | -2.1 | .93 | -2.6 | .44 | .42 | 72.5 | 71.9 | -.0001 | 706861_FT |
| 100 | 3277 | 4734 | -1.0127 | .0355 | .86 | -9.0 | .73 | -9.4 | .55 | .43 | 78.5 | 75.2 | -.0017 | 706863_FT |
| MEAN | 8675.3 | 12676 | -.7196 | .0277 | 1.01 | 1.3 | 1.02 | 1.0 | | | 74.4 | 75.4 | | |
| P.SD | 6285.9 | 8450.2 | .8052 | .0108 | .13 | 6.7 | .25 | 6.8 | | | 8.0 | 5.9 | | |

# Appendix L: Mathematics Item Bank Difficulties

## Grade 3 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12662 | 23135 | -.5456A | .0157 | 1.28 | 9.9 | 1.50 | 9.9 | .35 | .42 | 65.0 | 73.3 | .6449 | 599741_OP |
| 2 | 14911 | 23135 | -.7646A | .0161 | 1.16 | 9.9 | 1.28 | 9.9 | .38 | .41 | 70.8 | 75.0 | .3456 | 599777_OP |
| 3 | 14710 | 23135 | -.4287A | .0155 | 1.00 | -.2 | .98 | -1.3 | .44 | .43 | 72.6 | 72.5 | .0539 | 599790_OP |
| 4 | 13415 | 23131 | -.1263A | .0151 | .99 | -1.8 | .97 | -3.1 | .45 | .43 | 71.1 | 71.0 | .0519 | 599811_OP |
| 5 | 16567 | 23131 | -.9872A | .0166 | 1.11 | 9.9 | 1.24 | 9.9 | .35 | .40 | 75.0 | 77.0 | .1521 | 599813_OP |
| 6 | 16695 | 23131 | -.7879A | .0161 | 1.01 | 1.8 | 1.09 | 5.9 | .37 | .41 | 75.6 | 75.2 | -.0865 | 600460_OP |
| 7 | 19174 | 23135 | -1.6340A | .0190 | .96 | -3.4 | .92 | -3.2 | .39 | .35 | 83.9 | 83.5 | .0078 | 633865_OP |
| 8 | 19469 | 23131 | -1.7311A | .0194 | .89 | -9.9 | .72 | -9.9 | .45 | .34 | 85.5 | 84.5 | -.0048 | 646511_OP |
| 9 | 12993 | 23131 | .1950A | .0150 | .90 | -9.9 | .87 | -9.9 | .51 | .44 | 74.8 | 70.3 | -.1747 | 646516_OP |
| 10 | 19715 | 23131 | -1.9122A | .0204 | 1.18 | 9.9 | 1.65 | 9.9 | .18 | .32 | 84.9 | 86.2 | .0834 | 646529_OP |
| 11 | 14113 | 23135 | -.0650A | .0151 | 1.10 | 9.9 | 1.11 | 9.9 | .34 | .44 | 66.9 | 70.8 | -.1723 | 646538_OP |
| 12 | 18265 | 23131 | -1.5210A | .0185 | 1.18 | 9.9 | 1.41 | 9.9 | .30 | .36 | 79.6 | 82.3 | .2028 | 646542_OP |
| 13 | 13143 | 23131 | .1829A | .0150 | .99 | -1.4 | 1.00 | -.3 | .44 | .44 | 70.9 | 70.3 | -.1968 | 646546_OP |
| 14 | 16446 | 23135 | -.7685A | .0161 | 1.02 | 2.8 | 1.09 | 5.6 | .38 | .41 | 74.8 | 75.0 | -.0386 | 646553_OP |
| 15 | 11786 | 23135 | .3988A | .0150 | 1.09 | 9.9 | 1.13 | 9.9 | .36 | .44 | 66.7 | 70.4 | -.1055 | 659850_OP |
| 16 | 15179 | 23135 | -.4092A | .0155 | 1.09 | 9.9 | 1.18 | 9.9 | .33 | .43 | 69.7 | 72.4 | -.0802 | 659852_OP |
| 17 | 16416 | 23135 | -.6544A | .0159 | .89 | -9.9 | .82 | -9.9 | .48 | .42 | 77.5 | 74.1 | -.1474 | 659857_OP |
| 18 | 13352 | 23131 | .3778A | .0150 | 1.10 | 9.9 | 1.14 | 9.9 | .38 | .44 | 66.5 | 70.4 | -.4396 | 659859_OP |
| 19 | 13425 | 23131 | -.0755A | .0151 | 1.07 | 9.9 | 1.07 | 6.4 | .37 | .44 | 67.6 | 70.8 | -.0017 | 659862_OP |
| 20 | 15990 | 23131 | -.4425A | .0155 | .96 | -5.9 | .91 | -7.2 | .41 | .43 | 73.7 | 72.6 | -.2521 | 659867_OP |
| 21 | 15737 | 23135 | -.6229A | .0158 | 1.07 | 9.7 | 1.07 | 4.9 | .36 | .42 | 70.9 | 73.8 | -.0023 | 659887_OP |
| 22 | 11699 | 23135 | .1589A | .0150 | .95 | -8.5 | .94 | -6.5 | .48 | .44 | 72.7 | 70.3 | .1542 | 659900_OP |
| 23 | 15671 | 23135 | -.5609A | .0157 | .99 | -1.9 | .96 | -2.8 | .42 | .42 | 74.0 | 73.4 | -.0488 | 689743_OP |
| 24 | 20323 | 23131 | -2.0591A | .0213 | .85 | -9.9 | .67 | -9.9 | .44 | .31 | 88.4 | 87.6 | -.0335 | 689744_OP |
| 25 | 19934 | 23131 | -1.9309A | .0205 | .95 | -4.1 | .84 | -5.8 | .38 | .32 | 86.6 | 86.4 | .0106 | 689749_OP |
| 26 | 14965 | 23131 | -.4328A | .0155 | .94 | -9.6 | .93 | -5.6 | .48 | .43 | 75.3 | 72.5 | -.0039 | 689751_OP |
| 27 | 16973 | 23135 | -1.0075A | .0167 | .97 | -4.3 | .95 | -2.8 | .45 | .40 | 78.2 | 77.2 | .0621 | 689752_OP |
| 28 | 17187 | 23135 | -.9326A | .0165 | .97 | -4.2 | .97 | -1.7 | .41 | .40 | 77.7 | 76.5 | -.0752 | 689754_OP |
| 29 | 17470 | 23135 | -.8452A | .0163 | .99 | -.8 | 1.08 | 4.8 | .34 | .41 | 76.4 | 75.7 | -.2478 | 689757_OP |
| 30 | 17071 | 23135 | -.8930A | .0164 | .92 | -9.9 | .85 | -9.9 | .45 | .40 | 78.1 | 76.1 | -.0829 | 689759_OP |
| 31 | 19066 | 23135 | -1.6903A | .0192 | .95 | -4.4 | .88 | -4.9 | .45 | .34 | 84.2 | 84.1 | .1054 | 689762_OP |
| 32 | 15961 | 23131 | -.7045A | .0160 | 1.13 | 9.9 | 1.20 | 9.9 | .31 | .41 | 70.3 | 74.5 | .0232 | 689763_OP |
| 33 | 17005 | 23131 | -1.1801A | .0172 | 1.03 | 3.4 | .95 | -2.4 | .46 | .38 | 77.3 | 78.9 | .2290 | 689764_OP |
| 34 | 10976 | 23135 | .2189A | .0150 | .95 | -7.7 | .95 | -5.2 | .47 | .44 | 72.7 | 70.3 | .2569 | 689766_OP |
| 35 | 12387 | 23135 | .0918A | .0150 | 1.05 | 8.5 | 1.07 | 6.6 | .40 | .44 | 68.6 | 70.4 | .0666 | 689768_OP |
| 36 | 18142 | 23131 | -1.2669A | .0175 | .96 | -4.6 | .94 | -3.1 | .41 | .38 | 81.1 | 79.8 | -.0188 | 689769_OP |
| 37 | 16788 | 23135 | -.8694A | .0163 | .99 | -1.9 | .98 | -.9 | .41 | .41 | 76.6 | 75.9 | -.0281 | 689773_OP |
| 38 | 13185 | 23131 | -.1742A | .0152 | 1.09 | 9.9 | 1.10 | 8.8 | .37 | .43 | 67.3 | 71.2 | .1530 | 689776_OP |
| 39 | 20500 | 23131 | -2.1294A | .0217 | .90 | -7.1 | .81 | -6.2 | .37 | .30 | 88.9 | 88.2 | -.0476 | 689778_OP |
| 40 | 13019 | 23135 | -.0117A | .0151 | .98 | -3.9 | .99 | -.8 | .46 | .44 | 71.9 | 70.6 | .0273 | 689780_OP |
| 41 | 11135 | 23131 | .5787A | .0151 | 1.05 | 8.2 | 1.10 | 9.9 | .39 | .43 | 69.5 | 70.8 | -.1383 | 689783_OP |
| 42 | 21048 | 23135 | -2.3435A | .0232 | .85 | -9.9 | .77 | -7.0 | .35 | .29 | 91.0 | 90.0 | -.1264 | 689785_OP |
| 43 | 15023 | 23131 | -.5774A | .0157 | 1.05 | 6.9 | 1.08 | 5.7 | .41 | .42 | 72.0 | 73.5 | .1288 | 689791_OP |
| 44 | 17406 | 23135 | -.9332A | .0165 | .97 | -4.1 | .96 | -2.4 | .39 | .40 | 77.4 | 76.5 | -.1380 | 689792_OP |
| 45 | 17269 | 23135 | -1.0181A | .0167 | 1.00 | .2 | .99 | -.6 | .39 | .40 | 77.0 | 77.3 | -.0108 | 689794_OP |
| 46 | 9743 | 23131 | .7437A | .0152 | .89 | -9.9 | .92 | -8.3 | .49 | .43 | 76.8 | 71.4 | .0133 | 689795_OP |
| 47 | 9856 | 23131 | .6838A | .0152 | 1.01 | 1.3 | 1.05 | 5.2 | .41 | .43 | 71.5 | 71.2 | .0469 | 689797_OP |
| 48 | 15090 | 23131 | -.2726A | .0153 | .91 | -9.9 | .86 | -9.9 | .48 | .43 | 75.0 | 71.6 | -.1974 | 689799_OP |
| 49 | 15968 | 23131 | -.7450A | .0160 | .89 | -9.9 | .81 | -9.9 | .53 | .41 | 77.8 | 74.8 | .0627 | 689800_OP |
| 50 | 17146 | 23135 | -.9829A | .0166 | 1.00 | -.5 | .96 | -2.6 | .40 | .40 | 76.6 | 77.0 | -.0118 | 689801_OP |
| 51 | 3337 | 4265 | -1.1573 | .0406 | 1.01 | .3 | 1.07 | 1.5 | .36 | .37 | 79.6 | 79.7 | .0007 | 706982_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | 1482 | 6008 | 1.5300 | .0342 | .85 | -8.8 | .89 | -3.4 | .48 | .40 | 83.6 | 79.8 | .0007 | 706983_FT |
| 53 | 2037 | 4030 | .4175 | .0358 | .95 | -3.7 | .93 | -3.1 | .47 | .43 | 72.6 | 70.0 | .0008 | 706984_FT |
| 54 | 3934 | 4014 | -4.0421 | .1147 | .98 | -.1 | .94 | -.3 | .17 | .14 | 98.0 | 98.0 | .0021 | 706985_FT |
| 55 | 3667 | 6230 | -.3717 | .0293 | .91 | -7.5 | .88 | -5.6 | .52 | .45 | 75.3 | 71.5 | .0004 | 706987_FT |
| 56 | 2925 | 4251 | -.5625 | .0369 | 1.02 | 1.3 | 1.00 | -.1 | .39 | .41 | 72.5 | 74.0 | .0007 | 706988_FT |
| 57 | 4202 | 6538 | -.6568 | .0292 | .89 | -9.4 | .83 | -7.4 | .53 | .43 | 76.7 | 72.6 | .0003 | 706989_FT |
| 58 | 3366 | 4253 | -1.2651 | .0412 | .86 | -6.7 | .66 | -8.0 | .51 | .36 | 82.0 | 80.3 | .0007 | 706990_FT |
| 59 | 3875 | 4203 | -2.5106 | .0602 | 1.00 | .0 | 1.18 | 1.9 | .24 | .25 | 92.1 | 92.2 | .0010 | 706991_FT |
| 60 | 3672 | 4194 | -1.9375 | .0498 | 1.06 | 1.9 | 1.15 | 2.0 | .23 | .30 | 87.5 | 87.6 | .0008 | 706992_FT |
| 61 | 2851 | 4048 | -.6863 | .0382 | 1.40 | 9.9 | 1.97 | 9.9 | .01 | .40 | 63.6 | 74.5 | .0007 | 706993_FT |
| 62 | 3639 | 4178 | -1.9079 | .0493 | 1.04 | 1.2 | 1.30 | 4.0 | .25 | .31 | 87.1 | 87.2 | .0008 | 706994_FT |
| 63 | 2847 | 6284 | .3450 | .0292 | .95 | -4.3 | .95 | -2.9 | .49 | .46 | 74.2 | 71.6 | .0005 | 706995_FT |
| 64 | 3294 | 3893 | -1.6629 | .0477 | .97 | -1.2 | 1.03 | .5 | .35 | .33 | 85.1 | 84.9 | .0008 | 706996_FT |
| 65 | 3924 | 4200 | -2.6934 | .0650 | .89 | -2.3 | .68 | -3.6 | .36 | .24 | 93.5 | 93.4 | .0011 | 706997_FT |
| 66 | 3861 | 4370 | -2.0339 | .0502 | .93 | -2.2 | .89 | -1.5 | .37 | .30 | 88.7 | 88.4 | .0008 | 706999_FT |
| 67 | 2902 | 4403 | -.3908 | .0356 | 1.07 | 4.2 | 1.13 | 4.1 | .35 | .42 | 70.6 | 72.8 | .0007 | 707000_FT |
| 68 | 2758 | 4357 | -.2887 | .0353 | 1.01 | 1.0 | 1.01 | .4 | .40 | .42 | 70.8 | 71.6 | .0007 | 707001_FT |
| 69 | 4982 | 6100 | -1.8014 | .0360 | .81 | -9.9 | .62 | -9.3 | .53 | .36 | 84.9 | 82.3 | .0002 | 707002_FT |
| 70 | 3635 | 4429 | -1.4724 | .0425 | .97 | -1.1 | 1.00 | .0 | .37 | .35 | 83.5 | 82.7 | .0007 | 707003_FT |
| 71 | 3388 | 4364 | -1.1097 | .0399 | 1.00 | .1 | .96 | -.9 | .38 | .38 | 79.4 | 79.4 | .0007 | 707004_FT |
| 72 | 5170 | 6120 | -2.0320 | .0381 | .94 | -2.7 | .93 | -1.2 | .39 | .34 | 85.0 | 84.7 | .0003 | 707007_FT |
| 73 | 1053 | 4649 | 1.9766 | .0393 | 1.24 | 9.9 | 1.48 | 9.9 | .19 | .36 | 76.3 | 80.4 | .0009 | 707008_FT |
| 74 | 3915 | 4420 | -2.0864 | .0502 | 1.01 | .2 | 1.11 | 1.5 | .28 | .29 | 88.7 | 88.6 | .0009 | 707009_FT |
| 75 | 2379 | 4609 | .3295 | .0334 | 1.00 | .2 | .97 | -1.2 | .42 | .43 | 69.3 | 69.8 | .0008 | 707010_FT |
| 76 | 1496 | 4216 | 1.2002 | .0368 | .93 | -4.0 | .98 | -.6 | .45 | .42 | 76.4 | 73.8 | .0008 | 707012_FT |
| 77 | 2100 | 3756 | .1289 | .0372 | 1.08 | 5.1 | 1.15 | 5.7 | .36 | .43 | 67.5 | 70.0 | .0007 | 707013_FT |
| 78 | 2199 | 4102 | .2227 | .0355 | 1.05 | 3.2 | 1.05 | 2.0 | .38 | .43 | 68.6 | 70.0 | .0007 | 707014_FT |
| 79 | 3891 | 4254 | -2.3990 | .0577 | .94 | -1.4 | .93 | -.8 | .32 | .27 | 91.6 | 91.4 | .0010 | 707015_FT |
| 80 | 3069 | 3841 | -1.2870 | .0439 | 1.05 | 2.0 | 1.11 | 2.1 | .31 | .36 | 80.6 | 80.9 | .0007 | 707017_FT |
| 81 | 3091 | 3601 | -1.8059 | .0512 | 1.01 | .3 | 1.03 | .4 | .31 | .32 | 85.8 | 86.0 | .0008 | 707019_FT |
| 82 | 1516 | 3652 | .8633 | .0383 | 1.09 | 5.5 | 1.20 | 7.5 | .34 | .43 | 69.3 | 71.6 | .0008 | 707020_FT |
| 83 | 3921 | 4448 | -1.9987 | .0495 | .95 | -1.5 | .93 | -1.0 | .35 | .31 | 88.5 | 88.2 | .0008 | 707021_FT |
| 84 | 2488 | 4091 | -.1252 | .0361 | 1.17 | 9.9 | 1.29 | 9.9 | .28 | .42 | 65.2 | 71.1 | .0007 | 707022_FT |
| 85 | 3312 | 4480 | -.8970 | .0377 | .95 | -2.9 | .94 | -1.4 | .44 | .40 | 78.6 | 76.9 | .0006 | 707023_FT |
| 86 | 3771 | 5996 | -.6091 | .0302 | .95 | -3.9 | .92 | -3.3 | .48 | .44 | 73.9 | 72.1 | .0003 | 707024_FT |
| 87 | 3668 | 6232 | -.3636 | .0293 | .92 | -6.8 | .89 | -5.3 | .51 | .45 | 74.4 | 71.3 | .0004 | 707025_FT |
| 88 | 2839 | 4436 | -.2713 | .0352 | .92 | -5.5 | .87 | -5.0 | .49 | .42 | 75.0 | 72.2 | .0007 | 707026_FT |
| 89 | 3228 | 4515 | -.7336 | .0366 | 1.10 | 5.5 | 1.10 | 2.6 | .31 | .40 | 72.1 | 75.5 | .0007 | 707027_FT |
| 90 | 4968 | 6078 | -1.7960 | .0362 | .86 | -7.5 | .68 | -7.5 | .49 | .36 | 84.4 | 82.4 | .0002 | 707028_FT |
| 91 | 3218 | 6543 | .1524 | .0283 | 1.02 | 1.4 | 1.04 | 2.2 | .43 | .45 | 70.3 | 70.7 | .0005 | 707029_FT |
| 92 | 2991 | 4231 | -.7115 | .0376 | 1.00 | -.2 | 1.04 | 1.2 | .40 | .40 | 75.5 | 75.0 | .0007 | 707031_FT |
| 93 | 3624 | 4616 | -1.1774 | .0392 | .94 | -3.0 | .86 | -3.2 | .43 | .37 | 81.1 | 79.8 | .0006 | 707032_FT |
| 94 | 3030 | 4119 | -.8690 | .0390 | .92 | -4.6 | .93 | -1.8 | .47 | .39 | 78.8 | 76.4 | .0007 | 707033_FT |
| 95 | 2304 | 4117 | .1149 | .0356 | 1.07 | 4.5 | 1.12 | 4.7 | .38 | .43 | 68.2 | 70.3 | .0007 | 707034_FT |
| 96 | 2815 | 4196 | -.4753 | .0367 | .92 | -5.0 | .85 | -5.2 | .48 | .41 | 75.5 | 73.1 | .0007 | 707035_FT |
| 97 | 2772 | 4093 | -.4825 | .0373 | .95 | -3.1 | .94 | -1.8 | .46 | .41 | 75.6 | 73.5 | .0007 | 707037_FT |
| 98 | 3468 | 4050 | -1.7777 | .0480 | .96 | -1.3 | .85 | -2.4 | .36 | .32 | 85.9 | 85.8 | .0008 | 707038_FT |
| 99 | 1820 | 4635 | 1.0262 | .0342 | 1.17 | 9.9 | 1.30 | 9.9 | .27 | .42 | 66.7 | 72.1 | .0008 | 707039_FT |
| 100 | 4139 | 4622 | -2.2200 | .0510 | 1.03 | .9 | 1.22 | 2.7 | .25 | .29 | 89.7 | 89.6 | .0009 | 707041_FT |
| MEAN | 9410.0 | 13880 | -.7577 | .0291 | 1.00 | -.4 | 1.01 | .1 | | | 77.1 | 77.2 | | |
| P.SD | 6570.6 | 9271.8 | .9911 | .0157 | .10 | 6.3 | .20 | 6.0 | | | 7.4 | 6.7 | | |

## Grade 4 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11767 | 22689 | .0661A | .0152 | 1.10 | 9.9 | 1.15 | 9.9 | .36 | .44 | 66.5 | 70.4 | .2002 | 603954_OP |
| 2 | 16360 | 22689 | -.2169A | .0154 | .89 | -9.9 | .81 | -9.9 | .46 | .43 | 75.5 | 71.5 | -.6431 | 604003_OP |
| 3 | 16032 | 22687 | -.5963A | .0159 | .92 | -9.9 | .91 | -6.9 | .45 | .42 | 76.9 | 73.9 | -.1647 | 604064_OP |
| 4 | 13727 | 22687 | -.3228A | .0155 | 1.09 | 9.9 | 1.21 | 9.9 | .37 | .43 | 69.4 | 72.0 | .1376 | 604077_OP |
| 5 | 17737 | 22687 | -1.2491A | .0177 | 1.02 | 1.7 | 1.03 | 1.4 | .37 | .38 | 79.5 | 79.9 | .0051 | 604090_OP |
| 6 | 16507 | 22689 | -.9817A | .0168 | 1.02 | 2.8 | 1.02 | 1.4 | .41 | .40 | 76.7 | 77.3 | .0988 | 634166_OP |
| 7 | 14745 | 22687 | -.5392A | .0158 | .93 | -9.9 | .87 | -9.9 | .51 | .42 | 75.2 | 73.5 | .1101 | 634176_OP |
| 8 | 14723 | 22687 | -.3502A | .0155 | .83 | -9.9 | .76 | -9.9 | .56 | .43 | 78.4 | 72.2 | -.0762 | 634187_OP |
| 9 | 13645 | 22689 | -.3678A | .0156 | 1.06 | 8.5 | 1.09 | 6.8 | .42 | .43 | 70.6 | 72.3 | .2028 | 634191_OP |
| 10 | 17826 | 22689 | -1.7609A | .0199 | 1.25 | 9.9 | 1.28 | 9.6 | .42 | .34 | 80.0 | 85.0 | .4973 | 634198_OP |
| 11 | 13955 | 22687 | -.0548A | .0152 | 1.01 | 2.4 | 1.01 | .8 | .40 | .43 | 69.9 | 70.8 | -.1874 | 634200_OP |
| 12 | 18898 | 22687 | -1.6944A | .0196 | 1.09 | 7.9 | 1.32 | 9.9 | .28 | .35 | 83.4 | 84.4 | .0581 | 634203_OP |
| 13 | 19988 | 22689 | -1.8111A | .0202 | .75 | -9.9 | .61 | -9.9 | .43 | .34 | 88.9 | 85.5 | -.2962 | 634212_OP |
| 14 | 20153 | 22687 | -1.9791A | .0211 | .84 | -9.9 | .67 | -9.9 | .37 | .32 | 89.0 | 87.1 | -.2054 | 646568_OP |
| 15 | 18060 | 22689 | -1.5381A | .0188 | 1.07 | 6.0 | 1.16 | 6.5 | .40 | .36 | 81.4 | 82.8 | .1963 | 646578_OP |
| 16 | 18673 | 22689 | -1.7063A | .0196 | .95 | -4.0 | .85 | -6.2 | .48 | .34 | 84.1 | 84.5 | .1550 | 646588_OP |
| 17 | 15394 | 22689 | -.3737A | .0156 | 1.02 | 2.9 | 1.00 | .3 | .37 | .43 | 71.5 | 72.3 | -.2223 | 646594_OP |
| 18 | 12618 | 22687 | .2550A | .0151 | .99 | -1.0 | 1.00 | .1 | .43 | .44 | 70.9 | 70.2 | -.1844 | 646601_OP |
| 19 | 12079 | 22689 | .1037A | .0151 | 1.05 | 7.9 | 1.08 | 8.1 | .40 | .44 | 68.8 | 70.3 | .0912 | 646603_OP |
| 20 | 12774 | 22687 | -.2282A | .0154 | 1.09 | 9.9 | 1.09 | 7.4 | .40 | .43 | 67.8 | 71.5 | .2650 | 646798_OP |
| 21 | 19126 | 22689 | -2.1052A | .0219 | 1.16 | 9.9 | .88 | -4.0 | .46 | .31 | 84.6 | 88.3 | .3889 | 646803_OP |
| 22 | 16154 | 22689 | -.8015A | .0164 | 1.00 | .0 | .96 | -2.8 | .41 | .41 | 75.3 | 75.6 | .0123 | 659906_OP |
| 23 | 16838 | 22687 | -.8590A | .0165 | .86 | -9.9 | .76 | -9.9 | .50 | .41 | 80.0 | 76.1 | -.1217 | 659927_OP |
| 24 | 14409 | 22689 | -.1851A | .0153 | .95 | -7.4 | .92 | -7.3 | .45 | .43 | 72.8 | 71.3 | -.1657 | 659932_OP |
| 25 | 12605 | 22687 | .1200A | .0151 | 1.07 | 9.9 | 1.09 | 8.7 | .37 | .44 | 67.8 | 70.3 | -.0462 | 659941_OP |
| 26 | 11632 | 22687 | .0930A | .0151 | 1.01 | 2.2 | 1.02 | 2.3 | .43 | .44 | 70.0 | 70.4 | .2038 | 659945_OP |
| 27 | 12256 | 22689 | -.1937A | .0154 | 1.09 | 9.9 | 1.16 | 9.9 | .41 | .43 | 68.2 | 71.3 | .3496 | 659961_OP |
| 28 | 14377 | 22687 | -.2343A | .0154 | .83 | -9.9 | .76 | -9.9 | .56 | .43 | 78.3 | 71.5 | -.1083 | 659971_OP |
| 29 | 13436 | 22689 | -.1643A | .0153 | 1.13 | 9.9 | 1.20 | 9.9 | .33 | .43 | 66.9 | 71.2 | .0467 | 659979_OP |
| 30 | 13622 | 22687 | -.1022A | .0153 | 1.06 | 8.7 | 1.10 | 8.5 | .38 | .43 | 69.1 | 70.9 | -.0602 | 659983_OP |
| 31 | 18121 | 22689 | -1.0951A | .0172 | .75 | -9.9 | .61 | -9.9 | .53 | .39 | 84.7 | 78.3 | -.2812 | 689807_OP |
| 32 | 10711 | 22687 | .4280A | .0151 | .97 | -5.6 | .99 | -1.5 | .44 | .43 | 72.5 | 70.2 | .0784 | 689809_OP |
| 33 | 17840 | 22689 | -1.3328A | .0180 | .97 | -2.6 | .93 | -3.5 | .43 | .37 | 81.0 | 80.7 | .0583 | 689812_OP |
| 34 | 10103 | 22687 | .7289A | .0153 | .94 | -9.7 | .95 | -4.6 | .47 | .43 | 73.8 | 71.0 | -.0816 | 689814_OP |
| 35 | 12861 | 22687 | .0238A | .0152 | 1.14 | 9.9 | 1.18 | 9.9 | .31 | .43 | 65.1 | 70.5 | -.0088 | 689816_OP |
| 36 | 19362 | 22689 | -1.9859A | .0212 | .98 | -1.7 | .83 | -5.9 | .46 | .32 | 86.1 | 87.2 | .1722 | 689818_OP |
| 37 | 11502 | 22689 | .3990A | .0151 | .99 | -1.5 | .98 | -1.7 | .45 | .43 | 70.7 | 70.2 | -.0726 | 689821_OP |
| 38 | 19334 | 22687 | -1.5499A | .0189 | .85 | -9.9 | .77 | -9.9 | .37 | .36 | 85.8 | 82.9 | -.2684 | 689823_OP |
| 39 | 19650 | 22689 | -1.8946A | .0206 | .96 | -3.0 | 1.03 | .9 | .33 | .33 | 87.0 | 86.3 | -.0473 | 689824_OP |
| 40 | 11574 | 22689 | .3279A | .0151 | .89 | -9.9 | .85 | -9.9 | .52 | .43 | 74.5 | 70.1 | -.0180 | 689825_OP |
| 41 | 17760 | 22687 | -1.2939A | .0178 | 1.05 | 4.7 | 1.10 | 4.6 | .35 | .38 | 79.9 | 80.3 | .0438 | 689830_OP |
| 42 | 17287 | 22689 | -1.1273A | .0173 | 1.09 | 9.7 | 1.21 | 9.9 | .31 | .39 | 76.9 | 78.7 | .0207 | 689831_OP |
| 43 | 15029 | 22687 | -.7235A | .0162 | 1.17 | 9.9 | 1.26 | 9.9 | .33 | .41 | 70.0 | 74.9 | .2261 | 689834_OP |
| 44 | 15527 | 22687 | -.4701A | .0157 | 1.07 | 9.6 | 1.11 | 8.2 | .33 | .42 | 71.0 | 73.0 | -.1590 | 689835_OP |
| 45 | 16160 | 22687 | -.7515A | .0162 | .99 | -1.0 | 1.02 | 1.1 | .41 | .41 | 75.6 | 75.2 | -.0408 | 689837_OP |
| 46 | 15681 | 22689 | -.4940A | .0157 | 1.13 | 9.9 | 1.26 | 9.9 | .27 | .42 | 69.4 | 73.1 | -.1748 | 689841_OP |
| 47 | 15067 | 22687 | -.4674A | .0157 | .96 | -5.6 | .94 | -4.7 | .45 | .42 | 74.0 | 72.9 | -.0435 | 689843_OP |
| 48 | 13235 | 22689 | -.1237A | .0153 | .95 | -8.2 | .93 | -6.7 | .48 | .43 | 73.1 | 71.0 | .0529 | 689844_OP |
| 49 | 17125 | 22689 | -1.2365A | .0176 | 1.01 | 1.3 | .94 | -2.8 | .46 | .38 | 78.4 | 79.8 | .1810 | 689845_OP |
| 50 | 17854 | 22689 | -1.1810A | .0174 | 1.02 | 1.9 | 1.02 | 1.1 | .33 | .39 | 79.2 | 79.2 | -.1027 | 689852_OP |
| 51 | 16311 | 22687 | -.9083A | .0166 | 1.09 | 9.9 | 1.13 | 7.5 | .35 | .40 | 74.2 | 76.6 | .0780 | 689854_OP |
| 52 | 9874 | 22689 | .7101A | .0153 | 1.18 | 9.9 | 1.30 | 9.9 | .28 | .43 | 65.0 | 71.0 | -.0101 | 689856_OP |
| 53 | 13871 | 22687 | .0132A | .0152 | .92 | -9.9 | .89 | -9.9 | .49 | .43 | 73.7 | 70.5 | -.2358 | 689857_OP |
| 54 | 19599 | 22689 | -1.7515A | .0199 | .90 | -8.4 | .93 | -2.8 | .33 | .34 | 87.2 | 85.0 | -.1732 | 689858_OP |
| 55 | 13487 | 22687 | -.3828A | .0156 | 1.17 | 9.9 | 1.24 | 9.9 | .33 | .43 | 66.2 | 72.4 | .2548 | 692376_OP |
| 56 | 2915 | 4365 | -.4369 | .0358 | 1.11 | 7.0 | 1.22 | 7.0 | .31 | .41 | 69.8 | 73.0 | .0005 | 707043_FT |
| 57 | 3522 | 4293 | -1.4327 | .0432 | .90 | -4.1 | .79 | -4.2 | .46 | .36 | 83.9 | 82.8 | .0005 | 707044_FT |
| 58 | 3122 | 4387 | -.6791 | .0369 | 1.04 | 2.1 | 1.02 | .6 | .36 | .39 | 74.0 | 75.0 | .0005 | 707045_FT |
| 59 | 2819 | 3958 | -.6582 | .0390 | .90 | -5.7 | .79 | -6.2 | .50 | .40 | 77.8 | 75.3 | .0004 | 707046_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 3522 | 4302 | -1.3774 | .0429 | 1.01 | .5 | 1.07 | 1.4 | .34 | .35 | 82.9 | 82.6 | .0005 | 707047_FT |
| 61 | 3558 | 3999 | -2.0570 | .0536 | .98 | -.4 | .97 | -.4 | .31 | .30 | 89.2 | 89.0 | .0007 | 707048_FT |
| 62 | 3955 | 4164 | -2.9955 | .0734 | 1.00 | .0 | 1.19 | 1.7 | .21 | .22 | 95.0 | 95.0 | .0012 | 707050_FT |
| 63 | 4260 | 4455 | -3.1607 | .0757 | .98 | -.3 | .93 | -.5 | .23 | .21 | 95.6 | 95.6 | .0012 | 707051_FT |
| 64 | 2227 | 3754 | .0276 | .0374 | .93 | -4.8 | .88 | -4.7 | .48 | .42 | 72.9 | 70.6 | .0004 | 707052_FT |
| 65 | 4598 | 5875 | -1.5690 | .0347 | .89 | -6.3 | .72 | -7.2 | .48 | .38 | 81.1 | 79.6 | -.0001 | 707055_FT |
| 66 | 3044 | 4316 | -.6453 | .0371 | 1.09 | 5.4 | 1.18 | 4.9 | .32 | .41 | 72.3 | 74.9 | .0004 | 707056_FT |
| 67 | 3242 | 4253 | -1.0024 | .0395 | .98 | -1.2 | .93 | -1.5 | .40 | .38 | 78.8 | 78.3 | .0004 | 707057_FT |
| 68 | 2553 | 4113 | -.1536 | .0361 | 1.05 | 3.1 | 1.03 | 1.1 | .38 | .42 | 69.3 | 71.3 | .0004 | 707058_FT |
| 69 | 4805 | 6267 | -1.4378 | .0329 | 1.00 | -.2 | .97 | -.9 | .39 | .38 | 78.2 | 78.5 | .0000 | 707059_FT |
| 70 | 3454 | 4287 | -1.2883 | .0421 | 1.03 | 1.1 | 1.03 | .5 | .34 | .36 | 82.0 | 81.6 | .0005 | 707061_FT |
| 71 | 4195 | 6137 | -.9011 | .0307 | 1.11 | 7.5 | 1.19 | 6.2 | .33 | .42 | 70.8 | 74.0 | .0000 | 707062_FT |
| 72 | 4366 | 5592 | -1.5725 | .0354 | 1.07 | 4.0 | 1.16 | 3.6 | .30 | .37 | 78.5 | 79.4 | -.0001 | 707063_FT |
| 73 | 3340 | 4149 | -1.3028 | .0426 | 1.06 | 2.7 | 1.14 | 2.6 | .29 | .36 | 81.4 | 81.5 | .0006 | 707064_FT |
| 74 | 3941 | 4237 | -2.6153 | .0630 | 1.00 | -.1 | 1.11 | 1.1 | .25 | .25 | 93.0 | 93.0 | .0010 | 707065_FT |
| 75 | 3515 | 3814 | -2.5051 | .0632 | .91 | -1.9 | .79 | -2.3 | .35 | .26 | 92.3 | 92.2 | .0009 | 707066_FT |
| 76 | 3449 | 4303 | -1.2705 | .0418 | .87 | -5.8 | .73 | -6.0 | .50 | .37 | 83.5 | 81.4 | .0005 | 707067_FT |
| 77 | 3735 | 4525 | -1.4679 | .0424 | .96 | -1.4 | .92 | -1.5 | .39 | .35 | 83.5 | 83.2 | .0005 | 707068_FT |
| 78 | 2811 | 4426 | -.2387 | .0351 | 1.11 | 7.4 | 1.11 | 3.9 | .32 | .42 | 66.9 | 71.9 | .0005 | 707069_FT |
| 79 | 2567 | 3885 | -.3620 | .0381 | 1.01 | .8 | .99 | -.4 | .41 | .43 | 71.9 | 73.1 | .0003 | 707071_FT |
| 80 | 4711 | 6184 | -1.4037 | .0329 | 1.00 | -.2 | .99 | -.3 | .39 | .39 | 78.7 | 78.2 | -.0001 | 707073_FT |
| 81 | 3370 | 4317 | -1.1425 | .0404 | .90 | -4.7 | .80 | -4.6 | .48 | .38 | 81.0 | 79.8 | .0006 | 707074_FT |
| 82 | 3796 | 4129 | -2.4691 | .0599 | .95 | -1.3 | .75 | -3.0 | .34 | .26 | 91.9 | 91.9 | .0009 | 707075_FT |
| 83 | 3706 | 3800 | -3.7729 | .1064 | .96 | -.4 | .86 | -.9 | .21 | .16 | 97.5 | 97.5 | .0017 | 707076_FT |
| 84 | 2867 | 4574 | -.1826 | .0343 | 1.17 | 9.9 | 1.35 | 9.9 | .27 | .42 | 66.1 | 71.7 | .0004 | 707077_FT |
| 85 | 4247 | 5686 | -1.3436 | .0337 | .92 | -5.2 | .86 | -4.1 | .47 | .39 | 79.3 | 77.1 | .0000 | 707078_FT |
| 86 | 2870 | 4386 | -.3045 | .0355 | .95 | -3.5 | .93 | -2.6 | .46 | .41 | 74.5 | 72.5 | .0004 | 707079_FT |
| 87 | 160 | 3889 | 4.2741 | .0850 | 1.21 | 2.9 | 5.93 | 9.9 | -.13 | .17 | 95.5 | 95.9 | -.0017 | 707080_FT |
| 88 | 4623 | 4839 | -3.1345 | .0717 | 1.03 | .6 | 1.12 | 1.1 | .17 | .20 | 95.5 | 95.5 | .0013 | 707081_FT |
| 89 | 1789 | 4289 | .8654 | .0352 | 1.03 | 1.8 | 1.09 | 3.9 | .38 | .42 | 71.1 | 71.1 | .0003 | 707082_FT |
| 90 | 3128 | 6210 | .0635 | .0290 | 1.07 | 5.3 | 1.10 | 5.0 | .39 | .45 | 68.6 | 70.9 | .0001 | 707083_FT |
| 91 | 4452 | 6246 | -1.0920 | .0312 | 1.12 | 8.3 | 1.32 | 9.5 | .29 | .41 | 72.9 | 75.4 | .0000 | 707085_FT |
| 92 | 3102 | 4120 | -.9402 | .0397 | .96 | -2.1 | .93 | -1.7 | .42 | .38 | 78.8 | 77.7 | .0004 | 707086_FT |
| 93 | 2848 | 4188 | -.4995 | .0371 | .83 | -9.9 | .73 | -9.0 | .57 | .42 | 79.3 | 73.9 | .0004 | 707087_FT |
| 94 | 2816 | 4336 | -.3222 | .0356 | 1.00 | .3 | 1.00 | -.1 | .41 | .41 | 71.8 | 72.3 | .0004 | 707088_FT |
| 95 | 3430 | 3705 | -2.5336 | .0655 | .99 | -.1 | 1.22 | 2.2 | .24 | .25 | 92.6 | 92.6 | .0010 | 707089_FT |
| 96 | 3060 | 4126 | -.8435 | .0394 | .99 | -.7 | .94 | -1.6 | .41 | .40 | 76.8 | 77.0 | .0004 | 707091_FT |
| 97 | 2751 | 4178 | -.3560 | .0364 | 1.09 | 5.4 | 1.13 | 4.4 | .33 | .41 | 69.5 | 72.8 | .0004 | 707092_FT |
| 98 | 3060 | 3934 | -1.0958 | .0420 | 1.01 | .4 | 1.04 | .8 | .36 | .37 | 79.6 | 79.5 | .0005 | 707093_FT |
| 99 | 2945 | 3918 | -.9260 | .0406 | .98 | -.8 | .92 | -2.0 | .40 | .38 | 76.8 | 77.5 | .0005 | 707094_FT |
| 100 | 3937 | 4079 | -3.4223 | .0879 | 1.02 | .2 | 1.29 | 2.1 | .15 | .19 | 96.5 | 96.5 | .0014 | 707096_FT |
| 101 | 3253 | 3957 | -1.4192 | .0450 | .97 | -1.2 | 1.00 | .0 | .37 | .35 | 84.3 | 82.9 | .0005 | 707097_FT |
| 102 | 4800 | 5716 | -2.0254 | .0388 | .88 | -5.7 | .70 | -6.1 | .45 | .33 | 85.4 | 84.2 | -.0001 | 707098_FT |
| 103 | 5575 | 6278 | -2.4532 | .0424 | .90 | -3.6 | .69 | -5.5 | .39 | .29 | 88.9 | 88.8 | .0001 | 707099_FT |
| 104 | 1761 | 4217 | .8959 | .0352 | .99 | -1.0 | 1.03 | 1.3 | .41 | .41 | 72.0 | 70.8 | .0004 | 707100_FT |
| 105 | 2459 | 3727 | -.3715 | .0387 | .89 | -6.7 | .85 | -5.2 | .52 | .42 | 76.8 | 72.8 | .0004 | 707101_FT |
| MEAN | 9657.8 | 14045 | -.8855 | .0304 | 1.00 | .3 | 1.04 | .2 | | | 77.9 | 78.0 | | |
| P.SD | 6342.0 | 9080.9 | 1.0730 | .0184 | .09 | 6.4 | .51 | 6.2 | | | 8.1 | 7.4 | | |

## Grade 5 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19005 | 22949 | -1.5733A | .0189 | .87 | -9.9 | .74 | -9.9 | .47 | .35 | 84.6 | 83.1 | .0008 | 603429_OP |
| 2 | 12962 | 22944 | -.5634A | .0159 | 1.20 | 9.9 | 1.36 | 9.9 | .42 | .42 | 67.4 | 73.6 | .6225 | 603432_OP |
| 3 | 13586 | 22949 | -.3648A | .0156 | 1.11 | 9.9 | 1.19 | 9.9 | .40 | .43 | 68.9 | 72.3 | .2786 | 603459_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 17637 | 22949 | -.8674A | .0165 | .79 | -9.9 | .66 | -9.9 | .52 | .41 | 82.7 | 76.0 | -.2712 | 603491_OP |
| 5 | 15455 | 22944 | -.6257A | .0160 | 1.02 | 2.9 | 1.05 | 3.6 | .43 | .42 | 73.5 | 74.0 | .0875 | 603500_OP |
| 6 | 16434 | 22944 | -.6714A | .0161 | .94 | -8.0 | .92 | -5.4 | .44 | .42 | 76.1 | 74.4 | -.1247 | 603678_OP |
| 7 | 16237 | 22949 | -1.1330A | .0172 | 1.16 | 9.9 | 1.28 | 9.9 | .42 | .39 | 74.2 | 78.6 | .4010 | 603689_OP |
| 8 | 17039 | 22944 | -.7197A | .0162 | 1.00 | -.6 | 1.07 | 4.3 | .35 | .42 | 75.5 | 74.8 | -.2461 | 634227_OP |
| 9 | 20779 | 22944 | -2.3586A | .0238 | .93 | -4.1 | .91 | -2.5 | .34 | .28 | 90.5 | 90.5 | .0009 | 634279_OP |
| 10 | 18515 | 22944 | -1.4366A | .0184 | .92 | -8.6 | .76 | -9.9 | .46 | .36 | 82.6 | 81.7 | .0326 | 634284_OP |
| 11 | 16154 | 22944 | -.7940A | .0163 | .88 | -9.9 | .76 | -9.9 | .54 | .41 | 78.5 | 75.4 | .0773 | 646616_OP |
| 12 | 15590 | 22944 | -.6058A | .0159 | .96 | -5.6 | .89 | -7.9 | .47 | .42 | 74.5 | 73.9 | .0325 | 646620_OP |
| 13 | 16001 | 22949 | -.6653A | .0160 | .88 | -9.9 | .81 | -9.9 | .53 | .42 | 78.5 | 74.3 | -.0130 | 646629_OP |
| 14 | 14375 | 22944 | -.1600A | .0153 | 1.14 | 9.9 | 1.17 | 9.9 | .30 | .44 | 66.0 | 71.4 | -.1187 | 646630_OP |
| 15 | 11809 | 22944 | .5449A | .0152 | 1.02 | 3.4 | 1.07 | 6.6 | .43 | .45 | 71.2 | 71.1 | -.2260 | 646655_OP |
| 16 | 15497 | 22944 | -.0943A | .0153 | .91 | -9.9 | .85 | -9.9 | .48 | .44 | 74.7 | 71.1 | -.4680 | 646666_OP |
| 17 | 17178 | 22949 | -1.0983A | .0171 | 1.12 | 9.9 | 1.24 | 9.9 | .32 | .39 | 75.7 | 78.2 | .1057 | 659993_OP |
| 18 | 14280 | 22944 | -.1539A | .0153 | 1.02 | 3.8 | 1.03 | 2.3 | .41 | .44 | 70.1 | 71.3 | -.1018 | 659995_OP |
| 19 | 17074 | 22949 | -.9258A | .0166 | 1.16 | 9.9 | 1.32 | 9.9 | .24 | .40 | 72.4 | 76.6 | -.0417 | 659998_OP |
| 20 | 13699 | 22944 | -.1691A | .0153 | 1.15 | 9.9 | 1.23 | 9.9 | .32 | .44 | 65.5 | 71.4 | .0530 | 659999_OP |
| 21 | 17189 | 22949 | -.9424A | .0167 | .97 | -3.5 | .97 | -1.8 | .40 | .40 | 77.8 | 76.7 | -.0581 | 660008_OP |
| 22 | 17141 | 22944 | -.9383A | .0167 | .98 | -3.0 | 1.06 | 3.3 | .40 | .40 | 78.4 | 76.7 | -.0494 | 660013_OP |
| 23 | 12738 | 22949 | .0573A | .0152 | 1.19 | 9.9 | 1.30 | 9.9 | .30 | .45 | 64.0 | 70.8 | .0498 | 660018_OP |
| 24 | 16062 | 22944 | -.2761A | .0155 | 1.00 | .1 | .99 | -.9 | .38 | .44 | 71.7 | 71.8 | -.4311 | 660019_OP |
| 25 | 18398 | 22949 | -1.4327A | .0183 | 1.06 | 6.4 | 1.20 | 7.9 | .33 | .36 | 81.0 | 81.7 | .0698 | 660025_OP |
| 26 | 12624 | 22944 | .2637A | .0151 | 1.09 | 9.9 | 1.12 | 9.9 | .37 | .45 | 66.8 | 70.6 | -.1325 | 689865_OP |
| 27 | 14070 | 22949 | -.1323A | .0153 | .93 | -9.9 | .87 | -9.9 | .49 | .44 | 73.3 | 71.3 | -.0724 | 689866_OP |
| 28 | 19100 | 22944 | -1.7192A | .0197 | 1.11 | 8.8 | 1.20 | 6.7 | .30 | .34 | 83.5 | 84.7 | .1141 | 689868_OP |
| 29 | 20201 | 22949 | -1.8869A | .0206 | .86 | -9.9 | .79 | -7.6 | .35 | .32 | 88.3 | 86.4 | -.1793 | 689869_OP |
| 30 | 17327 | 22944 | -1.1291A | .0172 | 1.07 | 7.7 | 1.21 | 9.9 | .36 | .39 | 77.8 | 78.5 | .0925 | 689874_OP |
| 31 | 16355 | 22944 | -.6267A | .0160 | .99 | -1.8 | .99 | -1.0 | .39 | .42 | 74.6 | 74.0 | -.1491 | 689876_OP |
| 32 | 11449 | 22949 | .4618A | .0152 | .99 | -2.3 | .98 | -2.0 | .45 | .45 | 71.7 | 70.9 | -.0595 | 689879_OP |
| 33 | 9533 | 22949 | .9483A | .0156 | .94 | -8.3 | .95 | -4.9 | .49 | .44 | 75.4 | 72.8 | -.0982 | 689881_OP |
| 34 | 16117 | 22944 | -.7083A | .0161 | .90 | -9.9 | .81 | -9.9 | .51 | .42 | 78.0 | 74.7 | -.0007 | 689884_OP |
| 35 | 14800 | 22949 | -.2513A | .0154 | .99 | -1.9 | .93 | -6.2 | .43 | .44 | 71.4 | 71.7 | -.1294 | 689887_OP |
| 36 | 17486 | 22944 | -1.2184A | .0175 | 1.01 | .7 | .91 | -4.6 | .44 | .38 | 77.9 | 79.4 | .1369 | 689888_OP |
| 37 | 12750 | 22949 | .0698A | .0152 | 1.01 | 1.4 | 1.02 | 1.7 | .44 | .45 | 70.8 | 70.8 | .0344 | 689889_OP |
| 38 | 18603 | 22949 | -1.6138A | .0191 | .97 | -2.5 | .83 | -6.8 | .48 | .35 | 82.5 | 83.6 | .1862 | 689890_OP |
| 39 | 13421 | 22949 | -.0365A | .0152 | .95 | -8.4 | .90 | -9.0 | .48 | .44 | 72.8 | 71.0 | -.0151 | 689893_OP |
| 40 | 17197 | 22949 | -1.2134A | .0175 | 1.18 | 9.9 | 1.44 | 9.9 | .31 | .38 | 76.3 | 79.4 | .2180 | 689895_OP |
| 41 | 12083 | 22949 | .1486A | .0152 | 1.14 | 9.9 | 1.23 | 9.9 | .33 | .45 | 65.7 | 70.7 | .1092 | 689897_OP |
| 42 | 20036 | 22944 | -2.1993A | .0226 | 1.14 | 8.8 | 1.17 | 4.7 | .32 | .29 | 87.3 | 89.2 | .2198 | 689898_OP |
| 43 | 13763 | 22949 | .0179A | .0152 | .91 | -9.9 | .85 | -9.9 | .50 | .45 | 74.4 | 70.8 | -.1513 | 689899_OP |
| 44 | 15997 | 22944 | -.7371A | .0162 | .98 | -2.9 | .94 | -3.8 | .45 | .41 | 75.3 | 74.9 | .0607 | 689903_OP |
| 45 | 20457 | 22949 | -2.0796A | .0218 | .95 | -3.8 | .99 | -.2 | .28 | .30 | 89.2 | 88.2 | -.1075 | 689909_OP |
| 46 | 16571 | 22944 | -.8752A | .0165 | 1.12 | 9.9 | 1.32 | 9.9 | .31 | .41 | 73.5 | 76.1 | .0474 | 689910_OP |
| 47 | 16134 | 22949 | -.6930A | .0161 | .94 | -8.5 | .91 | -5.6 | .47 | .42 | 76.6 | 74.5 | -.0200 | 689912_OP |
| 48 | 15361 | 22944 | -.3228A | .0155 | .96 | -6.2 | .92 | -6.3 | .44 | .44 | 73.7 | 72.1 | -.1986 | 689913_OP |
| 49 | 19071 | 22949 | -1.6504A | .0193 | .95 | -4.7 | .85 | -5.7 | .43 | .34 | 84.0 | 84.0 | .0559 | 689915_OP |
| 50 | 15641 | 22949 | -.5217A | .0158 | .97 | -4.2 | .94 | -4.6 | .44 | .43 | 74.1 | 73.3 | -.0660 | 689918_OP |
| 51 | 16632 | 22949 | -.8233A | .0164 | .99 | -.9 | 1.01 | .9 | .41 | .41 | 76.2 | 75.6 | -.0219 | 689921_OP |
| 52 | 16863 | 22944 | -1.1782A | .0174 | 1.06 | 6.5 | .99 | -.4 | .46 | .38 | 76.8 | 79.0 | .2759 | 689925_OP |
| 53 | 11461 | 22949 | .4930A | .0152 | .95 | -8.8 | .93 | -6.8 | .49 | .45 | 73.4 | 70.9 | -.0935 | 689926_OP |
| 54 | 14623 | 22944 | -.6064A | .0159 | 1.15 | 9.9 | 1.19 | 9.9 | .36 | .42 | 67.8 | 73.9 | .2749 | 689931_OP |
| 55 | 14931 | 22949 | -.6135A | .0159 | 1.24 | 9.9 | 1.47 | 9.9 | .27 | .42 | 66.8 | 73.9 | .2074 | 689932_OP |
| 56 | 2337 | 4244 | .2128 | .0353 | .99 | -.4 | .98 | -.8 | .45 | .45 | 70.3 | 70.7 | .0008 | 707102_FT |
| 57 | 3199 | 6138 | .0014 | .0293 | 1.17 | 9.9 | 1.24 | 9.9 | .31 | .45 | 64.3 | 70.8 | .0006 | 707103_FT |
| 58 | 3755 | 4364 | -1.7248 | .0468 | 1.00 | .2 | .96 | -.5 | .32 | .32 | 86.2 | 86.1 | .0010 | 707104_FT |
| 59 | 3352 | 4138 | -1.3313 | .0432 | .90 | -4.2 | .76 | -4.7 | .46 | .36 | 82.7 | 81.7 | .0009 | 707106_FT |
| 60 | 1960 | 4463 | .8310 | .0345 | 1.02 | 1.7 | 1.06 | 2.6 | .41 | .43 | 70.9 | 71.2 | .0009 | 707107_FT |
| 61 | 3454 | 4396 | -1.1328 | .0403 | 1.12 | 5.5 | 1.30 | 5.8 | .26 | .38 | 78.0 | 79.8 | .0008 | 707109_FT |
| 62 | 3007 | 6202 | .1982 | .0293 | .86 | -9.9 | .82 | -9.9 | .56 | .46 | 77.0 | 71.4 | .0006 | 707110_FT |
| 63 | 2596 | 4211 | -.0987 | .0360 | .88 | -8.1 | .80 | -7.6 | .54 | .44 | 75.5 | 71.7 | .0008 | 707111_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | 3163 | 4300 | -.8345 | .0384 | .86 | -7.9 | .78 | -5.9 | .53 | .40 | 80.5 | 76.4 | .0008 | 707112_FT |
| 65 | 2107 | 4367 | .5876 | .0347 | .90 | -6.9 | .88 | -5.6 | .50 | .44 | 74.6 | 70.7 | .0009 | 707113_FT |
| 66 | 3748 | 6051 | -.5434 | .0299 | .89 | -9.0 | .86 | -6.0 | .53 | .44 | 75.7 | 71.4 | .0005 | 707114_FT |
| 67 | 2962 | 4343 | -.4861 | .0365 | 1.01 | .5 | 1.02 | .5 | .41 | .42 | 73.5 | 73.6 | .0008 | 707115_FT |
| 68 | 2791 | 3801 | -.8086 | .0407 | .96 | -2.3 | .88 | -2.9 | .44 | .40 | 77.2 | 76.1 | .0008 | 707116_FT |
| 69 | 3156 | 3780 | -1.4922 | .0473 | 1.02 | .7 | .99 | -.1 | .32 | .34 | 83.6 | 83.7 | .0009 | 707117_FT |
| 70 | 3411 | 5730 | -.4151 | .0305 | .97 | -2.7 | .92 | -3.3 | .47 | .44 | 72.0 | 71.0 | .0005 | 707118_FT |
| 71 | 2798 | 4392 | -.2559 | .0353 | 1.01 | .8 | .93 | -2.4 | .41 | .42 | 69.4 | 71.7 | .0008 | 707120_FT |
| 72 | 3973 | 4724 | -1.5601 | .0428 | .90 | -4.1 | .76 | -4.5 | .44 | .34 | 85.1 | 84.3 | .0010 | 707121_FT |
| 73 | 2552 | 4306 | .0282 | .0351 | .94 | -4.1 | .91 | -3.7 | .48 | .43 | 73.0 | 70.8 | .0008 | 707122_FT |
| 74 | 3585 | 4376 | -1.4002 | .0427 | .92 | -3.3 | .95 | -.9 | .43 | .36 | 83.6 | 82.5 | .0009 | 707123_FT |
| 75 | 3347 | 3937 | -1.6296 | .0479 | 1.05 | 1.8 | 1.36 | 4.8 | .26 | .33 | 85.8 | 85.1 | .0010 | 707124_FT |
| 76 | 3565 | 4191 | -1.6458 | .0465 | .85 | -5.8 | .62 | -6.8 | .49 | .33 | 86.4 | 85.2 | .0010 | 707125_FT |
| 77 | 3858 | 4916 | -1.1299 | .0381 | .90 | -5.5 | .82 | -4.1 | .48 | .38 | 81.6 | 79.7 | .0009 | 707127_FT |
| 78 | 3440 | 4300 | -1.2531 | .0416 | .97 | -1.3 | 1.03 | .6 | .39 | .37 | 82.2 | 80.9 | .0009 | 707128_FT |
| 79 | 2880 | 4290 | -.4251 | .0363 | 1.02 | 1.4 | .99 | -.4 | .39 | .41 | 71.3 | 72.8 | .0008 | 707129_FT |
| 80 | 3097 | 4069 | -.9608 | .0406 | .93 | -3.9 | .85 | -3.5 | .46 | .39 | 79.7 | 78.0 | .0008 | 707131_FT |
| 81 | 3752 | 4174 | -2.1611 | .0542 | 1.01 | .2 | .96 | -.4 | .28 | .28 | 89.8 | 89.8 | .0012 | 707132_FT |
| 82 | 4803 | 5701 | -1.9973 | .0390 | .91 | -4.0 | .76 | -4.5 | .41 | .32 | 84.9 | 84.3 | .0006 | 707134_FT |
| 83 | 3551 | 4174 | -1.6495 | .0467 | 1.04 | 1.5 | 1.07 | 1.0 | .29 | .33 | 85.3 | 85.2 | .0010 | 707135_FT |
| 84 | 3052 | 4078 | -.8695 | .0399 | 1.13 | 6.8 | 1.18 | 3.9 | .27 | .39 | 73.2 | 77.0 | .0008 | 707136_FT |
| 85 | 4517 | 5636 | -1.6607 | .0362 | 1.07 | 3.7 | 1.12 | 2.5 | .28 | .35 | 80.0 | 80.7 | .0005 | 707137_FT |
| 86 | 2999 | 4461 | -.4271 | .0357 | .90 | -6.5 | .83 | -5.7 | .51 | .42 | 75.7 | 73.2 | .0008 | 707138_FT |
| 87 | 3471 | 4501 | -1.0367 | .0390 | 1.01 | .6 | .95 | -1.1 | .37 | .38 | 78.0 | 78.6 | .0008 | 707140_FT |
| 88 | 3378 | 4130 | -1.4167 | .0437 | .90 | -4.1 | .80 | -3.8 | .45 | .35 | 83.5 | 82.3 | .0009 | 707141_FT |
| 89 | 2464 | 3850 | -.2101 | .0379 | .88 | -8.0 | .82 | -6.5 | .54 | .43 | 76.8 | 72.1 | .0008 | 707142_FT |
| 90 | 3449 | 6341 | -.1091 | .0289 | .90 | -8.5 | .87 | -6.5 | .53 | .46 | 75.4 | 70.9 | .0006 | 707143_FT |
| 91 | 1069 | 4355 | 1.9784 | .0400 | 1.28 | 9.9 | 1.51 | 9.9 | .20 | .38 | 73.8 | 79.6 | .0010 | 707144_FT |
| 92 | 2785 | 4476 | -.1685 | .0348 | .93 | -4.8 | .88 | -4.5 | .49 | .43 | 74.2 | 71.4 | .0008 | 707145_FT |
| 93 | 3215 | 6083 | -.0689 | .0293 | 1.04 | 3.2 | 1.05 | 2.6 | .41 | .45 | 69.5 | 70.6 | .0006 | 707146_FT |
| 94 | 1703 | 3879 | .7844 | .0369 | 1.23 | 9.9 | 1.36 | 9.9 | .24 | .43 | 63.0 | 71.0 | .0009 | 707147_FT |
| 95 | 2909 | 4476 | -.3325 | .0352 | 1.18 | 9.9 | 1.26 | 8.4 | .26 | .42 | 65.5 | 72.2 | .0008 | 707149_FT |
| 96 | 3640 | 3871 | -2.7918 | .0705 | .90 | -1.8 | .61 | -4.0 | .34 | .23 | 94.0 | 94.0 | .0015 | 707151_FT |
| 97 | 2665 | 4371 | -.0869 | .0351 | 1.13 | 8.7 | 1.19 | 6.6 | .33 | .43 | 67.0 | 71.2 | .0008 | 707152_FT |
| 98 | 2232 | 4203 | .3325 | .0353 | .91 | -6.1 | .90 | -4.6 | .51 | .44 | 74.6 | 70.4 | .0009 | 707153_FT |
| 99 | 2336 | 4496 | .3951 | .0340 | 1.08 | 5.5 | 1.10 | 4.4 | .36 | .44 | 67.7 | 70.2 | .0009 | 707154_FT |
| 100 | 4676 | 6202 | -1.3131 | .0325 | .88 | -8.2 | .83 | -4.9 | .50 | .39 | 80.7 | 77.2 | .0005 | 707155_FT |
| 101 | 2240 | 4173 | .3032 | .0353 | 1.30 | 9.9 | 1.50 | 9.9 | .19 | .44 | 58.8 | 70.2 | .0009 | 707156_FT |
| 102 | 2296 | 4338 | .3726 | .0347 | 1.08 | 5.6 | 1.10 | 4.4 | .38 | .44 | 66.8 | 70.2 | .0008 | 707157_FT |
| 103 | 4482 | 5653 | -1.5894 | .0358 | .99 | -.8 | .96 | -.8 | .38 | .36 | 80.0 | 80.0 | .0005 | 707158_FT |
| 104 | 3656 | 3878 | -2.8646 | .0715 | .91 | -1.6 | .63 | -3.7 | .33 | .22 | 94.2 | 94.2 | .0015 | 707159_FT |
| 105 | 2923 | 3936 | -.8198 | .0403 | .96 | -2.2 | .89 | -2.6 | .43 | .39 | 77.5 | 76.7 | .0008 | 707160_FT |
| MEAN | 9789.0 | 14205 | -.6960 | .0275 | 1.00 | -.4 | 1.00 | -.3 | | | 76.2 | 76.5 | | |
| P.SD | 6617.3 | 9182.2 | .8341 | .0127 | .11 | 6.8 | .20 | 6.5 | | | 6.9 | 5.9 | | |

## Grade 6 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16821 | 22452 | -.9359A | .0168 | .98 | -2.9 | .96 | -2.6 | .39 | .41 | 77.7 | 76.5 | -.1195 | 603183_OP |
| 2 | 13970 | 22447 | -.5260A | .0159 | 1.21 | 9.9 | 1.34 | 9.9 | .31 | .43 | 66.5 | 73.4 | .2276 | 603206_OP |
| 3 | 14429 | 22452 | -.4189A | .0158 | .89 | -9.9 | .82 | -9.9 | .53 | .44 | 76.1 | 72.7 | .0052 | 603237_OP |
| 4 | 11954 | 22447 | -.2140A | .0155 | 1.00 | .3 | 1.02 | 1.6 | .50 | .45 | 72.1 | 71.7 | .3945 | 603283_OP |
| 5 | 16598 | 22452 | -1.1955A | .0175 | 1.08 | 8.8 | 1.24 | 9.9 | .41 | .39 | 77.6 | 78.9 | .2133 | 603285_OP |
| 6 | 14633 | 22447 | -.2954A | .0156 | 1.01 | 1.5 | 1.00 | .2 | .41 | .44 | 71.6 | 72.1 | -.1731 | 603349_OP |
| 7 | 12736 | 22452 | -.4565A | .0158 | 1.01 | 1.0 | .96 | -2.8 | .53 | .44 | 72.0 | 73.0 | .4550 | 603364_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 13227 | 22447 | -.2290A | .0155 | 1.13 | 9.9 | 1.21 | 9.9 | .35 | .45 | 67.2 | 71.8 | .1078 | 603366_OP |
| 9 | 17283 | 22452 | -1.0197A | .0170 | .87 | -9.9 | .78 | -9.9 | .47 | .41 | 80.9 | 77.3 | -.1761 | 603715_OP |
| 10 | 13338 | 22447 | -.1728A | .0155 | .98 | -3.5 | .94 | -5.4 | .46 | .45 | 72.5 | 71.6 | .0242 | 634376_OP |
| 11 | 17058 | 22452 | -1.2174A | .0176 | .92 | -9.2 | .82 | -9.4 | .51 | .39 | 80.9 | 79.1 | .0984 | 634398_OP |
| 12 | 13678 | 22447 | -.4368A | .0158 | 1.16 | 9.9 | 1.18 | 9.9 | .35 | .44 | 66.9 | 72.8 | .2088 | 634408_OP |
| 13 | 12859 | 22452 | .1564A | .0153 | .99 | -2.2 | .99 | -1.2 | .46 | .45 | 71.6 | 70.8 | -.1917 | 634433_OP |
| 14 | 19067 | 22447 | -.9543A | .0168 | .73 | -9.9 | .62 | -9.9 | .43 | .41 | 85.0 | 76.7 | -.9103 | 646674_OP |
| 15 | 14289 | 22452 | -.8588A | .0166 | 1.08 | 9.6 | 1.05 | 2.8 | .52 | .42 | 72.9 | 75.9 | .4854 | 646680_OP |
| 16 | 19208 | 22447 | -2.2698A | .0230 | 1.16 | 9.6 | .87 | -3.9 | .47 | .30 | 85.8 | 89.4 | .4078 | 646687_OP |
| 17 | 16163 | 22452 | -.7429A | .0163 | 1.08 | 9.9 | 1.15 | 9.5 | .32 | .42 | 73.0 | 74.9 | -.1257 | 646706_OP |
| 18 | 16018 | 22447 | -.5248A | .0159 | .96 | -5.6 | .97 | -2.4 | .41 | .44 | 75.1 | 73.4 | -.3100 | 646720_OP |
| 19 | 18737 | 22452 | -1.5112A | .0187 | .86 | -9.9 | .79 | -9.2 | .41 | .37 | 85.0 | 82.1 | -.1781 | 660042_OP |
| 20 | 12889 | 22447 | -.3785A | .0157 | 1.00 | .7 | 1.00 | .4 | .50 | .44 | 72.2 | 72.5 | .3396 | 660048_OP |
| 21 | 14075 | 22452 | -.2081A | .0155 | 1.05 | 8.1 | 1.07 | 5.9 | .39 | .45 | 70.1 | 71.7 | -.1201 | 660052_OP |
| 22 | 9662 | 22447 | .7636A | .0155 | 1.12 | 9.9 | 1.23 | 9.9 | .33 | .44 | 68.7 | 71.9 | -.0447 | 660063_OP |
| 23 | 18860 | 22452 | -1.5389A | .0188 | .92 | -8.2 | 1.00 | -.2 | .34 | .37 | 84.6 | 82.4 | -.1986 | 660069_OP |
| 24 | 11322 | 22447 | .4070A | .0153 | 1.03 | 4.8 | 1.06 | 6.3 | .42 | .45 | 70.2 | 70.9 | -.0805 | 660082_OP |
| 25 | 14632 | 22452 | -.4122A | .0158 | .96 | -5.8 | .94 | -4.8 | .46 | .44 | 74.0 | 72.7 | -.0532 | 660098_OP |
| 26 | 12772 | 22447 | -.0839A | .0154 | 1.20 | 9.9 | 1.30 | 9.9 | .29 | .45 | 63.6 | 71.3 | .0703 | 660110_OP |
| 27 | 15163 | 22452 | -.6439A | .0161 | 1.01 | 1.8 | .98 | -1.6 | .43 | .43 | 73.4 | 74.2 | .0455 | 660116_OP |
| 28 | 18002 | 22447 | -1.3179A | .0179 | .85 | -9.9 | .69 | -9.9 | .49 | .38 | 82.8 | 80.1 | -.1074 | 689935_OP |
| 29 | 14152 | 22452 | -.3111A | .0156 | .94 | -8.5 | .89 | -9.5 | .48 | .44 | 73.5 | 72.2 | -.0348 | 689937_OP |
| 30 | 17317 | 22447 | -1.2914A | .0179 | 1.06 | 6.1 | 1.04 | 1.7 | .38 | .39 | 78.2 | 79.9 | .0927 | 689940_OP |
| 31 | 18263 | 22452 | -1.5289A | .0188 | .96 | -3.6 | .94 | -2.6 | .41 | .37 | 82.9 | 82.3 | .0199 | 689942_OP |
| 32 | 11860 | 22447 | .1052A | .0153 | 1.30 | 9.9 | 1.52 | 9.9 | .22 | .45 | 60.0 | 70.9 | .0955 | 689946_OP |
| 33 | 14842 | 22452 | -.9670A | .0169 | 1.26 | 9.9 | 1.58 | 9.9 | .35 | .41 | 70.9 | 76.8 | .4559 | 689949_OP |
| 34 | 18097 | 22447 | -1.5453A | .0189 | .91 | -8.9 | .75 | -9.9 | .50 | .37 | 83.2 | 82.4 | .0946 | 689951_OP |
| 35 | 13594 | 22452 | -.2417A | .0156 | 1.00 | .1 | .98 | -1.4 | .45 | .45 | 71.7 | 71.8 | .0324 | 689953_OP |
| 36 | 19560 | 22447 | -1.6875A | .0195 | .79 | -9.9 | .77 | -9.5 | .38 | .35 | 87.9 | 83.9 | -.3539 | 689954_OP |
| 37 | 14357 | 22452 | -.4098A | .0158 | 1.02 | 2.6 | .99 | -.5 | .43 | .44 | 71.6 | 72.7 | .0141 | 689955_OP |
| 38 | 11790 | 22447 | .1588A | .0153 | .87 | -9.9 | .82 | -9.9 | .56 | .45 | 76.2 | 70.8 | .0581 | 689956_OP |
| 39 | 13494 | 22452 | -.1087A | .0154 | 1.04 | 6.0 | 1.03 | 2.8 | .40 | .45 | 70.3 | 71.3 | -.0778 | 689958_OP |
| 40 | 10807 | 22447 | .4945A | .0153 | .90 | -9.9 | .87 | -9.9 | .53 | .45 | 75.3 | 71.1 | -.0472 | 689960_OP |
| 41 | 18234 | 22452 | -1.2696A | .0178 | .80 | -9.9 | .67 | -9.9 | .48 | .39 | 84.4 | 79.7 | -.2395 | 689962_OP |
| 42 | 16420 | 22447 | -.9022A | .0167 | .98 | -3.0 | .86 | -8.5 | .43 | .41 | 75.2 | 76.2 | -.0365 | 689963_OP |
| 43 | 14900 | 22452 | -.3424A | .0157 | 1.11 | 9.9 | 1.10 | 8.0 | .32 | .44 | 67.9 | 72.3 | -.1934 | 689964_OP |
| 44 | 14228 | 22447 | -.3447A | .0157 | 1.15 | 9.9 | 1.21 | 9.9 | .31 | .44 | 67.2 | 72.3 | -.0204 | 689968_OP |
| 45 | 19086 | 22452 | -1.8004A | .0201 | .97 | -2.6 | .94 | -2.2 | .36 | .34 | 85.4 | 85.0 | -.0194 | 689970_OP |
| 46 | 14838 | 22447 | -.4976A | .0159 | .88 | -9.9 | .81 | -9.9 | .53 | .44 | 77.1 | 73.2 | -.0198 | 689974_OP |
| 47 | 11098 | 22452 | .3624A | .0153 | 1.19 | 9.9 | 1.27 | 9.9 | .29 | .45 | 63.7 | 70.9 | .0169 | 689976_OP |
| 48 | 15689 | 22447 | -.7656A | .0164 | 1.10 | 9.9 | 1.14 | 8.4 | .34 | .42 | 71.9 | 75.1 | .0285 | 689977_OP |
| 49 | 16886 | 22452 | -.8906A | .0167 | 1.02 | 2.9 | 1.07 | 4.0 | .33 | .42 | 76.3 | 76.1 | -.1861 | 689980_OP |
| 50 | 17071 | 22447 | -1.1923A | .0175 | .98 | -2.1 | 1.10 | 5.0 | .43 | .39 | 80.0 | 78.9 | .0676 | 689981_OP |
| 51 | 13625 | 22452 | -.1438A | .0155 | .91 | -9.9 | .88 | -9.9 | .51 | .45 | 74.7 | 71.5 | -.0742 | 689982_OP |
| 52 | 18951 | 22447 | -1.8056A | .0201 | 1.07 | 5.8 | 1.20 | 6.8 | .29 | .34 | 84.7 | 85.1 | .0405 | 689983_OP |
| 53 | 10793 | 22452 | .5470A | .0154 | .89 | -9.9 | .87 | -9.9 | .54 | .45 | 75.9 | 71.2 | -.0956 | 689984_OP |
| 54 | 14380 | 22447 | -.3133A | .0156 | 1.08 | 9.9 | 1.15 | 9.9 | .37 | .44 | 70.0 | 72.2 | -.0905 | 689985_OP |
| 55 | 12535 | 22452 | .0843A | .0153 | .92 | -9.9 | .91 | -9.1 | .51 | .45 | 74.7 | 70.9 | -.0421 | 689987_OP |
| 56 | 15867 | 22447 | -.6218A | .0161 | .92 | -9.9 | .84 | -9.9 | .46 | .43 | 76.2 | 74.0 | -.1680 | 689988_OP |
| 57 | 15838 | 22452 | -.7241A | .0163 | .96 | -5.8 | .89 | -7.4 | .45 | .43 | 75.8 | 74.8 | -.0540 | 689990_OP |
| 58 | 18295 | 22447 | -1.5483A | .0189 | .89 | -9.9 | .77 | -9.9 | .48 | .36 | 83.8 | 82.5 | .0270 | 689992_OP |
| 59 | 1656 | 3673 | .6939 | .0378 | 1.27 | 9.9 | 1.45 | 9.9 | .19 | .43 | 62.0 | 70.8 | .0005 | 707162_FT |
| 60 | 4369 | 4487 | -3.7373 | .0954 | .98 | -.2 | .95 | -.3 | .18 | .16 | 97.4 | 97.4 | .0015 | 707163_FT |
| 61 | 3540 | 3977 | -2.1049 | .0538 | .95 | -1.3 | .90 | -1.3 | .34 | .30 | 89.1 | 89.0 | .0007 | 707164_FT |
| 62 | 4706 | 5623 | -2.0314 | .0390 | .85 | -7.0 | .66 | -6.9 | .48 | .34 | 84.9 | 83.9 | .0001 | 707165_FT |
| 63 | 3887 | 4348 | -2.1619 | .0522 | .90 | -3.0 | .72 | -4.0 | .40 | .29 | 89.4 | 89.4 | .0007 | 707166_FT |
| 64 | 2564 | 5799 | .3563 | .0307 | 1.17 | 9.9 | 1.21 | 9.7 | .35 | .47 | 65.6 | 72.3 | .0003 | 707167_FT |
| 65 | 3382 | 4364 | -1.1098 | .0399 | .90 | -5.0 | .90 | -2.3 | .48 | .39 | 82.4 | 79.2 | .0004 | 707168_FT |
| 66 | 3681 | 4349 | -1.6670 | .0453 | .98 | -.7 | .98 | -.3 | .36 | .34 | 85.2 | 84.9 | .0005 | 707169_FT |
| 67 | 2149 | 3670 | .0171 | .0380 | .94 | -3.6 | .91 | -3.5 | .48 | .44 | 73.3 | 70.9 | .0004 | 707170_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | 2705 | 3652 | -.8731 | .0419 | .86 | -7.2 | .74 | -6.5 | .53 | .40 | 80.0 | 76.8 | .0004 | 707171_FT |
| 69 | 2308 | 3831 | -.1172 | .0372 | .93 | -4.6 | .88 | -4.5 | .49 | .43 | 73.7 | 71.0 | .0004 | 707172_FT |
| 70 | 3119 | 3811 | -1.4062 | .0456 | 1.06 | 2.4 | 1.10 | 1.7 | .29 | .36 | 81.6 | 82.4 | .0005 | 707173_FT |
| 71 | 4089 | 4461 | -2.4419 | .0568 | .94 | -1.4 | .98 | -.2 | .32 | .27 | 91.7 | 91.6 | .0008 | 707174_FT |
| 72 | 1676 | 4461 | 1.1177 | .0354 | 1.14 | 8.4 | 1.28 | 9.9 | .30 | .43 | 70.0 | 73.0 | .0005 | 707175_FT |
| 73 | 4074 | 5935 | -.9687 | .0315 | .94 | -4.2 | .87 | -4.3 | .48 | .43 | 75.8 | 74.4 | .0000 | 707176_FT |
| 74 | 4001 | 5743 | -1.0555 | .0322 | .86 | -9.9 | .74 | -8.8 | .55 | .43 | 78.0 | 74.6 | .0000 | 707178_FT |
| 75 | 2990 | 4384 | -.5007 | .0363 | 1.21 | 9.9 | 1.27 | 8.0 | .23 | .42 | 66.3 | 73.7 | .0004 | 707179_FT |
| 76 | 2925 | 4156 | -.6665 | .0379 | 1.00 | .0 | 1.12 | 3.2 | .41 | .42 | 75.9 | 75.0 | .0004 | 707180_FT |
| 77 | 3636 | 4347 | -1.5901 | .0443 | 1.09 | 3.6 | 1.19 | 3.1 | .25 | .35 | 83.5 | 84.0 | .0005 | 707181_FT |
| 78 | 2967 | 4177 | -.7066 | .0379 | 1.05 | 2.6 | 1.09 | 2.5 | .36 | .41 | 74.6 | 75.2 | .0004 | 707182_FT |
| 79 | 3108 | 4163 | -.8976 | .0395 | 1.03 | 1.5 | 1.04 | 1.1 | .38 | .40 | 76.5 | 77.4 | .0004 | 707183_FT |
| 80 | 2791 | 4398 | -.2733 | .0353 | 1.02 | 1.5 | 1.02 | .7 | .41 | .43 | 70.9 | 72.0 | .0004 | 707184_FT |
| 81 | 3409 | 3740 | -2.3813 | .0606 | .89 | -2.6 | .66 | -4.2 | .39 | .27 | 91.2 | 91.1 | .0008 | 707185_FT |
| 82 | 2406 | 3922 | -.1386 | .0370 | .94 | -4.3 | .89 | -4.0 | .49 | .43 | 73.9 | 71.4 | .0004 | 707186_FT |
| 83 | 1919 | 4533 | .8741 | .0344 | .85 | -9.9 | .82 | -8.8 | .55 | .43 | 77.2 | 71.6 | .0005 | 707189_FT |
| 84 | 1856 | 4387 | .8425 | .0348 | 1.02 | 1.5 | 1.06 | 2.8 | .40 | .43 | 70.9 | 71.3 | .0005 | 707191_FT |
| 85 | 2134 | 5526 | .6163 | .0320 | 1.05 | 3.6 | 1.12 | 5.1 | .40 | .46 | 72.5 | 73.6 | .0003 | 707192_FT |
| 86 | 3200 | 6097 | -.0724 | .0296 | .95 | -4.5 | .92 | -4.0 | .51 | .47 | 73.5 | 71.5 | .0002 | 707193_FT |
| 87 | 3988 | 6016 | -.8261 | .0309 | .84 | -9.9 | .72 | -9.9 | .58 | .44 | 79.1 | 73.5 | .0000 | 707194_FT |
| 88 | 2906 | 4481 | -.3292 | .0353 | .94 | -4.0 | .88 | -4.4 | .48 | .43 | 74.2 | 72.6 | .0004 | 707197_FT |
| 89 | 3049 | 3986 | -1.0079 | .0412 | .87 | -6.6 | .71 | -7.1 | .52 | .39 | 80.6 | 78.6 | .0005 | 707199_FT |
| 90 | 2741 | 4111 | -.4518 | .0371 | 1.12 | 6.9 | 1.28 | 8.5 | .32 | .42 | 69.8 | 73.2 | .0004 | 707200_FT |
| 91 | 3875 | 4768 | -1.4064 | .0403 | .86 | -6.7 | .66 | -7.7 | .51 | .36 | 83.4 | 81.9 | .0005 | 707201_FT |
| 92 | 3877 | 6091 | -.6619 | .0303 | 1.00 | .2 | .98 | -.9 | .45 | .45 | 72.9 | 72.8 | .0000 | 707202_FT |
| 93 | 2964 | 4307 | -.5804 | .0366 | .90 | -6.2 | .84 | -5.2 | .50 | .41 | 78.0 | 73.9 | .0004 | 707203_FT |
| 94 | 2844 | 3760 | -.9634 | .0419 | .99 | -.3 | .94 | -1.3 | .40 | .39 | 77.6 | 77.8 | .0004 | 707204_FT |
| 95 | 3174 | 3953 | -1.3023 | .0438 | .98 | -1.0 | .91 | -1.7 | .40 | .37 | 81.8 | 81.3 | .0005 | 707205_FT |
| 96 | 2940 | 4179 | -.6356 | .0379 | 1.04 | 2.3 | 1.13 | 3.7 | .38 | .42 | 74.9 | 75.1 | .0004 | 707207_FT |
| 97 | 2688 | 3989 | -.4775 | .0378 | .90 | -6.3 | .86 | -4.4 | .51 | .42 | 76.7 | 73.4 | .0004 | 707208_FT |
| 98 | 2876 | 4552 | -.2344 | .0347 | .89 | -7.6 | .82 | -6.8 | .53 | .44 | 75.5 | 72.3 | .0004 | 707209_FT |
| 99 | 2206 | 3793 | .0166 | .0373 | .96 | -2.9 | .93 | -2.5 | .47 | .44 | 73.0 | 70.8 | .0005 | 707210_FT |
| 100 | 2454 | 4468 | .1931 | .0342 | 1.08 | 5.4 | 1.08 | 3.7 | .37 | .44 | 66.6 | 70.4 | .0004 | 707211_FT |
| 101 | 2396 | 4128 | .0199 | .0357 | 1.09 | 5.7 | 1.09 | 3.5 | .36 | .44 | 66.8 | 70.5 | .0004 | 707212_FT |
| 102 | 3685 | 4053 | -2.3408 | .0574 | .84 | -4.1 | .51 | -6.9 | .45 | .27 | 90.9 | 90.9 | .0007 | 707214_FT |
| 103 | 3360 | 3711 | -2.2597 | .0591 | .89 | -2.7 | .74 | -3.2 | .40 | .28 | 90.6 | 90.5 | .0007 | 707215_FT |
| 104 | 2755 | 4722 | -.0096 | .0335 | 1.09 | 6.6 | 1.09 | 3.7 | .36 | .44 | 66.6 | 71.0 | .0004 | 707216_FT |
| 105 | 3481 | 3985 | -1.9376 | .0508 | .98 | -.7 | .97 | -.3 | .33 | .31 | 87.5 | 87.4 | .0006 | 707218_FT |
| 106 | 4338 | 5682 | -1.4672 | .0346 | 1.05 | 3.2 | 1.40 | 8.5 | .33 | .40 | 78.4 | 78.1 | .0000 | 707219_FT |
| 107 | 2711 | 3709 | -.7927 | .0412 | .82 | -9.8 | .69 | -8.3 | .58 | .41 | 81.1 | 76.5 | .0004 | 707220_FT |
| 108 | 5360 | 6037 | -2.4914 | .0433 | .90 | -3.5 | .93 | -1.0 | .38 | .30 | 88.8 | 88.8 | .0002 | 707221_FT |
| MEAN | 9557.6 | 14135 | -.7321 | .0279 | .99 | -.7 | .98 | -.9 | | | 76.5 | 76.5 | | |
| P.SD | 6279.4 | 8969.4 | .8491 | .0142 | .11 | 6.9 | .20 | 6.7 | | | 7.2 | 6.0 | | |

## Grade 7 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17525 | 22200 | -1.1468A | .0176 | .82 | -9.9 | .68 | -9.9 | .50 | .40 | 82.3 | 78.6 | -.1712 | 599999_OP |
| 2 | 13919 | 22205 | -.3569A | .0159 | 1.09 | 9.9 | 1.09 | 6.5 | .39 | .45 | 69.1 | 72.8 | .0579 | 600043_OP |
| 3 | 14538 | 22200 | -.6157A | .0163 | 1.01 | 2.0 | .97 | -1.9 | .47 | .44 | 73.4 | 74.4 | .1609 | 600120_OP |
| 4 | 16074 | 22200 | -.7202A | .0165 | .82 | -9.9 | .70 | -9.9 | .56 | .43 | 80.8 | 75.1 | -.1554 | 634515_OP |
| 5 | 16708 | 22205 | -.8224A | .0167 | .95 | -6.8 | .87 | -7.4 | .41 | .43 | 76.7 | 75.9 | -.2403 | 634529_OP |
| 6 | 17657 | 22200 | -1.5319A | .0190 | .95 | -5.1 | .81 | -7.6 | .51 | .37 | 81.9 | 82.4 | .1823 | 634531_OP |
| 7 | 13662 | 22205 | -.2524A | .0158 | .93 | -9.9 | .92 | -6.3 | .52 | .46 | 75.2 | 72.3 | .0168 | 634548_OP |
| 8 | 14954 | 22205 | -.6470A | .0163 | .96 | -6.0 | .92 | -5.2 | .50 | .44 | 75.5 | 74.6 | .0838 | 634552_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 16526 | 22205 | -.6713A | .0164 | .87 | -9.9 | .83 | -9.9 | .47 | .44 | 79.4 | 74.7 | -.3410 | 646871_OP |
| 10 | 11888 | 22200 | .0985A | .0155 | 1.10 | 9.9 | 1.12 | 9.9 | .39 | .47 | 67.2 | 71.4 | .0982 | 646881_OP |
| 11 | 16694 | 22200 | -.8139A | .0167 | .95 | -7.0 | .93 | -4.0 | .41 | .43 | 77.2 | 75.8 | -.2460 | 646895_OP |
| 12 | 13615 | 22200 | -.3046A | .0158 | 1.06 | 9.3 | 1.06 | 4.5 | .42 | .45 | 69.9 | 72.6 | .0809 | 646902_OP |
| 13 | 13227 | 22205 | -.2747A | .0158 | .96 | -6.6 | .93 | -5.4 | .51 | .46 | 74.2 | 72.4 | .1484 | 646907_OP |
| 14 | 10360 | 22200 | .4823A | .0156 | 1.06 | 9.1 | 1.12 | 9.9 | .39 | .47 | 70.5 | 71.5 | .0826 | 646908_OP |
| 15 | 9422 | 22205 | .6049A | .0156 | 1.11 | 9.9 | 1.17 | 9.9 | .36 | .47 | 68.0 | 71.9 | .1903 | 646912_OP |
| 16 | 14678 | 22200 | -.5644A | .0162 | 1.06 | 7.6 | 1.13 | 8.0 | .41 | .44 | 72.8 | 74.0 | .0719 | 646915_OP |
| 17 | 13334 | 22205 | -.0387A | .0156 | 1.21 | 9.9 | 1.30 | 9.9 | .28 | .46 | 63.9 | 71.6 | -.1178 | 646917_OP |
| 18 | 13520 | 22205 | .1555A | .0155 | 1.07 | 9.9 | 1.07 | 6.6 | .40 | .47 | 68.5 | 71.3 | -.3613 | 646918_OP |
| 19 | 13268 | 22200 | -.1747A | .0157 | 1.00 | -.7 | .99 | -.5 | .47 | .46 | 72.3 | 72.0 | .0360 | 660138_OP |
| 20 | 18586 | 22200 | -1.9626A | .0212 | 1.05 | 3.7 | .86 | -4.6 | .47 | .33 | 84.2 | 86.7 | .2810 | 660147_OP |
| 21 | 16082 | 22205 | -.9290A | .0170 | .96 | -4.6 | .87 | -7.2 | .47 | .42 | 77.2 | 76.7 | .0587 | 660152_OP |
| 22 | 16475 | 22200 | -.7577A | .0166 | 1.01 | .9 | 1.08 | 4.7 | .36 | .43 | 75.4 | 75.4 | -.2367 | 660162_OP |
| 23 | 14131 | 22205 | -.4013A | .0160 | .99 | -1.5 | .98 | -1.7 | .47 | .45 | 73.1 | 73.0 | .0489 | 660165_OP |
| 24 | 16663 | 22205 | -.9829A | .0171 | .95 | -6.4 | .84 | -8.5 | .45 | .42 | 77.9 | 77.2 | -.0597 | 660176_OP |
| 25 | 17276 | 22200 | -1.3037A | .0181 | .85 | -9.9 | .66 | -9.9 | .56 | .39 | 82.3 | 80.1 | .0754 | 660177_OP |
| 26 | 11695 | 22200 | -.0438A | .0156 | 1.19 | 9.9 | 1.33 | 9.9 | .35 | .46 | 65.3 | 71.6 | .2883 | 660186_OP |
| 27 | 16132 | 22205 | -.8667A | .0168 | .95 | -6.3 | .90 | -5.8 | .46 | .42 | 77.6 | 76.2 | -.0200 | 689997_OP |
| 28 | 18723 | 22200 | -1.7668A | .0201 | .83 | -9.9 | .62 | -9.9 | .52 | .35 | 85.7 | 84.8 | .0242 | 689999_OP |
| 29 | 16961 | 22205 | -1.1368A | .0176 | .82 | -9.9 | .70 | -9.9 | .56 | .40 | 82.6 | 78.5 | .0062 | 690000_OP |
| 30 | 17215 | 22205 | -1.5720A | .0192 | 1.13 | 9.9 | 1.12 | 4.3 | .45 | .37 | 79.5 | 82.8 | .3707 | 690001_OP |
| 31 | 14024 | 22205 | -.3392A | .0159 | .87 | -9.9 | .78 | -9.9 | .56 | .45 | 76.9 | 72.7 | .0131 | 690002_OP |
| 32 | 15082 | 22205 | -.5894A | .0162 | .94 | -8.4 | .90 | -6.5 | .49 | .44 | 76.1 | 74.2 | -.0097 | 690004_OP |
| 33 | 15668 | 22200 | -.7365A | .0165 | .88 | -9.9 | .80 | -9.9 | .53 | .43 | 79.1 | 75.2 | -.0217 | 690005_OP |
| 34 | 18724 | 22205 | -1.6217A | .0194 | 1.01 | .7 | 1.04 | 1.4 | .29 | .36 | 84.2 | 83.3 | -.1256 | 690006_OP |
| 35 | 15031 | 22200 | -.6035A | .0163 | 1.00 | .0 | 1.04 | 2.6 | .44 | .44 | 74.7 | 74.3 | .0176 | 690008_OP |
| 36 | 14635 | 22200 | -.4328A | .0160 | 1.00 | .2 | .93 | -4.8 | .44 | .45 | 72.3 | 73.2 | -.0513 | 690012_OP |
| 37 | 17073 | 22205 | -1.0309A | .0172 | .91 | -9.9 | .84 | -8.5 | .45 | .41 | 80.1 | 77.6 | -.1396 | 690014_OP |
| 38 | 15186 | 22200 | -.7001A | .0165 | .89 | -9.9 | .79 | -9.9 | .55 | .43 | 77.9 | 74.9 | .0745 | 690016_OP |
| 39 | 12420 | 22205 | .1109A | .0155 | 1.06 | 8.7 | 1.07 | 6.4 | .42 | .47 | 69.4 | 71.3 | -.0432 | 690018_OP |
| 40 | 14757 | 22200 | -.2866A | .0158 | 1.03 | 4.3 | 1.01 | .4 | .40 | .46 | 70.9 | 72.5 | -.2335 | 690019_OP |
| 41 | 15265 | 22200 | -.4786A | .0161 | 1.02 | 3.3 | 1.03 | 2.0 | .39 | .45 | 72.5 | 73.5 | -.1745 | 690023_OP |
| 42 | 15775 | 22205 | -.8987A | .0169 | 1.13 | 9.9 | 1.29 | 9.9 | .35 | .42 | 73.5 | 76.5 | .1156 | 690024_OP |
| 43 | 16421 | 22205 | -.7997A | .0167 | .91 | -9.9 | .83 | -9.9 | .46 | .43 | 77.9 | 75.7 | -.1754 | 690027_OP |
| 44 | 12623 | 22205 | -.0877A | .0156 | 1.00 | -.5 | .99 | -.9 | .48 | .46 | 71.8 | 71.7 | .1079 | 690028_OP |
| 45 | 15181 | 22200 | -.6333A | .0163 | .92 | -9.9 | .86 | -9.2 | .51 | .44 | 76.7 | 74.5 | .0074 | 690029_OP |
| 46 | 18222 | 22200 | -1.7322A | .0199 | 1.03 | 3.0 | .98 | -.6 | .42 | .35 | 83.1 | 84.4 | .1856 | 690031_OP |
| 47 | 12399 | 22200 | .2837A | .0155 | 1.09 | 9.9 | 1.12 | 9.9 | .39 | .47 | 68.5 | 71.3 | -.2128 | 690033_OP |
| 48 | 12492 | 22205 | .1148A | .0155 | 1.24 | 9.9 | 1.33 | 9.9 | .28 | .47 | 61.9 | 71.3 | -.0647 | 690034_OP |
| 49 | 9210 | 22205 | .8285A | .0158 | 1.10 | 9.9 | 1.17 | 9.9 | .37 | .46 | 70.1 | 72.7 | .0200 | 690035_OP |
| 50 | 14621 | 22205 | -.4405A | .0160 | .89 | -9.9 | .86 | -9.9 | .54 | .45 | 77.6 | 73.3 | -.0388 | 690036_OP |
| 51 | 16965 | 22200 | -1.2067A | .0178 | .92 | -9.4 | .88 | -5.6 | .50 | .40 | 81.2 | 79.2 | .0758 | 690037_OP |
| 52 | 14224 | 22205 | -.3774A | .0159 | .93 | -9.9 | .89 | -8.3 | .51 | .45 | 75.4 | 72.9 | .0005 | 690041_OP |
| 53 | 13328 | 22200 | -.1141A | .0157 | .95 | -7.1 | .93 | -5.7 | .49 | .46 | 73.7 | 71.8 | -.0405 | 690042_OP |
| 54 | 15319 | 22205 | -.6392A | .0163 | 1.14 | 9.9 | 1.16 | 9.6 | .32 | .44 | 69.3 | 74.5 | -.0233 | 690043_OP |
| 55 | 17642 | 22200 | -1.2284A | .0178 | .80 | -9.9 | .61 | -9.9 | .53 | .40 | 83.4 | 79.4 | -.1266 | 690044_OP |
| 56 | 16791 | 22200 | -1.2697A | .0180 | 1.12 | 9.9 | 1.41 | 9.9 | .36 | .39 | 78.4 | 79.8 | .1948 | 690045_OP |
| 57 | 12224 | 22200 | .0042A | .0156 | 1.11 | 9.9 | 1.11 | 9.1 | .38 | .46 | 66.5 | 71.5 | .1117 | 690051_OP |
| 58 | 7527 | 22205 | 1.0656A | .0161 | 1.06 | 7.8 | 1.20 | 9.9 | .35 | .45 | 73.4 | 74.0 | .2173 | 690053_OP |
| 59 | 1926 | 4416 | .8434 | .0351 | .92 | -5.6 | .92 | -3.3 | .52 | .46 | 75.0 | 72.1 | .0007 | 707222_FT |
| 60 | 3925 | 5562 | -1.0567 | .0330 | 1.01 | .7 | .97 | -.8 | .42 | .43 | 74.3 | 74.9 | -.0001 | 707223_FT |
| 61 | 2121 | 3692 | .0998 | .0380 | 1.04 | 2.8 | 1.07 | 2.5 | .42 | .45 | 69.8 | 71.0 | .0006 | 707224_FT |
| 62 | 1174 | 4450 | 1.8367 | .0388 | 1.48 | 9.9 | 2.13 | 9.9 | .02 | .40 | 69.6 | 78.5 | .0011 | 707225_FT |
| 63 | 2899 | 3721 | -1.1275 | .0436 | .89 | -5.3 | .75 | -5.2 | .50 | .39 | 81.3 | 79.5 | .0003 | 707226_FT |
| 64 | 3334 | 3717 | -2.1921 | .0572 | .97 | -.9 | .88 | -1.3 | .33 | .30 | 89.6 | 89.7 | .0005 | 707228_FT |
| 65 | 1287 | 3952 | 1.3883 | .0390 | 1.13 | 6.7 | 1.29 | 8.6 | .32 | .43 | 72.0 | 75.4 | .0010 | 707230_FT |
| 66 | 1738 | 3901 | .7634 | .0374 | .85 | -9.9 | .78 | -9.3 | .58 | .46 | 77.5 | 72.0 | .0007 | 707232_FT |
| 67 | 2255 | 3661 | -.1378 | .0387 | 1.01 | .8 | 1.03 | 1.0 | .44 | .45 | 71.9 | 72.0 | .0005 | 707233_FT |
| 68 | 2893 | 4101 | -.6413 | .0385 | .94 | -3.2 | .94 | -1.6 | .47 | .43 | 77.5 | 75.2 | .0003 | 707234_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 69 | 2932 | 3964 | -.8346 | .0403 | .88 | -6.2 | .82 | -4.4 | .52 | .41 | 80.5 | 77.0 | .0003 | 707235_FT |
| 70 | 3120 | 4442 | -.6219 | .0368 | 1.10 | 6.0 | 1.15 | 3.9 | .33 | .42 | 71.6 | 75.1 | .0003 | 707236_FT |
| 71 | 2206 | 4419 | .4751 | .0347 | .99 | -.6 | .99 | -.3 | .46 | .46 | 72.3 | 71.1 | .0006 | 707237_FT |
| 72 | 2825 | 3690 | -1.0003 | .0432 | 1.01 | .3 | 1.04 | .9 | .40 | .41 | 78.8 | 78.8 | .0003 | 707239_FT |
| 73 | 4186 | 5598 | -1.3480 | .0342 | 1.01 | .8 | 1.18 | 4.1 | .39 | .41 | 77.7 | 77.0 | -.0002 | 707240_FT |
| 74 | 3058 | 3801 | -1.3163 | .0447 | 1.01 | .4 | 1.04 | .7 | .36 | .37 | 81.6 | 81.3 | .0003 | 707241_FT |
| 75 | 2820 | 3713 | -.9865 | .0424 | 1.00 | -.1 | .99 | -.1 | .40 | .39 | 78.0 | 78.0 | .0003 | 707242_FT |
| 76 | 3487 | 4070 | -1.7541 | .0482 | 1.22 | 7.1 | 2.44 | 9.9 | .08 | .34 | 84.9 | 85.8 | .0004 | 707243_FT |
| 77 | 3355 | 5379 | -.6000 | .0323 | 1.08 | 6.0 | 1.16 | 5.2 | .40 | .47 | 70.5 | 72.9 | .0000 | 707244_FT |
| 78 | 3397 | 4240 | -1.2814 | .0421 | .83 | -7.8 | .63 | -8.0 | .54 | .38 | 83.4 | 81.1 | .0003 | 707245_FT |
| 79 | 3373 | 4232 | -1.2564 | .0419 | 1.01 | .4 | 1.19 | 3.3 | .36 | .38 | 80.8 | 80.7 | .0003 | 707247_FT |
| 80 | 3412 | 4380 | -1.1308 | .0402 | .86 | -7.1 | .70 | -6.8 | .52 | .39 | 81.8 | 79.5 | .0003 | 707248_FT |
| 81 | 3251 | 4510 | -.7387 | .0370 | .95 | -3.0 | .83 | -4.6 | .46 | .41 | 75.8 | 75.8 | .0003 | 707249_FT |
| 82 | 1723 | 5529 | 1.1197 | .0337 | 1.25 | 9.9 | 1.50 | 9.9 | .25 | .45 | 71.4 | 76.8 | .0007 | 707251_FT |
| 83 | 1338 | 4003 | 1.3922 | .0386 | 1.04 | 2.3 | 1.27 | 8.1 | .35 | .43 | 75.3 | 75.1 | .0010 | 707253_FT |
| 84 | 1521 | 3741 | .9927 | .0387 | .94 | -3.6 | 1.02 | .6 | .47 | .46 | 76.5 | 73.1 | .0008 | 707254_FT |
| 85 | 2147 | 3813 | .1216 | .0373 | 1.12 | 7.7 | 1.19 | 6.7 | .35 | .45 | 67.0 | 70.8 | .0005 | 707256_FT |
| 86 | 2851 | 4493 | -.2344 | .0352 | .90 | -6.9 | .83 | -6.0 | .53 | .45 | 76.2 | 72.5 | .0004 | 707257_FT |
| 87 | 2062 | 5851 | .9344 | .0322 | 1.09 | 5.7 | 1.24 | 8.8 | .39 | .48 | 74.7 | 75.7 | .0006 | 707259_FT |
| 88 | 1705 | 3939 | .8516 | .0371 | 1.07 | 4.5 | 1.14 | 5.4 | .37 | .45 | 70.1 | 71.9 | .0008 | 707260_FT |
| 89 | 1579 | 5336 | 1.2485 | .0350 | 1.24 | 9.9 | 1.53 | 9.9 | .27 | .46 | 73.4 | 77.9 | .0007 | 707261_FT |
| 90 | 1931 | 3757 | .3983 | .0377 | .97 | -2.1 | .97 | -1.3 | .48 | .46 | 73.2 | 71.2 | .0006 | 707262_FT |
| 91 | 2836 | 4370 | -.3004 | .0359 | 1.02 | 1.0 | 1.03 | 1.1 | .43 | .44 | 71.7 | 72.9 | .0004 | 707263_FT |
| 92 | 2772 | 5799 | .2296 | .0307 | .96 | -3.2 | .94 | -2.8 | .51 | .48 | 74.0 | 72.2 | .0003 | 707264_FT |
| 93 | 3090 | 4460 | -.5577 | .0364 | .91 | -5.9 | .80 | -6.2 | .51 | .43 | 76.9 | 74.5 | .0004 | 707265_FT |
| 94 | 2003 | 4449 | .7475 | .0348 | .99 | -1.0 | 1.01 | .6 | .45 | .46 | 73.2 | 71.6 | .0008 | 707266_FT |
| 95 | 2694 | 4444 | -.0835 | .0350 | .98 | -1.3 | .94 | -2.1 | .46 | .45 | 71.9 | 71.7 | .0005 | 707267_FT |
| 96 | 3230 | 4262 | -.9613 | .0396 | .90 | -5.2 | .85 | -3.4 | .49 | .40 | 80.6 | 78.0 | .0003 | 707268_FT |
| 97 | 3127 | 4186 | -.8938 | .0395 | .99 | -.7 | 1.05 | 1.2 | .41 | .41 | 78.6 | 77.3 | .0003 | 707269_FT |
| 98 | 2326 | 3982 | .0304 | .0367 | 1.03 | 2.2 | 1.03 | 1.1 | .42 | .45 | 70.2 | 71.1 | .0005 | 707270_FT |
| 99 | 2186 | 3989 | .2250 | .0364 | 1.00 | .3 | 1.00 | .2 | .44 | .45 | 71.0 | 70.7 | .0005 | 707271_FT |
| 100 | 2222 | 4443 | .4761 | .0346 | 1.01 | .8 | 1.07 | 3.0 | .44 | .46 | 70.8 | 71.1 | .0006 | 707272_FT |
| 101 | 3115 | 5838 | -.0977 | .0303 | 1.37 | 9.9 | 1.47 | 9.9 | .18 | .47 | 56.9 | 71.4 | .0002 | 707273_FT |
| 102 | 1459 | 4156 | 1.3326 | .0377 | 1.03 | 1.5 | 1.16 | 5.3 | .39 | .44 | 75.6 | 75.0 | .0009 | 707274_FT |
| 103 | 3595 | 4762 | -.9714 | .0374 | .87 | -7.7 | .73 | -6.7 | .53 | .40 | 80.6 | 77.9 | .0003 | 707275_FT |
| 104 | 2181 | 4669 | .6434 | .0336 | 1.24 | 9.9 | 1.37 | 9.9 | .26 | .45 | 62.8 | 70.8 | .0007 | 707276_FT |
| 105 | 3589 | 4503 | -1.2774 | .0406 | .89 | -5.1 | .82 | -3.7 | .47 | .38 | 83.2 | 80.6 | .0003 | 707278_FT |
| 106 | 3056 | 5800 | -.0393 | .0306 | .95 | -3.9 | .93 | -2.9 | .52 | .49 | 73.9 | 72.0 | .0002 | 707279_FT |
| 107 | 2455 | 4409 | .1528 | .0349 | .98 | -1.4 | .94 | -2.2 | .47 | .46 | 72.0 | 71.2 | .0005 | 707280_FT |
| 108 | 3288 | 5431 | -.4683 | .0320 | 1.14 | 9.8 | 1.16 | 5.5 | .36 | .47 | 67.0 | 72.6 | .0000 | 707281_FT |
| MEAN | 9179.6 | 13979 | -.3774 | .0264 | 1.01 | -.1 | 1.02 | -.1 | | | 75.0 | 75.3 | | |
| P.SD | 6357.0 | 8867.8 | .8153 | .0109 | .12 | 7.0 | .26 | 6.8 | | | 5.6 | 4.0 | | |

## Grade 8 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14290 | 21985 | -.4568A | .0159 | 1.01 | 1.4 | 1.05 | 3.5 | .42 | .45 | 72.3 | 72.4 | -.1072 | 600253_OP |
| 2 | 17355 | 21985 | -1.7318A | .0194 | 1.08 | 7.5 | .93 | -2.7 | .45 | .36 | 80.1 | 83.2 | .3031 | 600303_OP |
| 3 | 15732 | 21985 | -.9919A | .0168 | .93 | -9.1 | .91 | -4.8 | .49 | .42 | 78.5 | 76.1 | .0468 | 600319_OP |
| 4 | 17137 | 21986 | -1.3693A | .0179 | .97 | -3.7 | .90 | -4.7 | .42 | .39 | 80.4 | 79.5 | .0043 | 600337_OP |
| 5 | 13612 | 21985 | -.3174A | .0157 | 1.14 | 9.9 | 1.20 | 9.9 | .32 | .45 | 66.4 | 71.8 | -.0742 | 600368_OP |
| 6 | 17284 | 21986 | -1.7286A | .0194 | 1.07 | 5.9 | .99 | -.3 | .47 | .36 | 80.5 | 83.1 | .3237 | 600384_OP |
| 7 | 18283 | 21985 | -1.3587A | .0179 | .79 | -9.9 | .69 | -9.9 | .42 | .39 | 84.5 | 79.4 | -.4268 | 634592_OP |
| 8 | 13968 | 21986 | -.7195A | .0163 | 1.16 | 9.9 | 1.28 | 9.9 | .36 | .43 | 68.9 | 74.0 | .2440 | 634597_OP |
| 9 | 17324 | 21985 | -1.1909A | .0174 | .76 | -9.9 | .60 | -9.9 | .54 | .40 | 84.0 | 77.8 | -.2449 | 634616_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 16592 | 21986 | -1.5555A | .0186 | 1.17 | 9.9 | 1.30 | 9.9 | .40 | .37 | 77.7 | 81.3 | .3679 | 634625_OP |
| 11 | 15117 | 21985 | .0438A | .0155 | 1.06 | 9.2 | 1.03 | 3.0 | .40 | .46 | 68.4 | 71.0 | -.8433 | 634648_OP |
| 12 | 16297 | 21986 | -.6558A | .0162 | .92 | -9.9 | .98 | -1.1 | .42 | .44 | 77.6 | 73.5 | -.4692 | 634653_OP |
| 13 | 15529 | 21985 | -.7597A | .0163 | .96 | -5.3 | .88 | -7.5 | .44 | .43 | 74.2 | 74.2 | -.1341 | 634655_OP |
| 14 | 10861 | 21986 | .2342A | .0155 | 1.03 | 4.2 | 1.05 | 4.5 | .42 | .46 | 70.8 | 71.1 | .0450 | 634657_OP |
| 15 | 16210 | 21985 | -1.2282A | .0175 | 1.05 | 6.1 | 1.19 | 8.6 | .40 | .40 | 77.4 | 78.1 | .1496 | 634678_OP |
| 16 | 14934 | 21986 | -.7048A | .0162 | .95 | -7.9 | .88 | -7.9 | .48 | .44 | 75.4 | 73.9 | -.0251 | 646818_OP |
| 17 | 16079 | 21985 | -1.2077A | .0174 | .88 | -9.9 | .74 | -9.9 | .57 | .40 | 79.7 | 78.0 | .1673 | 646843_OP |
| 18 | 18026 | 21986 | -1.6670A | .0191 | .85 | -9.9 | .80 | -8.2 | .49 | .36 | 84.8 | 82.5 | -.0018 | 646846_OP |
| 19 | 14578 | 21985 | -.5438A | .0160 | 1.04 | 6.4 | 1.02 | 1.7 | .39 | .44 | 70.7 | 72.8 | -.0943 | 646853_OP |
| 20 | 11876 | 21986 | .1426A | .0155 | .96 | -6.1 | .92 | -7.3 | .48 | .46 | 72.4 | 71.0 | -.1092 | 646864_OP |
| 21 | 17029 | 21985 | -1.1749A | .0173 | .85 | -9.9 | .73 | -9.9 | .48 | .40 | 81.2 | 77.7 | -.1620 | 660193_OP |
| 22 | 18081 | 21986 | -2.0626A | .0211 | 1.19 | 9.9 | 1.14 | 4.2 | .40 | .32 | 82.6 | 86.5 | .3827 | 660197_OP |
| 23 | 15067 | 21985 | -.7688A | .0164 | .90 | -9.9 | .78 | -9.9 | .52 | .43 | 76.5 | 74.3 | .0041 | 660203_OP |
| 24 | 17338 | 21986 | -1.4169A | .0181 | .89 | -9.9 | .75 | -9.9 | .48 | .38 | 81.5 | 80.0 | -.0141 | 660209_OP |
| 25 | 13339 | 21985 | -.3436A | .0158 | .97 | -4.8 | .90 | -7.7 | .48 | .45 | 72.2 | 71.9 | .0215 | 660215_OP |
| 26 | 18109 | 21986 | -2.0510A | .0211 | 1.12 | 9.1 | 1.20 | 6.1 | .44 | .33 | 83.0 | 86.4 | .3605 | 660217_OP |
| 27 | 11971 | 21985 | -.1321A | .0156 | .98 | -3.1 | .96 | -3.6 | .48 | .46 | 72.0 | 71.2 | .1447 | 660222_OP |
| 28 | 14301 | 21986 | -.7024A | .0162 | 1.02 | 2.8 | .99 | -.4 | .45 | .44 | 73.1 | 73.8 | .1407 | 660228_OP |
| 29 | 18215 | 21985 | -1.9428A | .0205 | 1.02 | 1.3 | .86 | -4.9 | .45 | .34 | 83.5 | 85.3 | .2099 | 660233_OP |
| 30 | 17370 | 21986 | -1.4842A | .0183 | .99 | -1.2 | 1.14 | 5.4 | .40 | .38 | 82.0 | 80.6 | .0446 | 660236_OP |
| 31 | 10424 | 21985 | .4579A | .0156 | 1.08 | 9.9 | 1.12 | 9.9 | .40 | .46 | 69.1 | 71.6 | -.0730 | 660246_OP |
| 32 | 13521 | 21986 | -.2985A | .0157 | 1.04 | 6.1 | 1.03 | 2.3 | .41 | .45 | 69.8 | 71.7 | -.0703 | 690055_OP |
| 33 | 14338 | 21985 | -.5041A | .0159 | .96 | -5.5 | .89 | -8.1 | .46 | .45 | 73.2 | 72.6 | -.0714 | 690057_OP |
| 34 | 13437 | 21986 | -.3690A | .0158 | 1.09 | 9.9 | 1.15 | 9.9 | .38 | .45 | 68.8 | 72.0 | .0227 | 690058_OP |
| 35 | 10477 | 21985 | .1565A | .0155 | 1.27 | 9.9 | 1.42 | 9.9 | .26 | .46 | 61.2 | 71.0 | .2162 | 690059_OP |
| 36 | 15460 | 21986 | -.9579A | .0167 | .98 | -2.9 | .93 | -4.0 | .47 | .42 | 76.3 | 75.8 | .0892 | 690060_OP |
| 37 | 14236 | 21985 | -.5557A | .0160 | .93 | -9.9 | .86 | -9.9 | .50 | .44 | 75.1 | 72.9 | .0080 | 690063_OP |
| 38 | 9801 | 21986 | .6036A | .0157 | 1.12 | 9.9 | 1.20 | 9.9 | .36 | .46 | 68.6 | 72.1 | -.0664 | 690065_OP |
| 39 | 12621 | 21985 | -.1041A | .0156 | 1.09 | 9.9 | 1.14 | 9.9 | .38 | .46 | 68.1 | 71.2 | -.0427 | 690068_OP |
| 40 | 12134 | 21986 | .0478A | .0155 | 1.09 | 9.9 | 1.11 | 9.4 | .38 | .46 | 67.4 | 71.0 | -.0766 | 690069_OP |
| 41 | 10929 | 21986 | .2551A | .0155 | 1.16 | 9.9 | 1.21 | 9.9 | .33 | .46 | 65.5 | 71.1 | .0075 | 690071_OP |
| 42 | 16821 | 21985 | -1.2943A | .0177 | 1.09 | 9.9 | 1.31 | 9.9 | .31 | .39 | 77.7 | 78.8 | .0294 | 690075_OP |
| 43 | 15123 | 21986 | -.9381A | .0167 | 1.20 | 9.9 | 1.40 | 9.9 | .30 | .42 | 71.5 | 75.6 | .1621 | 690079_OP |
| 44 | 11951 | 21985 | -.1069A | .0156 | .99 | -1.2 | .97 | -2.2 | .47 | .46 | 71.5 | 71.2 | .1241 | 690080_OP |
| 45 | 11490 | 21986 | .1274A | .0155 | 1.05 | 7.0 | 1.06 | 5.1 | .42 | .46 | 69.2 | 71.0 | -.0001 | 690082_OP |
| 46 | 14525 | 21985 | -.6494A | .0161 | .94 | -8.7 | .93 | -5.0 | .49 | .44 | 75.7 | 73.5 | .0278 | 690083_OP |
| 47 | 16007 | 21986 | -.9236A | .0167 | .91 | -9.9 | .89 | -6.2 | .47 | .42 | 78.6 | 75.5 | -.1035 | 690086_OP |
| 48 | 15742 | 21985 | -.9116A | .0166 | .93 | -8.9 | .88 | -7.4 | .47 | .42 | 77.3 | 75.4 | -.0386 | 690088_OP |
| 49 | 12966 | 21986 | -.3038A | .0157 | .93 | -9.9 | .87 | -9.9 | .52 | .45 | 74.5 | 71.7 | .0743 | 690089_OP |
| 50 | 11167 | 21985 | .3619A | .0156 | .87 | -9.9 | .83 | -9.9 | .57 | .46 | 77.0 | 71.3 | -.1572 | 690090_OP |
| 51 | 13239 | 21986 | -.3400A | .0157 | 1.09 | 9.9 | 1.11 | 8.5 | .38 | .45 | 68.0 | 71.8 | .0430 | 690093_OP |
| 52 | 13359 | 21985 | -.2426A | .0157 | 1.07 | 9.9 | 1.06 | 5.2 | .39 | .46 | 68.5 | 71.5 | -.0862 | 690095_OP |
| 53 | 16019 | 21986 | -1.1238A | .0172 | 1.05 | 5.7 | 1.19 | 9.2 | .40 | .41 | 76.4 | 77.2 | .0991 | 690096_OP |
| 54 | 14294 | 21985 | -.6094A | .0161 | 1.05 | 7.5 | 1.14 | 9.2 | .41 | .44 | 71.9 | 73.2 | .0477 | 690097_OP |
| 55 | 14291 | 21986 | -.5181A | .0159 | 1.01 | 2.1 | 1.03 | 1.8 | .42 | .44 | 72.4 | 72.7 | -.0447 | 690100_OP |
| 56 | 12096 | 21986 | -.2057A | .0156 | 1.14 | 9.9 | 1.26 | 9.9 | .36 | .46 | 66.5 | 71.4 | .1886 | 690101_OP |
| 57 | 16156 | 21986 | -1.0674A | .0170 | .97 | -3.7 | 1.02 | .9 | .43 | .41 | 78.5 | 76.7 | .0006 | 690102_OP |
| 58 | 16962 | 21985 | -1.3260A | .0178 | .84 | -9.9 | .68 | -9.9 | .54 | .39 | 82.2 | 79.1 | .0167 | 690103_OP |
| 59 | 9636 | 21986 | .6464A | .0158 | .86 | -9.9 | .86 | -9.9 | .56 | .46 | 78.0 | 72.3 | -.0685 | 690104_OP |
| 60 | 10514 | 21985 | .4432A | .0156 | .88 | -9.9 | .86 | -9.9 | .55 | .46 | 76.9 | 71.5 | -.0802 | 690105_OP |
| 61 | 2595 | 4147 | -.3201 | .0363 | 1.11 | 7.2 | 1.14 | 4.5 | .34 | .44 | 67.8 | 72.0 | .0004 | 707283_FT |
| 62 | 3276 | 4054 | -1.4743 | .0435 | .85 | -6.8 | .72 | -5.3 | .51 | .37 | 83.8 | 81.5 | .0003 | 707284_FT |
| 63 | 3786 | 4547 | -1.6436 | .0429 | .89 | -4.5 | .78 | -4.0 | .45 | .34 | 84.7 | 83.6 | .0004 | 707285_FT |
| 64 | 2447 | 4556 | .1354 | .0339 | 1.04 | 3.2 | 1.09 | 3.9 | .41 | .45 | 68.8 | 70.5 | .0006 | 707286_FT |
| 65 | 2117 | 4009 | .2027 | .0363 | .98 | -1.0 | .98 | -1.0 | .45 | .46 | 71.7 | 70.8 | .0005 | 707288_FT |
| 66 | 2835 | 4107 | -.6631 | .0378 | 1.05 | 3.0 | 1.07 | 1.9 | .38 | .42 | 72.3 | 74.2 | .0004 | 707289_FT |
| 67 | 2381 | 4093 | -.0964 | .0360 | 1.21 | 9.9 | 1.29 | 9.9 | .27 | .44 | 63.1 | 70.7 | .0005 | 707290_FT |
| 68 | 2894 | 5431 | -.2251 | .0315 | 1.09 | 6.3 | 1.09 | 3.6 | .41 | .48 | 68.4 | 71.7 | .0001 | 707291_FT |
| 69 | 2440 | 4394 | .0699 | .0345 | 1.27 | 9.9 | 1.43 | 9.9 | .22 | .44 | 60.8 | 70.3 | .0005 | 707292_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70 | 3137 | 4042 | -1.2220 | .0415 | 1.02 | .8 | 1.10 | 2.0 | .36 | .38 | 79.5 | 79.1 | .0003 | 707293_FT |
| 71 | 3292 | 4512 | -.9325 | .0373 | 1.10 | 5.3 | 1.19 | 4.6 | .32 | .41 | 74.3 | 76.3 | .0003 | 707294_FT |
| 72 | 3499 | 4112 | -1.7912 | .0470 | .94 | -2.1 | .88 | -1.8 | .38 | .33 | 85.8 | 85.2 | .0004 | 707295_FT |
| 73 | 1575 | 4032 | .9248 | .0371 | 1.12 | 7.0 | 1.24 | 8.7 | .33 | .44 | 69.9 | 72.8 | .0008 | 707297_FT |
| 74 | 3271 | 4730 | -.6804 | .0352 | 1.08 | 5.3 | 1.18 | 5.2 | .34 | .42 | 72.1 | 74.2 | .0004 | 707298_FT |
| 75 | 2841 | 4389 | -.4441 | .0356 | .84 | -9.9 | .75 | -8.7 | .57 | .44 | 78.2 | 72.6 | .0004 | 707299_FT |
| 76 | 3827 | 4650 | -1.5708 | .0417 | .95 | -2.3 | .92 | -1.4 | .41 | .36 | 83.5 | 82.9 | .0004 | 707300_FT |
| 77 | 2544 | 4431 | -.0373 | .0347 | 1.08 | 5.7 | 1.14 | 5.1 | .38 | .45 | 68.3 | 71.1 | .0005 | 707301_FT |
| 78 | 2862 | 4120 | -.7023 | .0378 | .89 | -7.1 | .78 | -6.6 | .52 | .42 | 77.0 | 74.2 | .0004 | 707302_FT |
| 79 | 2017 | 4172 | .4428 | .0355 | 1.05 | 3.1 | 1.08 | 3.3 | .41 | .45 | 69.6 | 70.8 | .0006 | 707304_FT |
| 80 | 3651 | 5368 | -1.0780 | .0330 | .94 | -4.0 | .88 | -3.6 | .48 | .44 | 76.5 | 73.9 | -.0002 | 707305_FT |
| 81 | 3132 | 4013 | -1.2648 | .0418 | 1.02 | .8 | .98 | -.4 | .37 | .38 | 78.7 | 79.4 | .0003 | 707306_FT |
| 82 | 2211 | 3844 | -.0372 | .0372 | 1.04 | 2.5 | 1.01 | .3 | .41 | .45 | 68.7 | 70.8 | .0005 | 707307_FT |
| 83 | 2574 | 3862 | -.5586 | .0384 | .98 | -1.0 | .98 | -.7 | .44 | .43 | 74.1 | 73.2 | .0004 | 707308_FT |
| 84 | 2629 | 5442 | .0060 | .0315 | 1.11 | 7.7 | 1.14 | 6.0 | .40 | .48 | 68.8 | 72.0 | .0001 | 707310_FT |
| 85 | 2037 | 4001 | .3027 | .0363 | 1.01 | .7 | 1.00 | .0 | .44 | .45 | 70.1 | 70.7 | .0006 | 707312_FT |
| 86 | 2071 | 4175 | .3564 | .0353 | 1.16 | 9.9 | 1.22 | 9.0 | .31 | .45 | 63.8 | 70.2 | .0006 | 707313_FT |
| 87 | 3601 | 5549 | -.8862 | .0320 | 1.12 | 8.7 | 1.13 | 4.1 | .35 | .45 | 67.9 | 73.1 | -.0001 | 707314_FT |
| 88 | 3221 | 4033 | -1.3786 | .0429 | .92 | -3.6 | .86 | -2.6 | .44 | .37 | 82.4 | 80.8 | .0004 | 707315_FT |
| 89 | 3411 | 5409 | -.7683 | .0322 | .89 | -8.7 | .80 | -7.4 | .55 | .46 | 76.9 | 72.9 | -.0001 | 707316_FT |
| 90 | 2294 | 3830 | -.1679 | .0374 | 1.04 | 2.4 | 1.03 | 1.1 | .41 | .44 | 70.0 | 71.2 | .0005 | 707317_FT |
| 91 | 3207 | 4085 | -1.2827 | .0417 | 1.03 | 1.2 | 1.19 | 3.4 | .34 | .38 | 80.1 | 79.8 | .0003 | 707320_FT |
| 92 | 2804 | 5498 | -.1272 | .0313 | 1.00 | -.2 | 1.00 | .1 | .48 | .48 | 72.7 | 71.9 | .0001 | 707321_FT |
| 93 | 2488 | 4087 | -.2231 | .0364 | 1.04 | 2.4 | 1.02 | .7 | .41 | .45 | 69.5 | 71.5 | .0005 | 707322_FT |
| 94 | 2305 | 3991 | -.0585 | .0364 | .96 | -2.5 | .95 | -1.9 | .47 | .45 | 72.2 | 70.9 | .0005 | 707323_FT |
| 95 | 1438 | 3566 | .8548 | .0393 | 1.12 | 6.5 | 1.24 | 8.1 | .34 | .45 | 69.7 | 72.7 | .0007 | 707324_FT |
| 96 | 1468 | 3501 | .7983 | .0392 | 1.06 | 3.7 | 1.14 | 5.3 | .37 | .44 | 70.5 | 71.7 | .0007 | 707325_FT |
| 97 | 2536 | 5553 | .1696 | .0315 | 1.01 | .6 | 1.05 | 2.3 | .48 | .49 | 73.6 | 72.7 | .0002 | 707326_FT |
| 98 | 2632 | 4652 | -.0026 | .0336 | 1.08 | 5.6 | 1.10 | 3.9 | .38 | .44 | 66.7 | 70.5 | .0005 | 707327_FT |
| 99 | 1179 | 3944 | 1.4474 | .0400 | 1.28 | 9.9 | 1.60 | 9.9 | .20 | .42 | 71.0 | 77.1 | .0009 | 707329_FT |
| 100 | 3423 | 4784 | -.8522 | .0357 | .95 | -3.3 | .87 | -3.6 | .46 | .41 | 77.3 | 75.3 | .0004 | 707330_FT |
| 101 | 2473 | 4030 | -.2830 | .0366 | 1.18 | 9.9 | 1.27 | 8.4 | .28 | .44 | 65.6 | 71.2 | .0004 | 707331_FT |
| 102 | 1543 | 3859 | .8951 | .0378 | 1.17 | 9.7 | 1.34 | 9.9 | .29 | .44 | 68.7 | 72.6 | .0007 | 707332_FT |
| 103 | 1112 | 3767 | 1.4638 | .0406 | 1.40 | 9.9 | 1.81 | 9.9 | .09 | .41 | 67.4 | 76.6 | .0010 | 707333_FT |
| 104 | 2006 | 4047 | .3963 | .0360 | .92 | -5.2 | .91 | -3.9 | .50 | .45 | 74.9 | 70.7 | .0006 | 707334_FT |
| 105 | 2530 | 5479 | .1399 | .0317 | .92 | -6.0 | .90 | -4.8 | .54 | .49 | 76.3 | 72.7 | .0002 | 707335_FT |
| 106 | 3381 | 5711 | -.5351 | .0309 | 1.25 | 9.9 | 1.29 | 9.9 | .27 | .47 | 62.1 | 72.1 | -.0001 | 707336_FT |
| 107 | 2409 | 4136 | -.0791 | .0359 | 1.02 | 1.6 | 1.03 | 1.1 | .42 | .45 | 70.3 | 71.0 | .0005 | 707337_FT |
| 108 | 486 | 5427 | 2.9791 | .0530 | 1.34 | 8.5 | 5.41 | 9.9 | -.11 | .31 | 90.8 | 91.7 | .0008 | 707338_FT |
| 109 | 1029 | 3902 | 1.7251 | .0415 | 1.12 | 5.4 | 1.33 | 7.6 | .31 | .40 | 75.9 | 78.7 | .0010 | 707339_FT |
| 110 | 1309 | 3782 | 1.1447 | .0392 | 1.13 | 6.8 | 1.30 | 9.2 | .31 | .43 | 72.1 | 74.4 | .0008 | 707342_FT |
| MEAN | 9071.5 | 13991 | -.4275 | .0261 | 1.03 | 1.3 | 1.08 | 1.1 | | | 73.9 | 74.8 | | |
| P.SD | 6254.1 | 8767.4 | .8518 | .0107 | .12 | 7.2 | .46 | 6.8 | | | 6.0 | 4.4 | | |

## Grade 11 Mathematics

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EX-EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14127 | 21092 | -.6107A | .0163 | .90 | -9.9 | .89 | -7.5 | .50 | .44 | 76.6 | 72.7 | -.1445 | 600406_OP |
| 2 | 12685 | 21114 | -.3006A | .0160 | 1.07 | 9.9 | 1.13 | 9.9 | .40 | .46 | 69.2 | 71.6 | -.0701 | 600536_OP |
| 3 | 13983 | 21092 | -.8642A | .0167 | 1.06 | 8.5 | 1.03 | 1.9 | .42 | .43 | 72.0 | 74.1 | .1558 | 600552_OP |
| 4 | 16421 | 21114 | -1.1624A | .0174 | .89 | -9.9 | .82 | -9.5 | .41 | .40 | 79.8 | 76.4 | -.2774 | 600576_OP |
| 5 | 14198 | 21092 | -.8019A | .0166 | .98 | -2.8 | .94 | -3.9 | .46 | .43 | 74.0 | 73.7 | .0323 | 600583_OP |
| 6 | 14981 | 21092 | -1.1932A | .0175 | .92 | -9.6 | .77 | -9.9 | .55 | .40 | 76.8 | 76.6 | .2093 | 600596_OP |
| 7 | 13283 | 21092 | -.4395A | .0161 | 1.07 | 9.9 | 1.02 | 1.1 | .38 | .45 | 68.0 | 72.0 | -.0885 | 600653_OP |
| 8 | 13952 | 21114 | -.7163A | .0164 | .89 | -9.9 | .85 | -9.9 | .53 | .44 | 77.5 | 73.2 | .0150 | 600660_OP |
| 9 | 15127 | 21092 | -.9966A | .0170 | .98 | -3.0 | 1.03 | 1.6 | .42 | .42 | 76.8 | 75.0 | -.0363 | 600677_OP |
| 10 | 16324 | 21114 | -1.0409A | .0171 | .93 | -8.7 | 1.03 | 1.7 | .36 | .41 | 78.4 | 75.4 | -.3718 | 600733_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL CORR. | EXP. | EXACT MATCH OBS% | EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 14890 | 21092 | -.8004A | .0166 | .91 | -9.9 | .85 | -9.7 | .47 | .43 | 76.7 | 73.7 | -.1687 | 600748_OP |
| 12 | 16035 | 21114 | -1.2487A | .0176 | .92 | -9.3 | .90 | -4.8 | .44 | .40 | 79.6 | 77.1 | -.0566 | 600751_OP |
| 13 | 15505 | 21092 | -1.2569A | .0176 | 1.08 | 9.1 | 1.03 | 1.5 | .38 | .40 | 75.2 | 77.2 | .1172 | 600756_OP |
| 14 | 13194 | 21114 | -.5566A | .0162 | 1.23 | 9.9 | 1.32 | 9.9 | .27 | .45 | 64.0 | 72.4 | .0567 | 600781_OP |
| 15 | 13382 | 21092 | -.5182A | .0162 | .88 | -9.9 | .90 | -7.4 | .54 | .45 | 78.1 | 72.3 | -.0346 | 600809_OP |
| 16 | 13548 | 21114 | -.4976A | .0161 | 1.05 | 7.4 | 1.06 | 4.6 | .39 | .45 | 70.5 | 72.2 | -.0988 | 600810_OP |
| 17 | 17405 | 21092 | -2.0867A | .0212 | 1.09 | 7.1 | .90 | -3.3 | .44 | .32 | 82.7 | 86.0 | .3144 | 634450_OP |
| 18 | 17718 | 21114 | -1.8000A | .0197 | .89 | -9.9 | .87 | -4.9 | .39 | .35 | 84.6 | 82.9 | -.1039 | 634469_OP |
| 19 | 14550 | 21092 | -1.3179A | .0178 | 1.07 | 8.4 | 1.00 | .0 | .52 | .39 | 74.5 | 77.8 | .4590 | 646731_OP |
| 20 | 15450 | 21114 | -1.1876A | .0174 | .88 | -9.9 | .79 | -9.9 | .53 | .40 | 79.5 | 76.6 | .0657 | 646740_OP |
| 21 | 13393 | 21092 | -.4175A | .0161 | .94 | -9.4 | .91 | -7.1 | .49 | .45 | 74.1 | 71.9 | -.1407 | 646744_OP |
| 22 | 15481 | 21114 | -.7865A | .0165 | .94 | -8.0 | .87 | -8.4 | .40 | .43 | 74.7 | 73.6 | -.3611 | 646753_OP |
| 23 | 14628 | 21092 | -.9345A | .0168 | .97 | -3.6 | .97 | -1.7 | .46 | .42 | 75.7 | 74.6 | .0465 | 646765_OP |
| 24 | 11717 | 21114 | -.3142A | .0160 | .93 | -9.9 | .92 | -6.9 | .53 | .46 | 74.6 | 71.6 | .1934 | 646771_OP |
| 25 | 15988 | 21092 | -1.2800A | .0177 | .87 | -9.9 | .76 | -9.9 | .51 | .39 | 80.4 | 77.4 | -.0120 | 646775_OP |
| 26 | 16635 | 21114 | -1.2534A | .0176 | .85 | -9.9 | .75 | -9.9 | .45 | .40 | 82.0 | 77.2 | -.2573 | 646785_OP |
| 27 | 15530 | 21092 | -1.1510A | .0173 | .84 | -9.9 | .73 | -9.9 | .55 | .40 | 81.0 | 76.3 | .0002 | 660258_OP |
| 28 | 11391 | 21092 | -.3453A | .0160 | .95 | -7.3 | .92 | -6.8 | .53 | .46 | 73.3 | 71.7 | .3064 | 660281_OP |
| 29 | 10157 | 21092 | .0774A | .0159 | .98 | -2.5 | .97 | -3.0 | .47 | .47 | 72.2 | 71.3 | .1928 | 660291_OP |
| 30 | 14880 | 21114 | -1.0391A | .0171 | .97 | -4.5 | .86 | -7.8 | .48 | .41 | 75.5 | 75.4 | .0834 | 660313_OP |
| 31 | 17619 | 21092 | -1.8263A | .0198 | .84 | -9.9 | .61 | -9.9 | .49 | .34 | 84.4 | 83.2 | -.0402 | 660330_OP |
| 32 | 15076 | 21114 | -1.0787A | .0171 | .83 | -9.9 | .72 | -9.9 | .58 | .41 | 80.7 | 75.7 | .0664 | 660354_OP |
| 33 | 12075 | 21092 | -.1807A | .0159 | 1.02 | 3.1 | 1.01 | .8 | .44 | .46 | 70.5 | 71.4 | -.0349 | 660358_OP |
| 34 | 12828 | 21114 | -.2547A | .0159 | 1.11 | 9.9 | 1.17 | 9.9 | .36 | .46 | 67.4 | 71.5 | -.1545 | 660364_OP |
| 35 | 14918 | 21092 | -1.0779A | .0172 | .94 | -8.1 | .89 | -5.9 | .50 | .41 | 77.1 | 75.7 | .1096 | 660366_OP |
| 36 | 13504 | 21114 | -.6713A | .0164 | 1.13 | 9.9 | 1.23 | 9.9 | .35 | .44 | 69.0 | 73.0 | .0909 | 660369_OP |
| 37 | 13330 | 21114 | -.3988A | .0160 | 1.04 | 6.1 | 1.00 | -.3 | .40 | .45 | 69.8 | 71.9 | -.1410 | 690112_OP |
| 38 | 12602 | 21114 | -.1879A | .0159 | 1.18 | 9.9 | 1.35 | 9.9 | .31 | .46 | 64.9 | 71.4 | -.1631 | 690113_OP |
| 39 | 11008 | 21092 | -.0714A | .0159 | 1.06 | 8.8 | 1.07 | 6.0 | .43 | .46 | 68.8 | 71.3 | .1269 | 690117_OP |
| 40 | 8113 | 21114 | .5573A | .0161 | 1.09 | 9.9 | 1.17 | 9.9 | .35 | .47 | 70.2 | 72.5 | .2431 | 690118_OP |
| 41 | 8406 | 21092 | .8008A | .0164 | 1.05 | 7.0 | 1.18 | 9.9 | .40 | .46 | 73.8 | 73.7 | -.0777 | 690119_OP |
| 42 | 7182 | 21114 | 1.1711A | .0171 | 1.21 | 9.9 | 1.39 | 9.9 | .31 | .45 | 71.5 | 76.2 | -.1105 | 690120_OP |
| 43 | 12104 | 21092 | -.3967A | .0161 | .99 | -1.7 | .95 | -3.6 | .49 | .45 | 72.1 | 71.9 | .1768 | 690122_OP |
| 44 | 11057 | 21114 | -.1519A | .0159 | 1.09 | 9.9 | 1.10 | 8.4 | .39 | .46 | 67.7 | 71.3 | .1968 | 690130_OP |
| 45 | 12605 | 21092 | -.2692A | .0160 | .81 | -9.9 | .73 | -9.9 | .60 | .46 | 78.7 | 71.5 | -.0827 | 690132_OP |
| 46 | 12037 | 21114 | -.1675A | .0159 | .84 | -9.9 | .77 | -9.9 | .59 | .46 | 77.8 | 71.3 | -.0372 | 690133_OP |
| 47 | 14495 | 21092 | -.7980A | .0166 | 1.06 | 8.3 | 1.15 | 8.9 | .36 | .43 | 72.0 | 73.7 | -.0559 | 690134_OP |
| 48 | 17232 | 21114 | -1.6066A | .0188 | .79 | -9.9 | .61 | -9.9 | .51 | .36 | 83.9 | 80.8 | -.1088 | 690136_OP |
| 49 | 9628 | 21092 | .4452A | .0160 | 1.03 | 4.9 | 1.05 | 4.5 | .45 | .47 | 70.6 | 72.0 | -.0411 | 690138_OP |
| 50 | 10166 | 21114 | .3916A | .0160 | 1.26 | 9.9 | 1.35 | 9.9 | .26 | .47 | 62.8 | 71.9 | -.1238 | 690140_OP |
| 51 | 11297 | 21092 | .1113A | .0159 | .98 | -3.5 | .95 | -4.7 | .48 | .47 | 72.0 | 71.3 | -.1309 | 690142_OP |
| 52 | 13086 | 21114 | -.4140A | .0161 | 1.21 | 9.9 | 1.38 | 9.9 | .27 | .45 | 63.9 | 71.9 | -.0602 | 690143_OP |
| 53 | 14165 | 21114 | -.7122A | .0164 | .98 | -2.3 | .94 | -4.3 | .44 | .44 | 73.3 | 73.2 | -.0485 | 690149_OP |
| 54 | 13414 | 21114 | -.6139A | .0163 | 1.02 | 3.5 | 1.04 | 2.7 | .43 | .44 | 71.9 | 72.7 | .0565 | 690150_OP |
| 55 | 13033 | 21092 | -.4414A | .0161 | .99 | -1.0 | 1.00 | -.1 | .45 | .45 | 72.1 | 72.0 | -.0198 | 690153_OP |
| 56 | 11797 | 21114 | .1369A | .0159 | 1.04 | 6.0 | 1.05 | 4.1 | .44 | .47 | 69.9 | 71.3 | -.2834 | 690156_OP |
| 57 | 10192 | 21092 | .1277A | .0159 | 1.01 | 1.4 | 1.03 | 2.6 | .46 | .47 | 71.1 | 71.3 | .1333 | 690163_OP |
| 58 | 15570 | 21114 | -1.3188A | .0178 | 1.05 | 5.2 | 1.05 | 2.4 | .41 | .39 | 76.8 | 77.8 | .1637 | 690164_OP |
| 59 | 14610 | 21092 | -1.1261A | .0173 | 1.04 | 4.6 | .97 | -1.6 | .47 | .41 | 74.0 | 76.1 | .2478 | 690165_OP |
| 60 | 14287 | 21114 | -.8274A | .0166 | 1.05 | 6.3 | 1.11 | 6.4 | .40 | .43 | 73.4 | 73.9 | .0357 | 690167_OP |
| 61 | 1739 | 4026 | .5454 | .0367 | 1.22 | 9.9 | 1.31 | 9.9 | .28 | .46 | 64.7 | 72.1 | .0004 | 707345_FT |
| 62 | 2156 | 4044 | .0288 | .0361 | .99 | -.8 | .99 | -.4 | .47 | .46 | 71.2 | 70.9 | .0002 | 707346_FT |
| 63 | 2854 | 4834 | -.5100 | .0334 | 1.02 | 1.6 | 1.12 | 4.3 | .44 | .46 | 71.8 | 71.6 | -.0001 | 707347_FT |
| 64 | 3037 | 4153 | -1.0887 | .0389 | .91 | -5.3 | .87 | -3.1 | .48 | .41 | 79.6 | 76.0 | .0000 | 707348_FT |
| 65 | 2193 | 4094 | .0711 | .0361 | .90 | -6.7 | .85 | -6.2 | .54 | .47 | 75.1 | 71.3 | .0003 | 707349_FT |
| 66 | 1825 | 4058 | .4937 | .0364 | 1.02 | 1.6 | 1.04 | 1.7 | .42 | .46 | 72.1 | 71.7 | .0004 | 707350_FT |
| 67 | 2555 | 4110 | -.4170 | .0365 | 1.29 | 9.9 | 1.55 | 9.9 | .20 | .44 | 62.8 | 71.9 | .0001 | 707351_FT |
| 68 | 1116 | 3923 | 1.4510 | .0407 | 1.14 | 6.4 | 1.37 | 9.4 | .29 | .43 | 76.0 | 77.7 | .0008 | 707352_FT |
| 69 | 1788 | 4055 | .5325 | .0366 | 1.17 | 9.9 | 1.27 | 9.9 | .31 | .47 | 67.0 | 72.0 | .0004 | 707354_FT |
| 70 | 917 | 4761 | 1.9276 | .0422 | 1.23 | 8.8 | 1.86 | 9.9 | .21 | .41 | 81.4 | 83.8 | .0009 | 707355_FT |
| 71 | 2885 | 4833 | -.5402 | .0334 | 1.04 | 2.8 | 1.00 | .1 | .42 | .45 | 69.1 | 71.6 | -.0001 | 707356_FT |
| 72 | 1714 | 3698 | .4143 | .0381 | 1.08 | 4.5 | 1.12 | 4.7 | .39 | .47 | 69.8 | 71.7 | .0004 | 707358_FT |
| 73 | 2338 | 3763 | -.4435 | .0382 | 1.03 | 2.0 | 1.01 | .2 | .42 | .45 | 70.9 | 71.9 | .0001 | 707359_FT |
| 74 | 2643 | 4358 | -.3168 | .0353 | .92 | -5.6 | .89 | -4.1 | .52 | .45 | 75.0 | 71.8 | .0001 | 707360_FT |
| 75 | 2633 | 4218 | -.4521 | .0359 | 1.11 | 7.4 | 1.09 | 2.9 | .34 | .44 | 67.3 | 71.8 | .0001 | 707361_FT |
| 76 | 2290 | 4403 | .1069 | .0346 | 1.24 | 9.9 | 1.36 | 9.9 | .27 | .46 | 62.5 | 71.0 | .0003 | 707363_FT |
| 77 | 2168 | 4401 | .2774 | .0348 | .87 | -9.0 | .85 | -6.8 | .56 | .47 | 77.2 | 71.4 | .0003 | 707364_FT |
| 78 | 1789 | 4774 | .7050 | .0348 | 1.16 | 9.7 | 1.25 | 9.3 | .35 | .47 | 69.4 | 74.3 | .0004 | 707367_FT |
| 79 | 1834 | 4810 | .6542 | .0345 | 1.46 | 9.9 | 1.71 | 9.9 | .14 | .47 | 60.9 | 74.2 | .0004 | 707369_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | MATH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 1582 | 4021 | .7804 | .0373 | 1.19 | 9.9 | 1.33 | 9.9 | .30 | .46 | 67.9 | 73.1 | .0006 | 707370_FT |
| 81 | 1817 | 3910 | .3907 | .0370 | 1.13 | 8.2 | 1.18 | 6.8 | .34 | .46 | 67.2 | 71.5 | .0004 | 707371_FT |
| 82 | 2537 | 4680 | .0126 | .0336 | 1.07 | 4.8 | 1.07 | 3.1 | .40 | .46 | 68.2 | 70.9 | .0002 | 707373_FT |
| 83 | 2456 | 4591 | .0291 | .0339 | 1.05 | 3.6 | 1.05 | 1.9 | .42 | .46 | 68.3 | 71.0 | .0002 | 707374_FT |
| 84 | 2365 | 3795 | -.4232 | .0380 | .90 | -6.2 | .84 | -5.3 | .53 | .45 | 75.7 | 72.1 | .0001 | 707375_FT |
| 85 | 2508 | 3845 | -.5769 | .0383 | .99 | -.9 | .88 | -3.4 | .46 | .44 | 72.2 | 72.9 | .0000 | 707376_FT |
| 86 | 2738 | 4072 | -.6968 | .0375 | 1.09 | 5.4 | 1.12 | 3.3 | .35 | .43 | 70.3 | 73.6 | .0001 | 707378_FT |
| 87 | 2540 | 3994 | -.4993 | .0373 | .99 | -.9 | .97 | -.9 | .46 | .44 | 73.1 | 72.4 | .0001 | 707379_FT |
| 88 | 1759 | 3792 | .4420 | .0377 | .99 | -.4 | 1.01 | .2 | .45 | .47 | 72.7 | 71.8 | .0004 | 707380_FT |
| 89 | 2807 | 4031 | -.8521 | .0384 | .94 | -3.9 | .85 | -4.1 | .48 | .42 | 75.6 | 74.3 | .0000 | 707381_FT |
| 90 | 3276 | 3957 | -1.7337 | .0456 | .85 | -6.0 | .68 | -5.6 | .49 | .35 | 84.2 | 83.1 | .0000 | 707382_FT |
| 91 | 3095 | 4013 | -1.3321 | .0414 | .93 | -3.3 | .92 | -1.6 | .45 | .39 | 80.0 | 78.5 | .0000 | 707383_FT |
| 92 | 2380 | 3749 | -.4971 | .0384 | 1.04 | 2.3 | 1.01 | .2 | .41 | .44 | 70.8 | 72.3 | .0001 | 707384_FT |
| 93 | 2128 | 3802 | -.1408 | .0374 | .98 | -1.1 | .97 | -1.1 | .47 | .46 | 71.3 | 71.3 | .0002 | 707385_FT |
| 94 | 3549 | 4861 | -1.2987 | .0359 | .82 | -9.9 | .66 | -9.5 | .56 | .40 | 79.9 | 75.6 | -.0002 | 707386_FT |
| 95 | 3003 | 4916 | -.6163 | .0333 | .84 | -9.9 | .78 | -8.2 | .59 | .45 | 77.9 | 71.9 | -.0001 | 707387_FT |
| 96 | 2923 | 4519 | -.5984 | .0351 | .72 | -9.9 | .62 | -9.9 | .68 | .44 | 83.9 | 72.6 | .0001 | 707388_FT |
| 97 | 2530 | 4394 | -.1798 | .0349 | .99 | -1.0 | .95 | -1.9 | .47 | .46 | 71.8 | 71.4 | .0002 | 707389_FT |
| 98 | 1850 | 4095 | .4814 | .0365 | .87 | -8.8 | .85 | -6.3 | .56 | .47 | 78.1 | 72.2 | .0004 | 707390_FT |
| 99 | 3144 | 4194 | -1.1746 | .0395 | .86 | -7.8 | .75 | -6.0 | .53 | .40 | 80.9 | 77.2 | .0000 | 707391_FT |
| 100 | 3326 | 4414 | -1.2011 | .0385 | 1.06 | 3.2 | 1.22 | 4.7 | .33 | .39 | 77.8 | 77.3 | .0000 | 707392_FT |
| 101 | 1905 | 4467 | .6087 | .0349 | 1.09 | 5.6 | 1.16 | 6.6 | .39 | .46 | 70.0 | 72.3 | .0005 | 707393_FT |
| 102 | 2478 | 4034 | -.3985 | .0368 | .94 | -3.7 | .88 | -3.8 | .50 | .45 | 74.4 | 72.1 | .0001 | 707394_FT |
| 103 | 1945 | 3996 | .3138 | .0367 | .96 | -2.3 | .96 | -1.5 | .49 | .47 | 73.6 | 71.6 | .0003 | 707396_FT |
| 104 | 989 | 4754 | 1.7996 | .0411 | 1.24 | 9.7 | 1.78 | 9.9 | .22 | .41 | 79.2 | 82.7 | .0008 | 707397_FT |
| 105 | 2278 | 4819 | .1271 | .0335 | 1.07 | 4.6 | 1.11 | 4.6 | .42 | .48 | 70.9 | 72.2 | .0001 | 707398_FT |
| 106 | 2250 | 3543 | -.4891 | .0396 | 1.00 | -.2 | 1.00 | .0 | .45 | .45 | 73.2 | 72.6 | .0001 | 707399_FT |
| 107 | 2003 | 3602 | -.0728 | .0385 | 1.08 | 5.1 | 1.13 | 4.4 | .40 | .46 | 67.8 | 71.5 | .0002 | 707400_FT |
| 108 | 2555 | 4957 | -.0867 | .0328 | 1.38 | 9.9 | 1.61 | 9.9 | .18 | .47 | 57.0 | 71.4 | .0001 | 707402_FT |
| 109 | 988 | 3879 | 1.6899 | .0426 | 1.05 | 2.1 | 1.31 | 6.8 | .35 | .42 | 79.9 | 79.7 | .0008 | 707403_FT |
| 110 | 2249 | 4018 | -.1257 | .0364 | 1.10 | 6.7 | 1.09 | 3.5 | .37 | .46 | 67.0 | 71.0 | .0002 | 707404_FT |
| MEAN | 8440.2 | 13429 | -.3688 | .0260 | 1.02 | .4 | 1.03 | .1 | | | 73.4 | 73.9 | | |
| P.SD | 5885.3 | 8410.3 | .7605 | .0103 | .13 | 7.4 | .23 | 6.8 | | | 5.5 | 3.2 | | |

# Appendix M: Science Item Bank Difficulties

## Grade 5 Science

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | SCIE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 13530 | 22955 | -.2906A | .0148 | 1.06 | 9.9 | 1.08 | 8.9 | .31 | .37 | 66.4 | 69.1 | .0400 | 634838_OP |
| 2 | 14858 | 22955 | -.6709A | .0154 | 1.00 | .7 | 1.01 | .5 | .40 | .36 | 71.8 | 72.0 | .1250 | 634839_OP |
| 3 | 17348 | 22949 | -1.0680A | .0163 | .87 | -9.9 | .83 | -9.9 | .44 | .35 | 80.0 | 76.1 | -.1025 | 634849_OP |
| 4 | 14008 | 22955 | -.2509A | .0148 | 1.03 | 4.5 | 1.01 | .8 | .33 | .38 | 67.2 | 68.9 | -.1058 | 634856_OP |
| 5 | 14276 | 22949 | -.6230A | .0153 | 1.13 | 9.9 | 1.17 | 9.9 | .29 | .37 | 66.3 | 71.5 | .2087 | 634862_OP |
| 6 | 17060 | 22949 | -.8945A | .0158 | .84 | -9.9 | .75 | -9.9 | .46 | .35 | 79.3 | 74.2 | -.1998 | 634874_OP |
| 7 | 15225 | 22955 | -1.0103A | .0161 | 1.19 | 9.9 | 1.29 | 9.9 | .32 | .35 | 69.7 | 75.4 | .3822 | 634877_OP |
| 8 | 13942 | 22955 | -.1299A | .0147 | 1.09 | 9.9 | 1.13 | 9.9 | .26 | .38 | 64.5 | 68.4 | -.2127 | 634889_OP |
| 9 | 16013 | 22955 | -.0917A | .0147 | .91 | -9.9 | .87 | -9.9 | .44 | .38 | 72.0 | 68.3 | -.7389 | 634924_OP |
| 10 | 12143 | 22949 | .0926A | .0146 | 1.06 | 9.9 | 1.07 | 8.7 | .31 | .38 | 65.5 | 67.9 | -.0452 | 634945_OP |
| 11 | 10102 | 22955 | .0474A | .0146 | 1.22 | 9.9 | 1.31 | 9.9 | .18 | .38 | 58.0 | 68.0 | .4365 | 634948_OP |
| 12 | 11965 | 22949 | -.2513A | .0148 | 1.13 | 9.9 | 1.18 | 9.9 | .29 | .38 | 63.3 | 68.9 | .3376 | 634950_OP |
| 13 | 12363 | 22949 | .1828A | .0146 | .99 | -2.6 | .99 | -1.5 | .38 | .38 | 69.1 | 67.9 | -.1821 | 634961_OP |
| 14 | 16604 | 22955 | -.8518A | .0157 | 1.07 | 9.1 | 1.13 | 9.9 | .24 | .36 | 72.6 | 73.7 | -.1198 | 634968_OP |
| 15 | 15003 | 22955 | -.6618A | .0153 | 1.07 | 9.9 | 1.14 | 9.9 | .32 | .36 | 70.0 | 71.9 | .0821 | 647385_OP |
| 16 | 17956 | 22955 | -1.4345A | .0176 | .92 | -8.1 | .79 | -9.9 | .47 | .32 | 80.3 | 80.4 | .0959 | 647389_OP |
| 17 | 17453 | 22955 | -1.2829A | .0170 | 1.02 | 2.7 | 1.06 | 3.3 | .35 | .33 | 78.0 | 78.6 | .0885 | 647390_OP |
| 18 | 12019 | 22949 | .0804A | .0146 | .97 | -6.2 | .97 | -4.2 | .41 | .38 | 70.0 | 67.9 | -.0065 | 647393_OP |
| 19 | 17768 | 22949 | -1.3649A | .0173 | 1.05 | 5.1 | 1.09 | 5.3 | .31 | .33 | 78.8 | 79.5 | .0798 | 647394_OP |
| 20 | 11899 | 22955 | .0756A | .0146 | 1.02 | 4.3 | 1.02 | 2.6 | .35 | .38 | 66.5 | 67.9 | .0244 | 647396_OP |
| 21 | 17905 | 22949 | -1.2874A | .0170 | 1.01 | 1.6 | 1.07 | 4.2 | .29 | .33 | 78.9 | 78.6 | -.0404 | 647415_OP |
| 22 | 17448 | 22949 | -.9771A | .0161 | .85 | -9.9 | .76 | -9.9 | .44 | .35 | 79.7 | 75.1 | -.2243 | 647419_OP |
| 23 | 10778 | 22955 | .5916A | .0148 | .92 | -9.9 | .93 | -8.9 | .48 | .37 | 73.3 | 69.1 | -.2499 | 647423_OP |
| 24 | 11807 | 22955 | .0324A | .0146 | 1.01 | 1.8 | 1.02 | 2.0 | .37 | .38 | 68.1 | 68.0 | .0872 | 647427_OP |
| 25 | 15791 | 22949 | -.7562A | .0155 | 1.03 | 4.6 | 1.04 | 3.4 | .32 | .36 | 71.4 | 72.8 | -.0116 | 647428_OP |
| 26 | 16527 | 22955 | -.9274A | .0159 | .98 | -3.1 | .98 | -1.7 | .37 | .35 | 75.3 | 74.5 | -.0225 | 647430_OP |
| 27 | 16358 | 22949 | -.9130A | .0159 | 1.10 | 9.9 | 1.11 | 8.1 | .25 | .35 | 71.2 | 74.4 | .0055 | 647433_OP |
| 28 | 8769 | 22955 | .6085A | .0148 | 1.14 | 9.9 | 1.25 | 9.9 | .18 | .37 | 64.9 | 69.2 | .1682 | 661223_OP |
| 29 | 11664 | 22949 | -.0467A | .0146 | 1.03 | 5.2 | 1.04 | 4.3 | .36 | .38 | 67.0 | 68.1 | .1964 | 661245_OP |
| 30 | 19632 | 22949 | -1.9751A | .0203 | .97 | -2.6 | .88 | -5.3 | .37 | .28 | 86.0 | 86.4 | .0672 | 661247_OP |
| 31 | 20217 | 22955 | -2.1462A | .0213 | .96 | -2.7 | .93 | -2.8 | .30 | .27 | 88.2 | 88.0 | -.0102 | 661256_OP |
| 32 | 19096 | 22955 | -1.7675A | .0191 | .97 | -2.8 | .84 | -7.8 | .38 | .30 | 84.0 | 84.2 | .0612 | 661258_OP |
| 33 | 17171 | 22955 | -1.2915A | .0170 | .99 | -.7 | .90 | -6.5 | .44 | .33 | 77.2 | 78.7 | .1761 | 661260_OP |
| 34 | 17397 | 22949 | -.9942A | .0161 | .83 | -9.9 | .73 | -9.9 | .46 | .35 | 79.6 | 75.2 | -.1921 | 661264_OP |
| 35 | 18604 | 22949 | -1.7173A | .0188 | 1.08 | 7.2 | 1.07 | 3.3 | .33 | .30 | 81.7 | 83.6 | .1784 | 661267_OP |
| 36 | 18115 | 22955 | -1.4323A | .0176 | .91 | -9.2 | .82 | -9.9 | .44 | .32 | 81.6 | 80.3 | .0451 | 661272_OP |
| 37 | 16475 | 22955 | -.9719A | .0160 | .91 | -9.9 | .83 | -9.9 | .46 | .35 | 76.7 | 75.0 | .0363 | 690170_OP |
| 38 | 18979 | 22949 | -1.7846A | .0192 | 1.13 | 9.9 | 1.22 | 9.5 | .23 | .30 | 82.7 | 84.3 | .1189 | 690176_OP |
| 39 | 10873 | 22949 | .5598A | .0148 | 1.13 | 9.9 | 1.21 | 9.9 | .27 | .37 | 64.2 | 69.0 | -.2392 | 690178_OP |
| 40 | 17935 | 22949 | -1.3938A | .0174 | .96 | -3.8 | .87 | -7.7 | .40 | .33 | 79.6 | 79.9 | .0594 | 690185_OP |
| 41 | 10647 | 22949 | .1984A | .0146 | 1.05 | 9.7 | 1.09 | 9.9 | .31 | .38 | 66.3 | 67.9 | .1678 | 690187_OP |
| 42 | 18726 | 22955 | -1.4424A | .0176 | .85 | -9.9 | .73 | -9.9 | .42 | .32 | 83.4 | 80.4 | -.1431 | 690189_OP |
| 43 | 20153 | 22949 | -1.9730A | .0202 | .79 | -9.9 | .59 | -9.9 | .43 | .28 | 88.4 | 86.3 | -.1613 | 690191_OP |
| 44 | 17326 | 22955 | -1.0436A | .0162 | 1.06 | 7.8 | 1.14 | 9.4 | .23 | .35 | 74.6 | 75.8 | -.1201 | 690194_OP |
| 45 | 14561 | 22949 | -.5062A | .0151 | 1.14 | 9.9 | 1.22 | 9.9 | .23 | .37 | 65.1 | 70.6 | .0261 | 690196_OP |
| 46 | 17191 | 22955 | -1.1716A | .0166 | 1.04 | 4.5 | 1.17 | 9.9 | .31 | .34 | 77.2 | 77.3 | .0485 | 690200_OP |
| 47 | 18143 | 22949 | -1.5270A | .0180 | .98 | -2.5 | .87 | -7.2 | .43 | .32 | 80.9 | 81.4 | .1318 | 690202_OP |
| 48 | 13095 | 22949 | -.0051A | .0146 | 1.00 | -.4 | .99 | -1.4 | .37 | .38 | 68.3 | 68.0 | -.1522 | 690209_OP |
| 49 | 18887 | 22949 | -1.6023A | .0183 | .91 | -8.7 | .84 | -8.5 | .39 | .31 | 83.6 | 82.3 | -.0357 | 690216_OP |
| 50 | 17295 | 22955 | -1.0049A | .0161 | .95 | -7.0 | .94 | -4.6 | .35 | .35 | 77.6 | 75.4 | -.1510 | 690220_OP |
| 51 | 4656 | 5858 | -1.6919 | .0348 | .96 | -2.1 | .96 | -1.2 | .37 | .33 | 81.2 | 80.2 | .0002 | 705706_FT |
| 52 | 2219 | 4152 | .1066 | .0343 | .96 | -3.1 | .94 | -3.3 | .40 | .37 | 69.2 | 67.8 | .0007 | 705707_FT |
| 53 | 3489 | 4289 | -1.4558 | .0418 | .91 | -4.1 | .79 | -5.1 | .42 | .30 | 83.1 | 81.8 | .0007 | 705709_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | SCIE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | 1806 | 4362 | .7024 | .0337 | 1.13 | 9.7 | 1.22 | 9.9 | .20 | .35 | 63.8 | 68.6 | .0008 | 705710_FT |
| 55 | 3612 | 4552 | -1.3449 | .0392 | .93 | -3.2 | .92 | -2.2 | .40 | .32 | 81.4 | 80.1 | .0007 | 705711_FT |
| 56 | 3825 | 4136 | -2.5874 | .0609 | .96 | -.9 | .88 | -1.5 | .27 | .21 | 92.5 | 92.5 | .0009 | 705712_FT |
| 57 | 4362 | 4415 | -4.5622 | .1392 | .96 | -.2 | .60 | -2.7 | .17 | .09 | 98.8 | 98.8 | .0019 | 705713_FT |
| 58 | 3654 | 4208 | -1.9373 | .0480 | .88 | -3.9 | .73 | -5.3 | .42 | .27 | 87.2 | 86.9 | .0008 | 705714_FT |
| 59 | 2998 | 3962 | -1.0749 | .0398 | .93 | -3.6 | .88 | -3.5 | .41 | .33 | 78.8 | 76.9 | .0006 | 705715_FT |
| 60 | 3587 | 4004 | -2.1967 | .0540 | 1.00 | -.1 | 1.08 | 1.1 | .24 | .24 | 89.6 | 89.6 | .0008 | 705716_FT |
| 61 | 3813 | 4559 | -1.6416 | .0424 | .92 | -3.1 | .85 | -3.3 | .38 | .29 | 84.5 | 83.9 | .0007 | 705718_FT |
| 62 | 3220 | 3958 | -1.4787 | .0436 | 1.01 | .4 | 1.01 | .3 | .29 | .31 | 82.0 | 81.9 | .0007 | 705720_FT |
| 63 | 3395 | 4593 | -.9708 | .0363 | 1.02 | 1.4 | 1.00 | .1 | .31 | .34 | 75.2 | 75.8 | .0007 | 705721_FT |
| 64 | 2792 | 3936 | -.7955 | .0380 | 1.03 | 1.7 | 1.02 | .8 | .31 | .34 | 72.8 | 73.8 | .0007 | 705722_FT |
| 65 | 3345 | 4191 | -1.3637 | .0412 | 1.03 | 1.5 | 1.05 | 1.2 | .28 | .32 | 80.1 | 80.5 | .0006 | 705723_FT |
| 66 | 4508 | 6391 | -1.0921 | .0300 | .91 | -7.2 | .84 | -6.5 | .46 | .37 | 77.0 | 74.0 | .0003 | 705724_FT |
| 67 | 4215 | 4394 | -3.2901 | .0779 | .93 | -1.0 | .56 | -4.7 | .28 | .16 | 95.9 | 95.9 | .0012 | 705725_FT |
| 68 | 3779 | 4187 | -2.3049 | .0543 | 1.01 | .2 | 1.00 | .0 | .23 | .24 | 90.3 | 90.3 | .0009 | 705726_FT |
| 69 | 5028 | 5920 | -2.1157 | .0386 | .93 | -2.9 | .81 | -4.3 | .38 | .30 | 85.4 | 85.1 | .0003 | 705727_FT |
| 70 | 3174 | 4628 | -.6654 | .0344 | 1.10 | 6.5 | 1.16 | 6.0 | .24 | .35 | 69.7 | 72.4 | .0006 | 705728_FT |
| 71 | 2447 | 4607 | .1210 | .0325 | 1.04 | 3.0 | 1.05 | 3.0 | .33 | .37 | 66.1 | 67.6 | .0008 | 705729_FT |
| 72 | 3544 | 4031 | -2.0301 | .0508 | .94 | -1.9 | .77 | -3.9 | .36 | .27 | 88.1 | 88.0 | .0007 | 705730_FT |
| 73 | 4113 | 6306 | -.8041 | .0292 | .97 | -2.3 | .92 | -3.9 | .42 | .39 | 72.1 | 71.5 | .0003 | 705732_FT |
| 74 | 3613 | 4226 | -1.8047 | .0461 | .89 | -3.9 | .70 | -6.3 | .42 | .27 | 85.9 | 85.6 | .0007 | 705733_FT |
| 75 | 3185 | 4239 | -1.0280 | .0383 | .82 | -9.9 | .70 | -9.9 | .54 | .33 | 80.6 | 76.8 | .0007 | 705734_FT |
| 76 | 4491 | 6392 | -1.0762 | .0300 | .84 | -9.9 | .73 | -9.9 | .53 | .37 | 78.3 | 73.8 | .0003 | 705735_FT |
| 77 | 1697 | 4167 | .7211 | .0347 | .99 | -.9 | 1.00 | .1 | .36 | .35 | 70.0 | 68.9 | .0009 | 705736_FT |
| 78 | 516 | 3984 | 2.5341 | .0503 | 1.20 | 5.6 | 2.18 | 9.9 | -.01 | .25 | 86.5 | 87.4 | .0006 | 705737_FT |
| 79 | 3915 | 4195 | -2.7305 | .0639 | .98 | -.4 | 1.00 | .0 | .23 | .21 | 93.3 | 93.3 | .0010 | 705738_FT |
| 80 | 2679 | 4130 | -.4621 | .0355 | 1.00 | -.3 | .99 | -.6 | .35 | .35 | 70.5 | 70.4 | .0007 | 705739_FT |
| 81 | 3917 | 4427 | -2.1057 | .0493 | .95 | -1.6 | .79 | -3.7 | .33 | .25 | 88.7 | 88.5 | .0008 | 705740_FT |
| 82 | 5408 | 6127 | -2.4421 | .0417 | .94 | -2.2 | .87 | -2.4 | .33 | .27 | 88.4 | 88.3 | .0003 | 705741_FT |
| 83 | 2372 | 4129 | -.0996 | .0345 | 1.17 | 9.9 | 1.22 | 9.9 | .18 | .36 | 59.7 | 68.1 | .0008 | 705742_FT |
| 84 | 3025 | 4252 | -.8184 | .0367 | .99 | -.7 | .96 | -1.3 | .36 | .35 | 74.5 | 74.1 | .0007 | 705743_FT |
| 85 | 4416 | 5409 | -1.8787 | .0376 | 1.05 | 2.2 | 1.08 | 1.8 | .27 | .32 | 81.9 | 82.0 | .0002 | 705744_FT |
| 86 | 3069 | 5407 | -.4196 | .0305 | 1.01 | .9 | .98 | -1.2 | .38 | .40 | 67.7 | 69.1 | .0003 | 705745_FT |
| 87 | 870 | 3791 | 1.7455 | .0420 | 1.10 | 4.1 | 1.40 | 9.7 | .17 | .31 | 78.1 | 79.1 | .0008 | 705746_FT |
| 88 | 3577 | 3783 | -2.9881 | .0735 | 1.02 | .3 | 1.35 | 3.1 | .15 | .19 | 94.5 | 94.6 | .0011 | 705747_FT |
| 89 | 3402 | 4335 | -1.2421 | .0396 | .89 | -5.3 | .76 | -6.8 | .45 | .32 | 80.5 | 79.3 | .0007 | 705748_FT |
| 90 | 3117 | 4253 | -.9440 | .0374 | .92 | -4.6 | .88 | -3.9 | .43 | .34 | 77.7 | 75.4 | .0007 | 705749_FT |
| 91 | 4216 | 4377 | -3.4112 | .0820 | .98 | -.3 | .90 | -.9 | .20 | .16 | 96.3 | 96.3 | .0013 | 705750_FT |
| 92 | 2296 | 4356 | .1439 | .0333 | .98 | -2.0 | .97 | -1.9 | .38 | .36 | 67.6 | 67.1 | .0008 | 705751_FT |
| 93 | 2315 | 4402 | .1227 | .0332 | 1.03 | 2.1 | 1.04 | 2.2 | .34 | .37 | 66.4 | 67.5 | .0008 | 705752_FT |
| 94 | 3626 | 4372 | -1.5932 | .0427 | .95 | -2.1 | .84 | -3.5 | .37 | .30 | 83.8 | 83.3 | .0007 | 705753_FT |
| 95 | 3050 | 4312 | -.7999 | .0363 | 1.04 | 2.4 | 1.05 | 1.9 | .30 | .35 | 72.9 | 73.8 | .0006 | 705754_FT |
| 96 | 3741 | 4340 | -1.8766 | .0464 | .94 | -1.9 | .88 | -2.3 | .35 | .28 | 86.5 | 86.3 | .0008 | 705755_FT |
| 97 | 5632 | 5884 | -3.6168 | .0659 | .94 | -1.0 | .74 | -3.0 | .25 | .17 | 95.7 | 95.7 | .0008 | 705756_FT |
| 98 | 3591 | 4291 | -1.6514 | .0438 | .97 | -.9 | .95 | -1.1 | .32 | .29 | 84.5 | 84.0 | .0007 | 705757_FT |
| 99 | 4785 | 6019 | -1.6890 | .0343 | 1.09 | 4.9 | 1.16 | 4.2 | .23 | .33 | 79.3 | 80.2 | .0003 | 705758_FT |
| 100 | 1848 | 4282 | .5905 | .0340 | 1.02 | 1.3 | 1.05 | 2.6 | .32 | .36 | 68.5 | 68.4 | .0008 | 705760_FT |
| MEAN | 9490.5 | 13771 | -1.0236 | .0306 | .99 | .2 | .98 | -.2 | | | 77.3 | 77.6 | | |
| P.SD | 6478.5 | 9195.3 | 1.0886 | .0193 | .09 | 6.1 | .21 | 6.5 | | | 9.0 | 8.1 | | |

## Grade 8 Science

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | SCIE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16687 | 21999 | -1.2330A | .0171 | .98 | -2.1 | .99 | -.6 | .37 | .35 | 78.5 | 77.7 | .0190 | 635004_OP |
| 2 | 12283 | 21983 | .2617A | .0150 | .98 | -3.5 | .97 | -3.4 | .44 | .39 | 68.9 | 68.4 | -.3818 | 635005_OP |
| 3 | 13355 | 21999 | -.3968A | .0153 | .99 | -1.9 | .96 | -4.0 | .40 | .39 | 70.1 | 69.9 | .0318 | 635007_OP |
| 4 | 12824 | 21983 | -.1337A | .0150 | 1.00 | -.2 | .99 | -1.2 | .38 | .39 | 68.6 | 68.7 | -.1109 | 635012_OP |
| 5 | 14380 | 21999 | -.4871A | .0154 | 1.06 | 9.1 | 1.07 | 6.7 | .30 | .39 | 68.1 | 70.5 | -.1224 | 635018_OP |
| 6 | 12940 | 21983 | -.3150A | .0152 | .94 | -9.9 | .90 | -9.9 | .45 | .39 | 71.5 | 69.5 | .0447 | 635019_OP |
| 7 | 16081 | 21983 | -1.3892A | .0177 | 1.10 | 9.9 | 1.07 | 3.8 | .43 | .34 | 76.4 | 79.5 | .3493 | 635022_OP |
| 8 | 12606 | 21983 | .0522A | .0150 | 1.02 | 3.2 | 1.03 | 3.2 | .38 | .39 | 67.7 | 68.3 | -.2470 | 635023_OP |
| 9 | 17437 | 21983 | -1.0795A | .0166 | .85 | -9.9 | .75 | -9.9 | .38 | .36 | 80.1 | 75.9 | -.3778 | 635025_OP |
| 10 | 11359 | 21999 | .0913A | .0150 | 1.12 | 9.9 | 1.17 | 9.9 | .27 | .39 | 63.1 | 68.3 | -.0039 | 635035_OP |
| 11 | 15054 | 21999 | -.6314A | .0156 | 1.02 | 2.6 | .99 | -.6 | .33 | .38 | 70.4 | 71.6 | -.1455 | 635037_OP |
| 12 | 9830 | 21983 | .2861A | .0150 | 1.13 | 9.9 | 1.19 | 9.9 | .26 | .39 | 63.6 | 68.4 | .1431 | 635041_OP |
| 13 | 15551 | 21999 | -1.0116A | .0164 | .97 | -3.7 | .92 | -5.6 | .44 | .36 | 75.7 | 75.2 | .1115 | 635043_OP |
| 14 | 12166 | 21983 | -.0716A | .0150 | 1.04 | 7.3 | 1.04 | 4.8 | .35 | .39 | 66.2 | 68.5 | -.0232 | 635051_OP |
| 15 | 16170 | 21983 | -1.1227A | .0168 | .92 | -9.9 | .81 | -9.9 | .47 | .35 | 77.6 | 76.4 | .0538 | 635063_OP |
| 16 | 14661 | 21983 | -.8785A | .0161 | 1.06 | 8.5 | 1.13 | 9.2 | .38 | .37 | 72.0 | 73.8 | .2033 | 635075_OP |
| 17 | 17233 | 21999 | -1.3515A | .0175 | 1.00 | -.2 | 1.13 | 7.3 | .32 | .34 | 80.2 | 79.0 | -.0278 | 635082_OP |
| 18 | 15655 | 21999 | -.6745A | .0157 | .85 | -9.9 | .77 | -9.9 | .47 | .38 | 76.6 | 71.9 | -.2601 | 635086_OP |
| 19 | 16822 | 21999 | -1.2000A | .0170 | .90 | -9.9 | .85 | -9.9 | .43 | .35 | 79.6 | 77.3 | -.0554 | 635096_OP |
| 20 | 17461 | 21999 | -1.6056A | .0186 | 1.21 | 9.9 | 1.56 | 9.9 | .18 | .32 | 79.4 | 81.9 | .1587 | 635100_OP |
| 21 | 16393 | 21983 | -1.1837A | .0170 | 1.02 | 2.3 | 1.04 | 2.2 | .35 | .35 | 77.5 | 77.1 | .0526 | 635101_OP |
| 22 | 18394 | 21999 | -2.0262A | .0208 | 1.08 | 5.6 | .91 | -3.6 | .41 | .29 | 83.9 | 86.5 | .2581 | 635114_OP |
| 23 | 15529 | 21999 | -.8216A | .0160 | .90 | -9.9 | .83 | -9.9 | .45 | .37 | 76.1 | 73.3 | -.0761 | 635116_OP |
| 24 | 17226 | 21999 | -1.5269A | .0182 | 1.06 | 5.7 | 1.15 | 7.6 | .35 | .33 | 79.9 | 81.0 | .1540 | 635120_OP |
| 25 | 10262 | 21983 | .2264A | .0150 | 1.13 | 9.9 | 1.17 | 9.9 | .26 | .39 | 62.4 | 68.3 | .1056 | 635125_OP |
| 26 | 10317 | 21983 | -.0627A | .0150 | 1.10 | 9.9 | 1.11 | 9.9 | .31 | .39 | 63.4 | 68.5 | .3826 | 635139_OP |
| 27 | 15143 | 21999 | -.7603A | .0159 | .88 | -9.9 | .82 | -9.9 | .49 | .38 | 76.9 | 72.7 | -.0374 | 635156_OP |
| 28 | 18689 | 21983 | -1.7350A | .0192 | .91 | -8.6 | .83 | -8.4 | .32 | .31 | 85.4 | 83.4 | -.1622 | 635160_OP |
| 29 | 13765 | 21999 | -.4521A | .0153 | .97 | -5.0 | .92 | -7.7 | .41 | .39 | 71.0 | 70.3 | -.0091 | 647103_OP |
| 30 | 12068 | 21999 | -.0619A | .0150 | .90 | -9.9 | .88 | -9.9 | .49 | .39 | 73.6 | 68.5 | -.0098 | 647106_OP |
| 31 | 9661 | 21983 | .5283A | .0151 | 1.00 | .3 | 1.04 | 5.2 | .38 | .39 | 70.0 | 69.2 | -.0594 | 647119_OP |
| 32 | 10170 | 21999 | .3077A | .0150 | 1.11 | 9.9 | 1.16 | 9.9 | .29 | .39 | 63.6 | 68.5 | .0459 | 647122_OP |
| 33 | 13417 | 21999 | -.4287A | .0153 | 1.06 | 9.3 | 1.08 | 7.4 | .34 | .39 | 67.9 | 70.1 | .0495 | 647123_OP |
| 34 | 16936 | 21999 | -1.2164A | .0171 | .91 | -9.9 | .82 | -9.9 | .41 | .35 | 79.5 | 77.5 | -.0734 | 647136_OP |
| 35 | 10481 | 21983 | -.1196A | .0150 | 1.21 | 9.9 | 1.28 | 9.9 | .23 | .39 | 59.5 | 68.6 | .4029 | 647142_OP |
| 36 | 17830 | 21999 | -1.5259A | .0182 | .89 | -9.9 | .79 | -9.9 | .43 | .33 | 82.5 | 81.0 | -.0478 | 647159_OP |
| 37 | 13418 | 21999 | -.3081A | .0152 | 1.00 | .6 | .99 | -1.5 | .38 | .39 | 69.0 | 69.4 | -.0724 | 661291_OP |
| 38 | 14561 | 21999 | -.5932A | .0155 | .88 | -9.9 | .84 | -9.9 | .49 | .38 | 76.5 | 71.3 | -.0597 | 661294_OP |
| 39 | 13253 | 21983 | -.1807A | .0151 | 1.04 | 7.6 | 1.05 | 5.1 | .33 | .39 | 66.8 | 68.9 | -.1631 | 661295_OP |
| 40 | 14412 | 21983 | -.7002A | .0157 | .93 | -9.9 | .88 | -9.9 | .47 | .38 | 74.3 | 72.2 | .0843 | 661305_OP |
| 41 | 11884 | 21983 | .0275A | .0150 | 1.00 | .6 | .99 | -.6 | .38 | .39 | 68.3 | 68.3 | -.0588 | 661314_OP |
| 42 | 18894 | 21999 | -1.9760A | .0205 | .98 | -1.8 | 1.00 | .1 | .31 | .29 | 86.2 | 86.0 | .0039 | 661318_OP |
| 43 | 15536 | 21983 | -.8082A | .0160 | .95 | -7.9 | .91 | -7.1 | .40 | .37 | 75.1 | 73.2 | -.0933 | 661321_OP |
| 44 | 19009 | 21983 | -2.1410A | .0216 | 1.03 | 2.4 | 1.02 | .7 | .33 | .28 | 86.7 | 87.7 | .1187 | 690224_OP |
| 45 | 11163 | 21983 | .3874A | .0150 | 1.06 | 9.9 | 1.11 | 9.9 | .33 | .39 | 67.0 | 68.7 | -.2553 | 690225_OP |
| 46 | 15487 | 21999 | -1.0445A | .0165 | 1.05 | 6.0 | 1.09 | 5.9 | .38 | .36 | 74.3 | 75.6 | .1619 | 690229_OP |
| 47 | 15378 | 21999 | -.9235A | .0162 | 1.01 | 1.0 | .98 | -1.5 | .39 | .37 | 73.5 | 74.3 | .0676 | 690235_OP |
| 48 | 12309 | 21999 | -.3188A | .0152 | 1.00 | -.2 | .97 | -3.0 | .42 | .39 | 69.2 | 69.5 | .1937 | 690238_OP |
| 49 | 11915 | 21999 | .0697A | .0150 | .93 | -9.9 | .91 | -9.9 | .46 | .39 | 72.1 | 68.3 | -.1070 | 690242_OP |
| 50 | 18448 | 21983 | -1.7456A | .0193 | .89 | -9.9 | .79 | -9.9 | .40 | .31 | 85.0 | 83.5 | -.0536 | 690245_OP |
| 51 | 12943 | 21983 | -.0805A | .0150 | .95 | -9.1 | .92 | -9.0 | .43 | .39 | 70.9 | 68.5 | -.1917 | 690248_OP |
| 52 | 13217 | 21983 | -.3816A | .0153 | 1.09 | 9.9 | 1.11 | 9.9 | .30 | .39 | 65.5 | 69.8 | .0476 | 690251_OP |
| 53 | 11764 | 21999 | .0915A | .0150 | 1.07 | 9.9 | 1.09 | 9.9 | .33 | .39 | 65.5 | 68.3 | -.0948 | 690252_OP |
| 54 | 11833 | 21983 | -.1733A | .0151 | 1.20 | 9.9 | 1.27 | 9.9 | .21 | .39 | 59.8 | 68.8 | .1540 | 690257_OP |
| 55 | 13778 | 21983 | -.6051A | .0156 | .92 | -9.9 | .85 | -9.9 | .50 | .38 | 73.7 | 71.4 | .1413 | 690260_OP |
| 56 | 18594 | 21999 | -1.6666A | .0189 | .80 | -9.9 | .66 | -9.9 | .43 | .32 | 85.8 | 82.6 | -.1903 | 690262_OP |
| 57 | 16920 | 21983 | -1.4051A | .0177 | .96 | -3.8 | .88 | -7.2 | .44 | .34 | 79.7 | 79.6 | .1225 | 690263_OP |
| 58 | 18966 | 21983 | -1.9094A | .0201 | .86 | -9.9 | .74 | -9.9 | .39 | .30 | 86.9 | 85.3 | -.1007 | 690264_OP |
| 59 | 16571 | 21999 | -1.3087A | .0174 | 1.05 | 5.5 | 1.08 | 4.3 | .36 | .34 | 77.5 | 78.5 | .1305 | 690265_OP |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | SCIE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 15149 | 21983 | -.7444A | .0158 | .95 | -7.6 | .92 | -6.5 | .41 | .38 | 74.0 | 72.6 | -.0566 | 690268_OP |
| 61 | 3108 | 4689 | -.5622 | .0338 | 1.00 | .2 | .96 | -1.5 | .37 | .37 | 70.5 | 71.5 | .0006 | 705761_FT |
| 62 | 3043 | 4005 | -1.1397 | .0398 | 1.03 | 1.4 | 1.04 | 1.1 | .30 | .34 | 77.2 | 77.3 | .0005 | 705765_FT |
| 63 | 3047 | 4018 | -1.1068 | .0397 | .95 | -2.5 | .91 | -2.4 | .40 | .34 | 77.3 | 77.3 | .0005 | 705767_FT |
| 64 | 3512 | 4907 | -1.2659 | .0347 | .90 | -6.7 | .80 | -6.6 | .48 | .38 | 77.1 | 74.6 | .0003 | 705768_FT |
| 65 | 3230 | 4558 | -.8336 | .0354 | .96 | -2.7 | .92 | -2.6 | .40 | .35 | 74.7 | 73.8 | .0005 | 705769_FT |
| 66 | 2791 | 4158 | -.6161 | .0360 | 1.02 | 1.2 | .97 | -1.3 | .34 | .36 | 70.0 | 71.6 | .0006 | 705770_FT |
| 67 | 1668 | 4113 | .6855 | .0349 | 1.28 | 9.9 | 1.41 | 9.9 | .08 | .37 | 58.7 | 69.2 | .0008 | 705771_FT |
| 68 | 2946 | 4262 | -.6923 | .0360 | 1.10 | 6.0 | 1.12 | 4.3 | .25 | .36 | 69.4 | 72.8 | .0006 | 705772_FT |
| 69 | 2868 | 5535 | -.1549 | .0302 | 1.10 | 8.5 | 1.18 | 9.6 | .33 | .42 | 65.8 | 69.5 | .0006 | 705773_FT |
| 70 | 3484 | 4052 | -1.8891 | .0478 | 1.01 | .5 | 1.36 | 5.8 | .24 | .29 | 86.4 | 86.1 | .0006 | 705774_FT |
| 71 | 3271 | 4413 | -1.0144 | .0371 | 1.12 | 6.5 | 1.22 | 6.3 | .21 | .34 | 73.6 | 76.0 | .0005 | 705775_FT |
| 72 | 5276 | 5569 | -3.4283 | .0616 | .90 | -2.0 | .49 | -6.9 | .33 | .19 | 94.7 | 94.7 | .0008 | 705776_FT |
| 73 | 3789 | 4073 | -2.7061 | .0635 | .94 | -1.1 | .82 | -2.1 | .29 | .21 | 93.0 | 93.0 | .0008 | 705777_FT |
| 74 | 3971 | 5710 | -1.0936 | .0317 | .90 | -7.5 | .81 | -7.2 | .49 | .39 | 76.8 | 73.7 | .0003 | 705778_FT |
| 75 | 1565 | 4634 | 1.0876 | .0342 | .97 | -2.3 | 1.00 | .1 | .37 | .36 | 74.6 | 72.3 | .0009 | 705779_FT |
| 76 | 3200 | 4213 | -1.1215 | .0389 | .93 | -3.9 | .85 | -4.4 | .42 | .34 | 78.6 | 77.3 | .0005 | 705780_FT |
| 77 | 3004 | 5419 | -.3806 | .0305 | .94 | -5.0 | .90 | -5.6 | .47 | .42 | 71.7 | 69.5 | .0005 | 705781_FT |
| 78 | 2743 | 5284 | -.1875 | .0309 | 1.09 | 6.8 | 1.10 | 5.3 | .35 | .42 | 65.5 | 69.4 | .0005 | 705782_FT |
| 79 | 2408 | 3786 | -.4293 | .0370 | .97 | -2.1 | .92 | -3.4 | .41 | .37 | 70.2 | 70.4 | .0006 | 705784_FT |
| 80 | 1389 | 5392 | 1.2235 | .0344 | 1.35 | 9.9 | 1.84 | 9.9 | .02 | .37 | 71.3 | 77.5 | .0009 | 705785_FT |
| 81 | 3518 | 4455 | -1.3409 | .0394 | .90 | -4.9 | .80 | -5.4 | .44 | .32 | 80.9 | 79.6 | .0005 | 705786_FT |
| 82 | 3597 | 3872 | -2.7207 | .0647 | .90 | -2.0 | .66 | -4.4 | .35 | .22 | 92.9 | 92.9 | .0008 | 705787_FT |
| 83 | 4052 | 5886 | -1.0499 | .0310 | .93 | -5.5 | .86 | -5.8 | .46 | .39 | 75.9 | 73.4 | .0004 | 705788_FT |
| 84 | 3509 | 4165 | -1.7231 | .0451 | .99 | -.3 | 1.00 | .1 | .30 | .29 | 84.5 | 84.4 | .0005 | 705789_FT |
| 85 | 3465 | 3999 | -1.9515 | .0489 | .89 | -3.6 | .73 | -5.0 | .41 | .27 | 87.0 | 86.7 | .0006 | 705790_FT |
| 86 | 925 | 4586 | 1.8859 | .0397 | 1.30 | 9.9 | 1.95 | 9.9 | -.03 | .30 | 77.3 | 81.0 | .0009 | 705791_FT |
| 87 | 3549 | 4110 | -1.9136 | .0478 | .97 | -1.0 | .84 | -2.9 | .32 | .27 | 86.5 | 86.4 | .0006 | 705792_FT |
| 88 | 4569 | 5260 | -2.3662 | .0431 | .93 | -2.8 | .79 | -4.0 | .36 | .28 | 87.0 | 86.9 | .0004 | 705793_FT |
| 89 | 3506 | 4095 | -1.8368 | .0470 | .95 | -1.8 | .89 | -1.9 | .35 | .28 | 85.8 | 85.7 | .0005 | 705794_FT |
| 90 | 2800 | 4233 | -.5532 | .0355 | .96 | -2.9 | .90 | -4.0 | .41 | .37 | 72.1 | 71.3 | .0006 | 705795_FT |
| 91 | 1745 | 3541 | .2895 | .0371 | 1.00 | .3 | 1.01 | .7 | .36 | .38 | 67.9 | 67.7 | .0007 | 705796_FT |
| 92 | 3385 | 4163 | -1.4849 | .0424 | 1.08 | 3.3 | 1.31 | 6.3 | .21 | .32 | 81.3 | 81.7 | .0005 | 705797_FT |
| 93 | 3387 | 4085 | -1.6108 | .0441 | .99 | -.4 | 1.05 | 1.0 | .30 | .30 | 83.8 | 83.2 | .0006 | 705798_FT |
| 94 | 2835 | 3773 | -1.0765 | .0406 | .92 | -4.1 | .85 | -4.3 | .43 | .34 | 78.7 | 76.7 | .0005 | 705799_FT |
| 95 | 3822 | 4076 | -2.8561 | .0666 | .89 | -2.1 | .51 | -6.7 | .37 | .20 | 93.8 | 93.8 | .0008 | 705800_FT |
| 96 | 3077 | 4124 | -1.0288 | .0387 | 1.10 | 5.3 | 1.28 | 7.6 | .23 | .35 | 74.4 | 76.4 | .0005 | 705801_FT |
| 97 | 3216 | 4210 | -1.1620 | .0390 | .82 | -9.8 | .68 | -9.9 | .54 | .33 | 80.8 | 77.6 | .0005 | 705803_FT |
| 98 | 3017 | 4023 | -1.0757 | .0394 | .88 | -6.5 | .77 | -7.1 | .48 | .35 | 78.9 | 76.8 | .0005 | 705804_FT |
| 99 | 2374 | 5378 | .2095 | .0308 | 1.40 | 9.9 | 1.55 | 9.9 | .06 | .42 | 55.0 | 70.1 | .0006 | 705805_FT |
| 100 | 1696 | 4560 | .8891 | .0337 | 1.32 | 9.9 | 1.49 | 9.9 | .06 | .36 | 59.8 | 70.5 | .0009 | 705806_FT |
| 101 | 3113 | 3825 | -1.4841 | .0443 | 1.00 | .0 | .98 | -.4 | .31 | .31 | 81.7 | 81.8 | .0005 | 705807_FT |
| 102 | 2416 | 4528 | .0902 | .0329 | 1.28 | 9.9 | 1.35 | 9.9 | .11 | .38 | 54.9 | 67.9 | .0007 | 705808_FT |
| 103 | 2265 | 4097 | -.0203 | .0346 | 1.13 | 9.9 | 1.16 | 7.7 | .24 | .38 | 62.2 | 68.2 | .0006 | 705809_FT |
| 104 | 1997 | 4064 | .2752 | .0347 | 1.09 | 6.6 | 1.11 | 5.7 | .29 | .39 | 64.9 | 68.1 | .0007 | 705810_FT |
| 105 | 2541 | 3940 | -.4756 | .0364 | .89 | -7.8 | .83 | -7.1 | .49 | .37 | 74.5 | 70.6 | .0006 | 705812_FT |
| 106 | 719 | 4133 | 2.1135 | .0442 | 1.25 | 8.9 | 2.05 | 9.9 | -.03 | .29 | 81.3 | 83.4 | .0009 | 705813_FT |
| 107 | 3052 | 4089 | -1.0363 | .0387 | 1.07 | 3.8 | 1.20 | 5.6 | .25 | .34 | 75.7 | 76.3 | .0005 | 705814_FT |
| 108 | 769 | 4040 | 1.9988 | .0434 | 1.23 | 8.4 | 1.78 | 9.9 | .04 | .30 | 79.7 | 82.1 | .0008 | 705815_FT |
| 109 | 1361 | 3772 | .9467 | .0373 | 1.14 | 8.3 | 1.25 | 9.9 | .22 | .37 | 66.9 | 71.2 | .0009 | 705816_FT |
| 110 | 1781 | 4038 | .5385 | .0347 | 1.17 | 9.9 | 1.23 | 9.9 | .19 | .36 | 60.5 | 67.8 | .0008 | 705817_FT |
| MEAN | 9223.7 | 13994 | -.7031 | .0271 | 1.02 | .3 | 1.02 | .0 | | | 74.5 | 75.3 | | |
| P.SD | 6169.1 | 8768.6 | .9773 | .0132 | .12 | 7.1 | .26 | 7.2 | | | 8.4 | 6.8 | | |

## Grade 11 Science

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | SCIE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16359 | 21095 | -1.0819A | .0170 | .81 | -9.9 | .73 | -9.9 | .47 | .35 | 81.5 | 76.2 | -.2238 | 635182_OP |
| 2 | 13821 | 21104 | -.6264A | .0159 | 1.07 | 9.5 | 1.09 | 8.1 | .32 | .37 | 69.5 | 71.7 | .0337 | 635189_OP |
| 3 | 12496 | 21095 | -.3517A | .0155 | .93 | -9.9 | .90 | -9.9 | .47 | .38 | 72.9 | 69.6 | .0814 | 635192_OP |
| 4 | 13322 | 21104 | -.4714A | .0157 | 1.10 | 9.9 | 1.17 | 9.9 | .28 | .38 | 67.1 | 70.4 | .0022 | 635218_OP |
| 5 | 15616 | 21104 | -.4173A | .0156 | .93 | -9.9 | .88 | -9.9 | .34 | .38 | 72.0 | 70.0 | -.6697 | 635234_OP |
| 6 | 12492 | 21095 | -.3411A | .0155 | 1.09 | 9.9 | 1.16 | 9.9 | .30 | .38 | 66.0 | 69.5 | .0717 | 635245_OP |
| 7 | 14828 | 21104 | -.9370A | .0166 | 1.02 | 2.9 | .96 | -3.1 | .38 | .36 | 72.4 | 74.7 | .0836 | 635265_OP |
| 8 | 15394 | 21095 | -1.0682A | .0170 | .91 | -9.9 | .84 | -9.9 | .47 | .35 | 78.0 | 76.1 | .0572 | 635279_OP |
| 9 | 10285 | 21104 | .2981A | .0152 | .95 | -9.3 | .95 | -6.7 | .43 | .38 | 70.7 | 67.9 | -.0531 | 635280_OP |
| 10 | 14628 | 21104 | -.8644A | .0164 | 1.04 | 5.7 | 1.07 | 5.5 | .34 | .36 | 72.9 | 73.9 | .0641 | 635288_OP |
| 11 | 16775 | 21104 | -1.4715A | .0185 | .92 | -8.2 | .85 | -8.7 | .44 | .33 | 81.5 | 80.7 | .0386 | 635499_OP |
| 12 | 15148 | 21095 | -1.2431A | .0176 | 1.07 | 7.9 | 1.04 | 2.2 | .43 | .34 | 74.9 | 78.1 | .3044 | 635502_OP |
| 13 | 15229 | 21095 | -.9152A | .0166 | .86 | -9.9 | .78 | -9.9 | .49 | .36 | 78.2 | 74.5 | -.0513 | 635503_OP |
| 14 | 14255 | 21095 | -.5605A | .0158 | .99 | -1.4 | .98 | -2.3 | .35 | .38 | 71.4 | 71.1 | -.1460 | 635506_OP |
| 15 | 8570 | 21095 | .6808A | .0155 | 1.07 | 9.9 | 1.13 | 9.9 | .30 | .37 | 67.1 | 69.4 | -.0348 | 635517_OP |
| 16 | 12701 | 21104 | -.3644A | .0155 | 1.07 | 9.9 | 1.07 | 6.8 | .32 | .38 | 66.3 | 69.7 | .0457 | 635520_OP |
| 17 | 14005 | 21095 | -.8363A | .0164 | 1.02 | 2.0 | .99 | -.5 | .42 | .37 | 72.5 | 73.7 | .1981 | 635528_OP |
| 18 | 11096 | 21095 | .4271A | .0153 | .98 | -2.8 | .99 | -1.0 | .43 | .38 | 69.2 | 68.2 | -.3667 | 635540_OP |
| 19 | 16134 | 21095 | -1.0500A | .0169 | .88 | -9.9 | .86 | -9.9 | .41 | .35 | 79.8 | 75.9 | -.1843 | 635550_OP |
| 20 | 12361 | 21095 | -.5281A | .0158 | .98 | -3.5 | .96 | -4.2 | .47 | .38 | 71.0 | 70.9 | .2910 | 635565_OP |
| 21 | 11189 | 21104 | .0220A | .0152 | 1.10 | 9.9 | 1.13 | 9.9 | .29 | .39 | 63.1 | 68.0 | .0137 | 636040_OP |
| 22 | 15129 | 21104 | -.7527A | .0162 | .94 | -9.2 | .87 | -9.9 | .38 | .37 | 74.5 | 72.8 | -.1873 | 636041_OP |
| 23 | 17933 | 21104 | -1.8220A | .0202 | .88 | -9.9 | .76 | -9.9 | .41 | .30 | 85.7 | 84.6 | -.0434 | 636045_OP |
| 24 | 13435 | 21095 | -.6570A | .0160 | 1.02 | 3.0 | .98 | -1.7 | .40 | .37 | 69.8 | 72.0 | .1607 | 647169_OP |
| 25 | 8581 | 21095 | .3740A | .0152 | .99 | -1.6 | 1.00 | -.2 | .37 | .38 | 68.6 | 68.0 | .2669 | 647170_OP |
| 26 | 15393 | 21104 | -.7358A | .0161 | .81 | -9.9 | .73 | -9.9 | .50 | .37 | 80.0 | 72.7 | -.2801 | 647183_OP |
| 27 | 10179 | 21095 | -.6040A | .0159 | 1.37 | 9.9 | 1.54 | 9.9 | .27 | .37 | 57.8 | 71.5 | .8733 | 647192_OP |
| 28 | 17649 | 21095 | -1.8896A | .0206 | 1.05 | 4.2 | .98 | -1.0 | .34 | .29 | 84.1 | 85.4 | .1413 | 647212_OP |
| 29 | 11272 | 21095 | -.1764A | .0153 | 1.15 | 9.9 | 1.18 | 9.9 | .26 | .38 | 61.5 | 68.7 | .1926 | 647214_OP |
| 30 | 16591 | 21104 | -1.2843A | .0177 | .84 | -9.9 | .74 | -9.9 | .47 | .34 | 82.0 | 78.5 | -.0909 | 647215_OP |
| 31 | 16988 | 21104 | -1.4405A | .0183 | .93 | -7.6 | .89 | -6.4 | .37 | .33 | 82.0 | 80.3 | -.0676 | 661329_OP |
| 32 | 11796 | 21104 | .1513A | .0152 | 1.04 | 6.7 | 1.05 | 5.8 | .35 | .38 | 66.4 | 67.8 | -.2557 | 661333_OP |
| 33 | 15806 | 21104 | -1.1259A | .0172 | 1.05 | 5.3 | 1.23 | 9.9 | .29 | .35 | 76.8 | 76.7 | -.0040 | 661334_OP |
| 34 | 14207 | 21104 | -.7366A | .0161 | 1.05 | 6.3 | 1.05 | 4.1 | .34 | .37 | 71.2 | 72.7 | .0459 | 661346_OP |
| 35 | 12054 | 21104 | -.1547A | .0153 | 1.07 | 9.9 | 1.08 | 8.8 | .31 | .38 | 65.3 | 68.6 | -.0110 | 661349_OP |
| 36 | 17843 | 21104 | -1.4434A | .0183 | .71 | -9.9 | .59 | -9.9 | .46 | .33 | 86.8 | 80.4 | -.3976 | 661351_OP |
| 37 | 13751 | 21104 | -.6629A | .0160 | 1.06 | 9.0 | 1.15 | 9.9 | .33 | .37 | 70.4 | 72.0 | .0883 | 661354_OP |
| 38 | 12040 | 21095 | -.1560A | .0153 | .95 | -8.6 | .92 | -9.3 | .43 | .38 | 70.1 | 68.6 | -.0070 | 661357_OP |
| 39 | 18630 | 21104 | -2.0909A | .0218 | .90 | -7.4 | .83 | -6.8 | .33 | .28 | 88.4 | 87.4 | -.0951 | 661361_OP |
| 40 | 11977 | 21104 | -.1015A | .0153 | 1.02 | 3.6 | 1.02 | 2.2 | .35 | .39 | 67.3 | 68.3 | -.0462 | 661363_OP |
| 41 | 13887 | 21104 | -.5432A | .0158 | .84 | -9.9 | .78 | -9.9 | .53 | .38 | 77.7 | 71.0 | -.0672 | 690278_OP |
| 42 | 14957 | 21104 | -.9251A | .0166 | 1.01 | 1.6 | 1.07 | 5.0 | .36 | .36 | 75.1 | 74.6 | .0361 | 690279_OP |
| 43 | 11646 | 21104 | -.2284A | .0154 | 1.14 | 9.9 | 1.14 | 9.9 | .26 | .38 | 62.0 | 68.9 | .1584 | 690281_OP |
| 44 | 13882 | 21095 | -.5928A | .0159 | .95 | -7.6 | .89 | -9.9 | .42 | .37 | 72.3 | 71.4 | -.0167 | 690284_OP |
| 45 | 14744 | 21104 | -.7646A | .0162 | 1.01 | 1.8 | 1.04 | 3.6 | .33 | .37 | 73.2 | 72.9 | -.0686 | 690291_OP |
| 46 | 13123 | 21104 | -.5065A | .0157 | 1.03 | 4.0 | 1.01 | .7 | .37 | .38 | 68.6 | 70.7 | .0865 | 690292_OP |
| 47 | 17526 | 21095 | -1.7011A | .0195 | .94 | -5.5 | .83 | -8.7 | .38 | .31 | 84.2 | 83.3 | -.0030 | 690295_OP |
| 48 | 10117 | 21095 | .4718A | .0153 | 1.01 | 2.5 | 1.05 | 6.0 | .37 | .38 | 68.9 | 68.3 | -.1867 | 690297_OP |
| 49 | 12223 | 21095 | -.3219A | .0155 | 1.04 | 6.1 | 1.03 | 3.2 | .36 | .38 | 67.7 | 69.4 | .1163 | 690299_OP |
| 50 | 17477 | 21095 | -1.5942A | .0190 | .85 | -9.9 | .71 | -9.9 | .44 | .32 | 84.2 | 82.1 | -.0938 | 690302_OP |
| 51 | 17687 | 21095 | -1.8212A | .0202 | .96 | -3.4 | .87 | -6.0 | .39 | .30 | 84.4 | 84.6 | .0560 | 690303_OP |
| 52 | 13859 | 21104 | -.6339A | .0159 | .90 | -9.9 | .87 | -9.9 | .49 | .37 | 75.8 | 71.7 | .0316 | 690304_OP |
| 53 | 13039 | 21095 | -.4473A | .0156 | 1.09 | 9.9 | 1.13 | 9.9 | .30 | .38 | 67.0 | 70.3 | .0467 | 690308_OP |
| 54 | 16116 | 21095 | -1.2680A | .0177 | .96 | -4.1 | .94 | -3.8 | .41 | .34 | 78.7 | 78.3 | .0445 | 690310_OP |
| 55 | 13152 | 21104 | -.2452A | .0154 | .92 | -9.9 | .91 | -9.9 | .44 | .38 | 72.8 | 69.0 | -.1835 | 690312_OP |
| 56 | 16030 | 21104 | -1.1006A | .0171 | .90 | -9.9 | .82 | -9.9 | .42 | .35 | 79.0 | 76.5 | -.0984 | 690315_OP |
| 57 | 17769 | 21095 | -1.4817A | .0185 | .78 | -9.9 | .66 | -9.9 | .41 | .33 | 85.6 | 80.8 | -.3288 | 690319_OP |
| 58 | 15990 | 21095 | -1.3685A | .0180 | 1.02 | 2.0 | 1.04 | 2.1 | .42 | .33 | 78.1 | 79.5 | .1858 | 690322_OP |
| 59 | 8204 | 21095 | .7437A | .0156 | 1.07 | 9.9 | 1.17 | 9.9 | .27 | .37 | 69.4 | 69.8 | -.0101 | 690324_OP |
| 60 | 13792 | 21095 | -.6511A | .0160 | 1.07 | 9.9 | 1.07 | 6.2 | .32 | .37 | 68.6 | 71.9 | .0652 | 690331_OP |
| 61 | 3556 | 4794 | -1.2392 | .0359 | .93 | -4.4 | .82 | -5.9 | .45 | .36 | 77.3 | 76.2 | -.0003 | 705818_FT |
| 62 | 2467 | 5029 | .0805 | .0314 | 1.06 | 4.7 | 1.08 | 4.4 | .34 | .40 | 66.6 | 68.7 | .0001 | 705819_FT |
| 63 | 1265 | 3874 | 1.0918 | .0375 | 1.10 | 5.8 | 1.29 | 9.9 | .21 | .35 | 71.6 | 72.5 | .0006 | 705820_FT |
| 64 | 3437 | 4024 | -1.8704 | .0473 | .91 | -3.0 | .80 | -3.9 | .39 | .29 | 86.2 | 85.5 | -.0001 | 705821_FT |
| 65 | 2894 | 4327 | -.6181 | .0352 | 1.08 | 5.4 | 1.18 | 6.8 | .27 | .37 | 69.7 | 71.9 | .0001 | 705822_FT |
| 66 | 2482 | 4082 | -.2923 | .0352 | 1.07 | 5.3 | 1.10 | 4.8 | .30 | .38 | 65.9 | 69.4 | .0002 | 705823_FT |
| 67 | 3053 | 4736 | -.6939 | .0335 | 1.07 | 5.0 | 1.15 | 6.1 | .32 | .39 | 69.7 | 71.3 | -.0002 | 705824_FT |
| 68 | 1623 | 5260 | 1.0405 | .0330 | 1.28 | 9.9 | 1.53 | 9.9 | .10 | .37 | 66.2 | 74.0 | .0005 | 705825_FT |

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE | MODEL S.E. | INFIT MNSQ | INFIT ZSTD | OUTFIT MNSQ | OUTFIT ZSTD | PTBISERL-EX CORR. | PTBISERL-EX EXP. | EXACT MATCH OBS% | EXACT MATCH EXP% | DISPLACE | SCIE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 69 | 2884 | 3439 | -1.7154 | .0492 | .93 | -2.5 | .92 | -1.4 | .38 | .30 | 84.9 | 84.1 | -.0001 | 705826_FT |
| 70 | 1655 | 4568 | .8878 | .0338 | 1.09 | 6.5 | 1.21 | 9.6 | .24 | .36 | 69.1 | 70.6 | .0005 | 705827_FT |
| 71 | 2953 | 4163 | -.8297 | .0370 | .98 | -1.3 | .95 | -1.8 | .38 | .35 | 74.8 | 74.1 | .0000 | 705828_FT |
| 72 | 2685 | 4013 | -.6088 | .0366 | 1.05 | 2.9 | 1.06 | 2.5 | .32 | .37 | 69.8 | 71.8 | .0000 | 705829_FT |
| 73 | 1953 | 4103 | .3585 | .0344 | 1.14 | 9.9 | 1.21 | 9.9 | .23 | .38 | 61.8 | 67.7 | .0004 | 705831_FT |
| 74 | 879 | 4914 | 1.8878 | .0404 | .97 | -1.5 | 1.34 | 7.2 | .28 | .31 | 84.5 | 83.2 | .0006 | 705832_FT |
| 75 | 2163 | 4041 | .0565 | .0348 | 1.04 | 3.1 | 1.05 | 2.6 | .34 | .38 | 66.2 | 68.0 | .0002 | 705833_FT |
| 76 | 3179 | 4136 | -1.2045 | .0397 | .93 | -3.7 | .87 | -3.8 | .42 | .34 | 79.9 | 78.2 | -.0001 | 705834_FT |
| 77 | 3410 | 4011 | -1.8153 | .0468 | .99 | -.4 | 1.10 | 1.8 | .29 | .29 | 85.3 | 85.1 | -.0001 | 705837_FT |
| 78 | 3315 | 5338 | -.5619 | .0312 | 1.07 | 5.6 | 1.08 | 3.9 | .32 | .39 | 67.2 | 70.4 | -.0001 | 705838_FT |
| 79 | 1374 | 4817 | 1.1562 | .0351 | 1.21 | 9.9 | 1.53 | 9.9 | .13 | .36 | 72.0 | 75.3 | .0005 | 705839_FT |
| 80 | 1017 | 3988 | 1.5125 | .0395 | 1.02 | 1.0 | 1.11 | 3.3 | .29 | .33 | 76.8 | 76.9 | .0007 | 705840_FT |
| 81 | 2693 | 4481 | -.4930 | .0338 | .97 | -1.9 | .94 | -2.7 | .42 | .40 | 70.3 | 69.9 | -.0001 | 705841_FT |
| 82 | 2404 | 3981 | -.2896 | .0355 | 1.18 | 9.9 | 1.21 | 9.3 | .18 | .37 | 61.1 | 69.1 | .0001 | 705842_FT |
| 83 | 3225 | 4405 | -.9739 | .0369 | .96 | -2.2 | .95 | -1.6 | .39 | .35 | 77.2 | 75.6 | .0000 | 705843_FT |
| 84 | 1273 | 4538 | 1.3392 | .0360 | 1.11 | 6.4 | 1.31 | 9.9 | .19 | .34 | 73.3 | 75.2 | .0006 | 705844_FT |
| 85 | 3092 | 4016 | -1.2152 | .0404 | 1.00 | .0 | 1.00 | .1 | .34 | .34 | 78.6 | 78.2 | -.0001 | 705845_FT |
| 86 | 3560 | 4524 | -1.3205 | .0390 | .95 | -2.3 | 1.00 | -.1 | .38 | .33 | 81.0 | 79.6 | -.0001 | 705846_FT |
| 87 | 1152 | 3749 | 1.1892 | .0386 | 1.14 | 7.7 | 1.24 | 8.2 | .21 | .34 | 68.8 | 73.3 | .0006 | 705847_FT |
| 88 | 1326 | 3822 | 1.0035 | .0372 | 1.16 | 9.8 | 1.27 | 9.9 | .19 | .35 | 66.3 | 71.2 | .0006 | 705848_FT |
| 89 | 2440 | 3989 | -.3347 | .0356 | 1.13 | 8.9 | 1.17 | 7.6 | .24 | .37 | 64.2 | 69.4 | .0001 | 705849_FT |
| 90 | 1255 | 4061 | 1.1939 | .0372 | 1.13 | 7.2 | 1.37 | 9.9 | .17 | .35 | 72.3 | 73.6 | .0006 | 705850_FT |
| 91 | 813 | 4757 | 1.9324 | .0416 | 1.07 | 2.9 | 1.40 | 8.1 | .21 | .31 | 83.1 | 83.8 | .0006 | 705851_FT |
| 92 | 3886 | 4391 | -2.1443 | .0495 | 1.11 | 3.1 | 1.70 | 9.5 | .08 | .26 | 88.6 | 88.5 | .0000 | 705854_FT |
| 93 | 3303 | 4776 | -.9532 | .0344 | 1.02 | 1.6 | 1.22 | 7.5 | .35 | .38 | 74.9 | 73.4 | -.0002 | 705855_FT |
| 94 | 2202 | 3655 | -.2799 | .0371 | 1.01 | .5 | 1.00 | .0 | .37 | .38 | 68.1 | 69.1 | .0002 | 705856_FT |
| 95 | 2352 | 3387 | -.7360 | .0406 | .99 | -.7 | .98 | -.6 | .37 | .36 | 74.4 | 73.2 | .0000 | 705857_FT |
| 96 | 1294 | 3878 | 1.0309 | .0372 | 1.17 | 9.9 | 1.31 | 9.9 | .16 | .35 | 67.3 | 71.9 | .0006 | 705858_FT |
| 97 | 1357 | 3839 | .9721 | .0370 | 1.14 | 8.6 | 1.23 | 9.3 | .22 | .35 | 66.2 | 70.9 | .0006 | 705859_FT |
| 98 | 1844 | 3866 | .3264 | .0354 | 1.08 | 5.9 | 1.10 | 5.5 | .28 | .37 | 64.6 | 67.4 | .0003 | 705860_FT |
| 99 | 1148 | 4047 | 1.3045 | .0380 | 1.12 | 6.4 | 1.33 | 9.9 | .18 | .34 | 73.9 | 74.9 | .0006 | 705861_FT |
| 100 | 2713 | 4599 | -.1871 | .0329 | 1.28 | 9.9 | 1.42 | 9.9 | .10 | .38 | 57.9 | 68.9 | .0002 | 705863_FT |
| 101 | 1854 | 3938 | .3849 | .0351 | 1.08 | 6.2 | 1.12 | 6.3 | .28 | .37 | 63.4 | 67.6 | .0004 | 705864_FT |
| 102 | 2694 | 3985 | -.6598 | .0370 | 1.01 | .6 | 1.03 | 1.1 | .36 | .37 | 72.4 | 72.5 | .0000 | 705865_FT |
| 103 | 3526 | 4436 | -1.3803 | .0399 | .89 | -5.2 | .79 | -5.7 | .45 | .33 | 82.0 | 80.3 | -.0001 | 705868_FT |
| 104 | 1780 | 4055 | .5128 | .0347 | 1.10 | 7.2 | 1.16 | 8.2 | .25 | .37 | 64.2 | 67.9 | .0004 | 705870_FT |
| 105 | 1583 | 4067 | .7727 | .0353 | 1.28 | 9.9 | 1.49 | 9.9 | .06 | .36 | 60.2 | 69.3 | .0005 | 705871_FT |
| 106 | 1080 | 4070 | 1.4426 | .0386 | 1.18 | 8.8 | 1.42 | 9.9 | .13 | .33 | 73.2 | 76.2 | .0007 | 705872_FT |
| 107 | 1695 | 4084 | .6518 | .0349 | 1.22 | 9.9 | 1.35 | 9.9 | .12 | .37 | 61.0 | 68.8 | .0005 | 705873_FT |
| 108 | 387 | 3825 | 2.7818 | .0566 | 1.13 | 3.1 | 2.29 | 9.9 | .02 | .23 | 89.7 | 90.1 | .0005 | 705874_FT |
| 109 | 2881 | 4056 | -.8260 | .0377 | .98 | -1.4 | .90 | -3.2 | .39 | .36 | 74.0 | 74.2 | .0000 | 705875_FT |
| 110 | 2896 | 4061 | -.8565 | .0377 | .85 | -9.3 | .77 | -8.5 | .53 | .36 | 79.3 | 74.6 | .0000 | 705876_FT |
| MEAN | 8683.0 | 13427 | -.3743 | .0262 | 1.02 | 1.3 | 1.06 | 1.5 | | | 73.1 | 74.0 | | |
| P.SD | 6196.4 | 8409.8 | .9688 | .0111 | .11 | 7.1 | .24 | 7.4 | | | 7.4 | 5.4 | | |

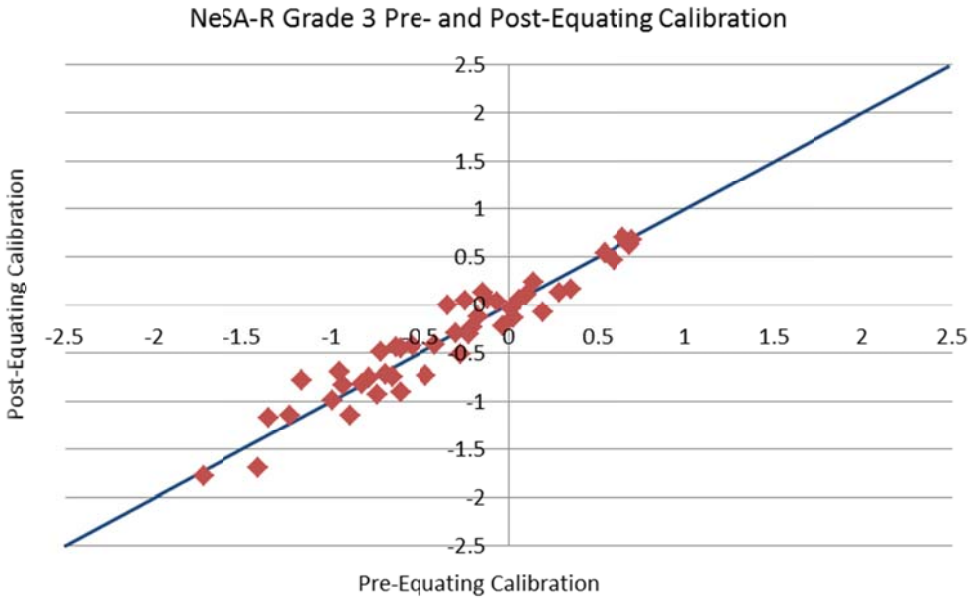
# Appendix N: Reading Pre- and Post-Equating Summary

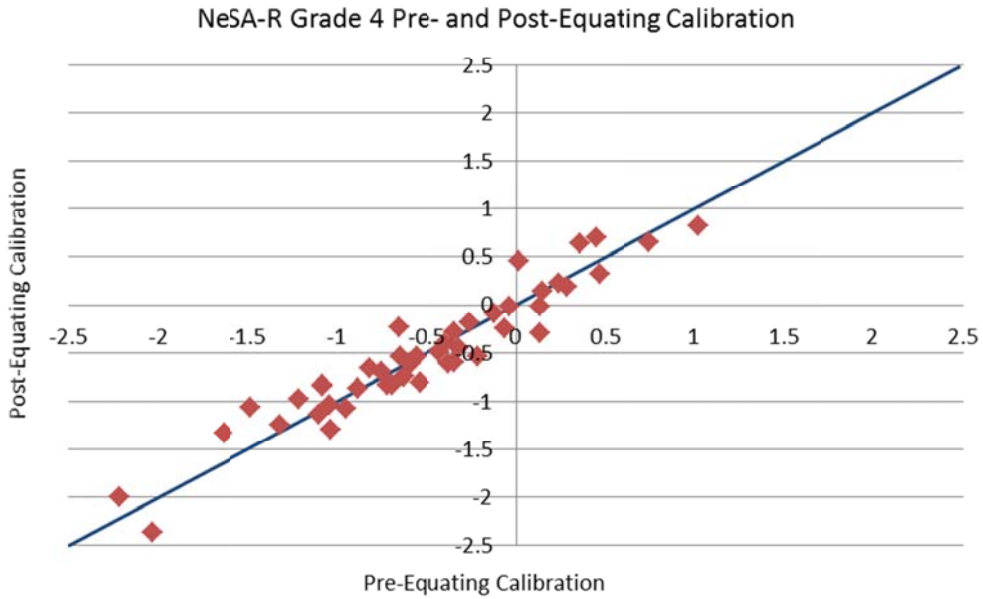
The Pre- values were taken from the calibrated item and used to create the Raw-to-Scale Conversion Tables. The Post- values were taken directly from unanchored calibration runs.

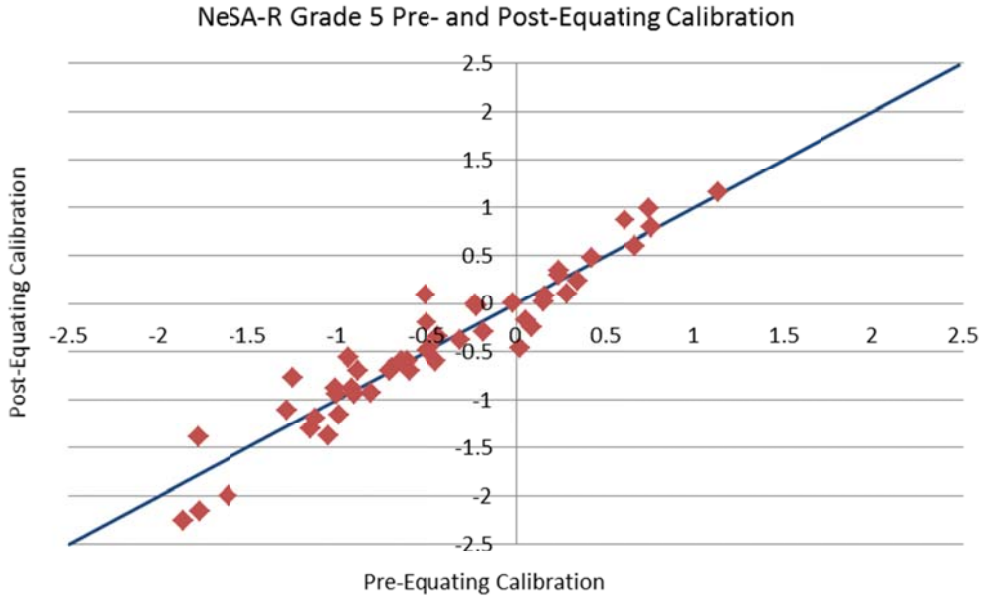
| | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 1 | -0.55 | -0.44 | -0.61 | 0.24 | 0.23 | 0.02 | -0.69 | -0.68 | -0.01 | -1.76 | -1.52 | -1.69 | -1.15 | -1.14 | -0.02 | -0.48 | -0.78 | 1.28 | -0.77 | -0.53 | -1.01 |
| 2 | -0.15 | 0.12 | -1.52 | -0.82 | -0.66 | -0.80 | -0.51 | 0.09 | -3.18 | -0.69 | -0.39 | -2.15 | -0.49 | -0.48 | 0.00 | -0.85 | -0.84 | 0.01 | -0.39 | -0.45 | 0.30 |
| 3 | 0.59 | 0.47 | 0.69 | -0.40 | -0.40 | -0.02 | -0.94 | -0.56 | -1.98 | -0.90 | -0.63 | -1.89 | -0.39 | -0.02 | -3.06 | -1.86 | -1.55 | -1.26 | -0.37 | -0.50 | 0.64 |
| 4 | 0.03 | -0.13 | 0.92 | -2.22 | -1.99 | -1.15 | -0.60 | -0.70 | 0.59 | -2.30 | -2.28 | -0.17 | -0.85 | -0.78 | -0.48 | -0.68 | -0.67 | 0.02 | -0.22 | -0.15 | -0.25 |
| 5 | -0.79 | -0.76 | -0.18 | -1.48 | -1.06 | -2.09 | -0.48 | -0.47 | 0.00 | -1.75 | -1.38 | -2.61 | -0.47 | -0.46 | 0.00 | -0.13 | -0.13 | 0.05 | 0.13 | -0.06 | 0.89 |
| 6 | -1.35 | -1.18 | -0.98 | 0.13 | -0.29 | 2.04 | -0.50 | -0.20 | -1.58 | -0.56 | -0.56 | -0.01 | -0.46 | -0.57 | 0.97 | 0.09 | 0.33 | -0.96 | -1.69 | -1.54 | -0.66 |
| 7 | -0.41 | -0.42 | 0.06 | 0.45 | 0.70 | -1.26 | 0.02 | -0.47 | 2.73 | -0.23 | -0.24 | 0.02 | 0.19 | 0.05 | 1.24 | -0.65 | -0.45 | -0.80 | -2.60 | -2.50 | -0.42 |
| 8 | -1.41 | -1.69 | 1.61 | -0.89 | -0.87 | -0.13 | -1.78 | -1.39 | -2.03 | -0.06 | -0.07 | 0.03 | -0.19 | 0.17 | -2.88 | -0.18 | 0.06 | -0.96 | -1.21 | -1.15 | -0.21 |
| 9 | -0.75 | -0.93 | 1.06 | 0.35 | 0.64 | -1.42 | -1.28 | -1.11 | -0.86 | -1.87 | -1.89 | 0.07 | -0.25 | -0.11 | -1.08 | -1.01 | -1.01 | 0.00 | -2.05 | -1.71 | -1.52 |
| 10 | -0.70 | -0.72 | 0.13 | -1.05 | -1.04 | -0.06 | -0.50 | -0.49 | 0.00 | -0.87 | -0.87 | -0.04 | -0.92 | -0.73 | -1.49 | -0.98 | -0.81 | -0.66 | -1.61 | -1.29 | -1.40 |
| 11 | 0.64 | 0.70 | -0.30 | -0.95 | -1.07 | 0.56 | -0.02 | 0.00 | -0.05 | -0.41 | -0.21 | -1.42 | -0.73 | -0.66 | -0.49 | -1.15 | -0.99 | -0.63 | -0.43 | -0.42 | -0.01 |
| 12 | -0.61 | -0.45 | -0.90 | -1.64 | -1.34 | -1.52 | -0.22 | -0.03 | -0.97 | -1.29 | -0.86 | -2.97 | -0.10 | 0.04 | -1.05 | 0.14 | 0.46 | -1.33 | -1.66 | -1.24 | -1.85 |
| 13 | 0.14 | 0.23 | -0.52 | 0.75 | 0.65 | 0.44 | -0.45 | -0.60 | 0.87 | -0.45 | -0.46 | 0.00 | -0.24 | -0.28 | 0.40 | -1.91 | -2.22 | 1.36 | -0.20 | 0.02 | -0.97 |
| 14 | -0.34 | -0.01 | -1.86 | -0.59 | -0.62 | 0.09 | 0.16 | 0.08 | 0.50 | -1.20 | -0.91 | -2.08 | -0.47 | -0.48 | 0.20 | -0.16 | -0.53 | 1.61 | 0.21 | 0.27 | -0.21 |
| 15 | -1.00 | -0.99 | -0.03 | 0.28 | 0.19 | 0.44 | 0.24 | 0.30 | -0.25 | 0.77 | 0.57 | 1.32 | 0.02 | 0.33 | -2.57 | -1.03 | -1.15 | 0.56 | -1.35 | -1.79 | 2.02 |
| 16 | -0.29 | -0.29 | 0.00 | -0.43 | -0.49 | 0.25 | 0.29 | 0.11 | 1.03 | 0.74 | 0.80 | -0.52 | 0.83 | 0.92 | -0.64 | -0.66 | -0.99 | 1.45 | -0.31 | -0.54 | 1.06 |
| 17 | -0.95 | -0.70 | -1.41 | 0.47 | 0.32 | 0.68 | 0.09 | -0.24 | 1.85 | -1.29 | -1.10 | -1.41 | -0.18 | 0.17 | -2.85 | -0.23 | -0.55 | 1.38 | -0.79 | -0.52 | -1.19 |
| 18 | -1.16 | -0.78 | -2.13 | -1.22 | -0.98 | -1.18 | 0.61 | 0.87 | -1.32 | -0.70 | -1.20 | 3.47 | -0.15 | -0.07 | -0.54 | -1.23 | -1.46 | 1.01 | -0.66 | -0.56 | -0.38 |
| 19 | -0.47 | -0.73 | 1.45 | -1.08 | -0.83 | -1.27 | -1.01 | -0.88 | -0.65 | -1.01 | -1.00 | -0.05 | 1.03 | 1.15 | -0.91 | -1.13 | -1.08 | -0.16 | -0.86 | -0.58 | -1.19 |
| 20 | 0.28 | 0.13 | 0.84 | -0.21 | -0.53 | 1.54 | 0.76 | 0.79 | -0.10 | 0.15 | 0.15 | -0.06 | -0.09 | -0.20 | 0.95 | -0.90 | -0.77 | -0.53 | 0.33 | 0.64 | -1.35 |
| 21 | -0.94 | -0.84 | -0.56 | -0.32 | -0.46 | 0.65 | -0.81 | -0.93 | 0.71 | -0.46 | -0.46 | 0.00 | -0.72 | -0.84 | 1.07 | -0.59 | -0.57 | -0.01 | -1.61 | -1.45 | -0.68 |
| 22 | 0.02 | -0.05 | 0.36 | -0.70 | -0.83 | 0.62 | -1.24 | -0.78 | -2.46 | -1.44 | -1.14 | -2.12 | -1.74 | -1.72 | -0.05 | -1.07 | -1.08 | 0.11 | -0.66 | -0.54 | -0.50 |
| 23 | 0.54 | 0.54 | 0.00 | -2.04 | -2.37 | 1.57 | 0.75 | 0.99 | -1.24 | -0.98 | -1.26 | 1.90 | 0.43 | 0.50 | -0.49 | -0.58 | -0.58 | 0.03 | 0.34 | 0.39 | -0.16 |

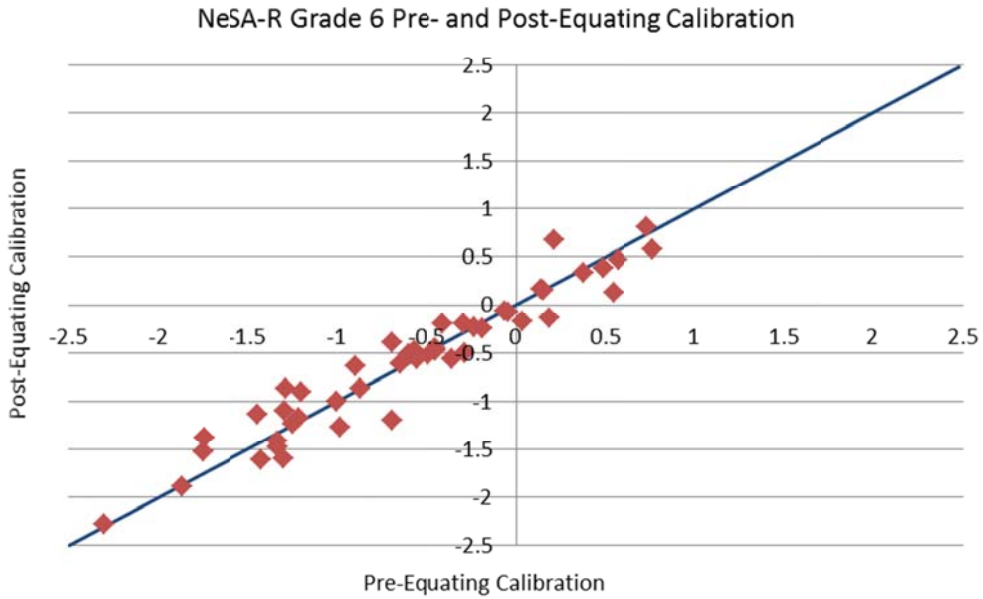
| | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 24 | -0.83 | -0.82 | -0.02 | -0.34 | -0.28 | -0.33 | -0.71 | -0.70 | 0.02 | -0.45 | -0.47 | 0.09 | 0.39 | 0.09 | 2.58 | 0.40 | 0.22 | 0.82 | -1.00 | -1.05 | 0.29 |
| 25 | 0.70 | 0.67 | 0.15 | 0.02 | 0.45 | -2.18 | -0.18 | -0.30 | 0.71 | -0.29 | -0.20 | -0.68 | -1.98 | -1.96 | -0.06 | 0.07 | 0.41 | -1.41 | -0.35 | -0.39 | 0.21 |
| 26 | 0.69 | 0.63 | 0.33 | -1.32 | -1.25 | -0.38 | -0.89 | -0.70 | -0.96 | -0.04 | -0.08 | 0.23 | -0.26 | -0.33 | 0.66 | -1.20 | -1.20 | 0.07 | -0.88 | -0.75 | -0.54 |
| 27 | -0.12 | 0.05 | -0.96 | -0.38 | -0.61 | 1.09 | -0.92 | -0.88 | -0.12 | 0.21 | 0.68 | -3.29 | -1.54 | -1.88 | 2.92 | 1.05 | 0.76 | 1.27 | -1.44 | -1.04 | -1.73 |
| 28 | -0.22 | -0.31 | 0.52 | 0.15 | 0.14 | 0.00 | -0.31 | -0.38 | 0.44 | -1.21 | -1.17 | -0.31 | -0.25 | -0.19 | -0.42 | -1.48 | -1.47 | 0.00 | 0.15 | -0.34 | 2.26 |
| 29 | -0.27 | -0.51 | 1.34 | -0.04 | -0.01 | -0.14 | 0.05 | -0.18 | 1.34 | -0.65 | -0.61 | -0.31 | -0.14 | -0.30 | 1.41 | 0.34 | 0.09 | 1.09 | -1.07 | -0.96 | -0.45 |
| 30 | -0.61 | -0.91 | 1.68 | -0.65 | -0.54 | -0.57 | -0.91 | -0.94 | 0.25 | 0.19 | -0.14 | 2.22 | -1.12 | -1.22 | 0.84 | 0.19 | 0.03 | 0.71 | -1.43 | -1.59 | 0.72 |
| 31 | -0.72 | -0.49 | -1.31 | -0.56 | -0.54 | -0.10 | -0.99 | -1.16 | 0.99 | -1.33 | -1.41 | 0.55 | -0.81 | -0.82 | 0.19 | 0.06 | 0.31 | -1.00 | -1.63 | -1.88 | 1.17 |
| 32 | 0.06 | 0.06 | 0.02 | -0.65 | -0.23 | -2.09 | -0.61 | -0.60 | 0.00 | 0.55 | 0.13 | 2.88 | -0.92 | -0.98 | 0.57 | 0.50 | 0.60 | -0.35 | -1.28 | -1.69 | 1.91 |
| 33 | 0.10 | 0.11 | -0.03 | 1.02 | 0.82 | 0.95 | 0.35 | 0.24 | 0.64 | -0.45 | -0.48 | 0.15 | -1.39 | -1.43 | 0.48 | -1.14 | -1.07 | -0.25 | -0.32 | -0.57 | 1.17 |
| 34 | -0.03 | -0.23 | 1.11 | -0.76 | -0.70 | -0.33 | 1.14 | 1.16 | -0.09 | -0.19 | -0.25 | 0.37 | -0.47 | -0.56 | 0.83 | -1.07 | -0.87 | -0.81 | 0.22 | -0.02 | 1.10 |
| 35 | -0.25 | 0.04 | -1.59 | -0.54 | -0.81 | 1.28 | -1.00 | -0.94 | -0.27 | -0.61 | -0.52 | -0.66 | -0.54 | -0.29 | -2.00 | -0.90 | -0.64 | -1.07 | -1.36 | -1.36 | 0.01 |
| 36 | 0.19 | -0.08 | 1.52 | 0.13 | -0.01 | 0.68 | 0.24 | 0.35 | -0.53 | -0.36 | -0.56 | 1.37 | -1.42 | -1.65 | 2.00 | -0.57 | -0.47 | -0.39 | 0.08 | -0.11 | 0.90 |
| 37 | -0.07 | 0.03 | -0.53 | -0.73 | -0.83 | 0.48 | -1.15 | -1.30 | 0.88 | -0.57 | -0.48 | -0.66 | 0.59 | 0.64 | -0.34 | -0.74 | -0.90 | 0.72 | -1.40 | -1.39 | 0.01 |
| 38 | -0.66 | -0.75 | 0.54 | -0.12 | -0.09 | -0.21 | -0.43 | -0.35 | -0.38 | 0.37 | 0.34 | 0.22 | -1.82 | -1.80 | -0.05 | 0.06 | 0.20 | -0.54 | -1.65 | -1.81 | 0.78 |
| 39 | -0.21 | -0.24 | 0.20 | -1.10 | -1.13 | 0.11 | -0.65 | -0.61 | -0.16 | -0.28 | -0.51 | 1.52 | -0.90 | -0.76 | -1.02 | -0.98 | -0.95 | -0.10 | -0.26 | -0.37 | 0.55 |
| 40 | 0.35 | 0.16 | 1.05 | -0.63 | -0.74 | 0.52 | -1.05 | -1.38 | 1.84 | 0.14 | 0.16 | -0.21 | -0.15 | -0.10 | -0.36 | -0.77 | -0.61 | -0.64 | -2.16 | -2.46 | 1.38 |
| 41 | -0.17 | -0.12 | -0.27 | -0.35 | -0.60 | 1.19 | -1.87 | -2.25 | 2.13 | -1.30 | -1.60 | 2.11 | -1.75 | -1.84 | 0.83 | -0.38 | -0.73 | 1.49 | -0.29 | 0.04 | -1.47 |
| 42 | -0.64 | -0.44 | -1.11 | -0.07 | -0.25 | 0.88 | -1.78 | -2.15 | 2.12 | 0.49 | 0.38 | 0.67 | -0.04 | -0.17 | 1.15 | -0.45 | -0.76 | 1.36 | -1.67 | -1.95 | 1.31 |
| 43 | -0.90 | -1.15 | 1.41 | -1.04 | -1.30 | 1.24 | 0.15 | 0.02 | 0.81 | -0.50 | -0.52 | 0.16 | -0.78 | -0.77 | 0.00 | -1.84 | -1.82 | -0.04 | -1.41 | -1.52 | 0.55 |
| 44 | -1.23 | -1.14 | -0.48 | -1.08 | -0.84 | -1.19 | -1.12 | -1.20 | 0.49 | -1.33 | -1.48 | 0.97 | -1.05 | -1.04 | -0.01 | 0.31 | 0.57 | -1.07 | -2.17 | -2.15 | -0.03 |
| 45 | -1.72 | -1.78 | 0.29 | -0.26 | -0.18 | -0.40 | 0.42 | 0.48 | -0.23 | -1.42 | -1.62 | 1.32 | 0.55 | 0.55 | 0.14 | -0.27 | -0.32 | 0.25 | -0.94 | -0.93 | 0.03 |
| 46 | | | | | | | -0.23 | -0.01 | -1.15 | 0.57 | 0.46 | 0.70 | 0.71 | 0.41 | 2.63 | -1.32 | -1.36 | 0.22 | 0.05 | -0.04 | 0.44 |
| 47 | | | | | | | -1.62 | -2.00 | 2.13 | 0.03 | -0.18 | 1.46 | -0.63 | -0.98 | 2.98 | -0.11 | -0.12 | 0.05 | 0.07 | 0.08 | 0.01 |
| 48 | | | | | | | 0.67 | 0.61 | 0.40 | -1.25 | -1.23 | -0.13 | -0.11 | -0.20 | 0.83 | -1.41 | -1.31 | -0.37 | -2.14 | -2.13 | -0.02 |
| 49 | | | | | | | | | | | | | | | | -1.17 | -1.10 | -0.27 | -0.16 | -0.23 | 0.33 |
| 50 | | | | | | | | | | | | | | | | -0.86 | -0.98 | 0.52 | -1.90 | -1.88 | -0.01 |
| Mean | -0.36 | -0.36 | | -0.50 | -0.50 | | -0.45 | -0.45 | | -0.59 | -0.59 | | -0.48 | -0.47 | | -0.62 | -0.62 | | -0.89 | -0.89 | |
| Shift | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Corr | 0.96 | | | 0.95 | | | 0.96 | | | 0.96 | | | 0.98 | | | 0.95 | | | 0.96 | | |

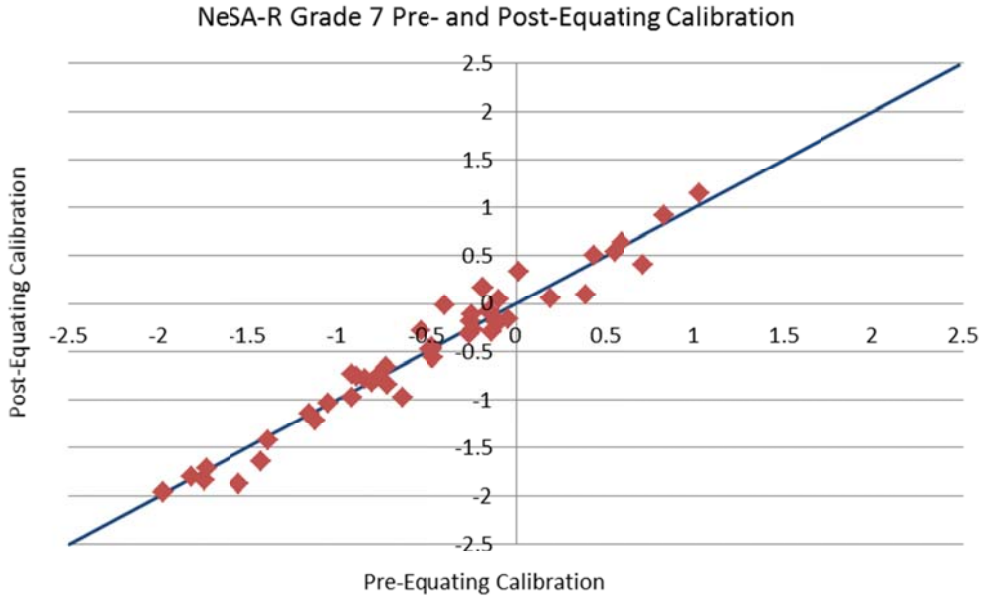
| | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| SD | 0.59 | 0.59 | | 0.69 | 0.67 | | 0.72 | 0.77 | | 0.73 | 0.70 | | 0.71 | 0.75 | | 0.65 | 0.67 | | 0.79 | 0.79 | |
| Ratio | 1.01 | | | 1.03 | | | 0.94 | | | 1.04 | | | 0.95 | | | 0.98 | | | 0.99 | | |

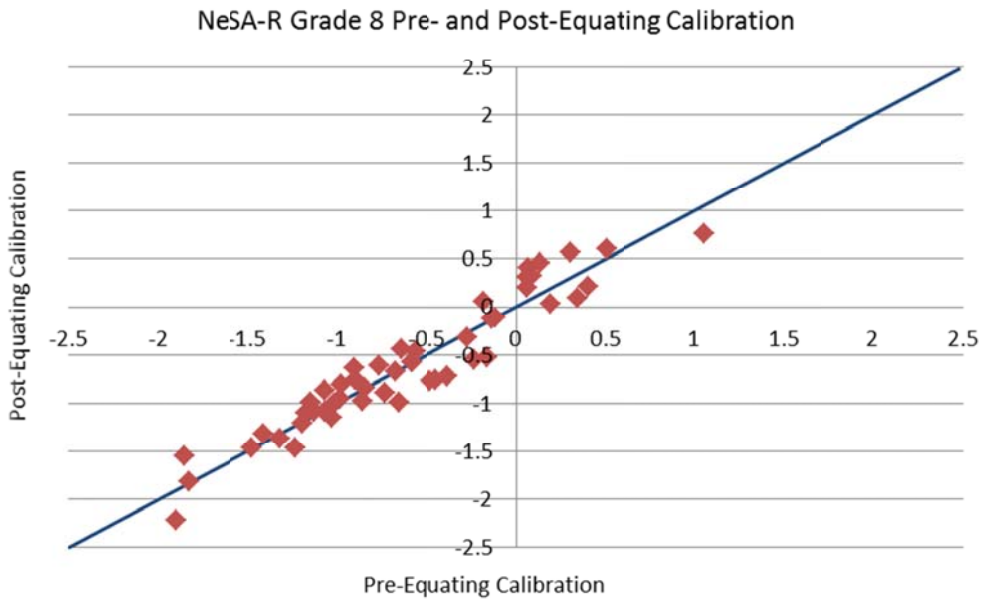


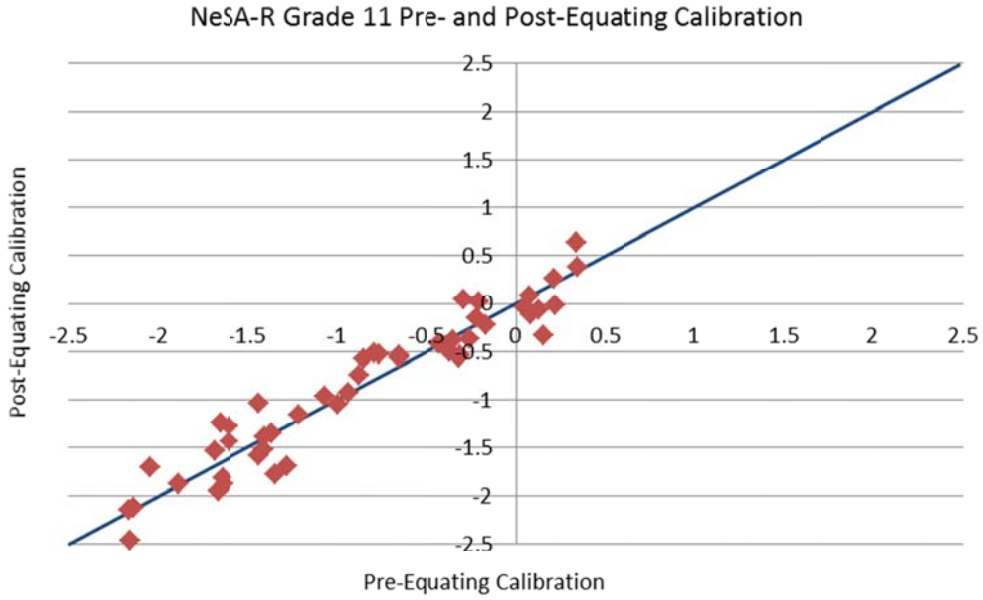

NeSA-R Grade 4 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5


NeSA-R Grade 5 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5


NeSA-R Grade 6 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5


NeSA-R Grade 7 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5


NeSA-R Grade 8 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5


NeSA-R Grade 11 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5

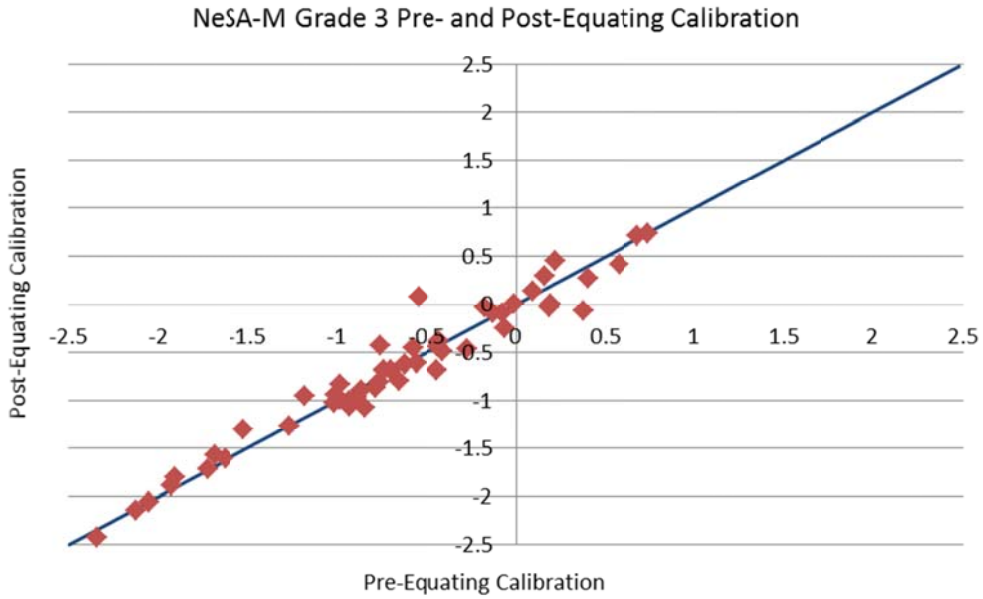
# Appendix O: Mathematics Pre- and Post-Equating Summary

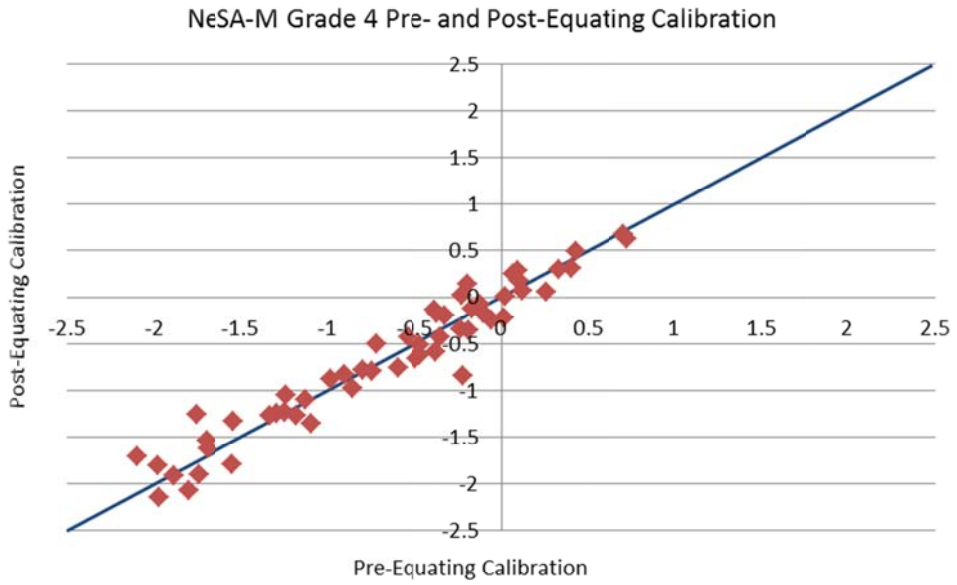
The Pre- values were taken from the calibrated item and used to create the Raw-to-Scale Conversion Tables. The Post- values were taken directly from unanchored calibration runs.

| | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 1 | -0.55 | 0.08 | -5.78 | 0.07 | 0.25 | -0.93 | -1.57 | -1.56 | -0.12 | -0.94 | -1.04 | 0.60 | -1.15 | -1.31 | 1.15 | -0.46 | -0.57 | 0.81 | -0.61 | -0.75 | 0.71 |
| 2 | -0.76 | -0.43 | -3.12 | -0.22 | -0.84 | 2.75 | -0.56 | 0.04 | -3.79 | -0.53 | -0.30 | -1.69 | -0.36 | -0.30 | -0.30 | -1.73 | -1.44 | -2.13 | -0.30 | -0.37 | 0.26 |
| 3 | -0.43 | -0.38 | -0.47 | -0.60 | -0.76 | 0.64 | -0.36 | -0.10 | -1.65 | -0.42 | -0.41 | -0.17 | -0.62 | -0.46 | -0.98 | -0.99 | -0.95 | -0.29 | -0.86 | -0.71 | -1.18 |
| 4 | -0.13 | -0.09 | -0.41 | -0.32 | -0.19 | -0.67 | -0.87 | -1.12 | 1.58 | -0.21 | 0.17 | -2.81 | -0.72 | -0.87 | 1.08 | -1.37 | -1.37 | -0.02 | -1.16 | -1.42 | 1.48 |
| 5 | -0.99 | -0.84 | -1.43 | -1.25 | -1.24 | -0.15 | -0.63 | -0.55 | -0.52 | -1.20 | -0.98 | -1.65 | -0.82 | -1.05 | 1.61 | -0.32 | -0.40 | 0.59 | -0.80 | -0.77 | -0.41 |
| 6 | -0.79 | -0.87 | 0.70 | -0.98 | -0.88 | -0.54 | -0.67 | -0.79 | 0.74 | -0.30 | -0.46 | 1.05 | -1.53 | -1.35 | -1.16 | -1.73 | -1.41 | -2.27 | -1.19 | -0.99 | -1.53 |
| 7 | -1.63 | -1.61 | -0.29 | -0.54 | -0.43 | -0.56 | -1.13 | -0.74 | -2.48 | -0.46 | -0.01 | -3.24 | -0.25 | -0.24 | -0.02 | -1.36 | -1.76 | 2.91 | -0.44 | -0.53 | 0.37 |
| 8 | -1.73 | -1.71 | -0.20 | -0.35 | -0.43 | 0.27 | -0.72 | -0.96 | 1.46 | -0.23 | -0.13 | -0.85 | -0.65 | -0.57 | -0.48 | -0.72 | -0.49 | -1.67 | -0.72 | -0.70 | -0.29 |
| 9 | 0.20 | 0.01 | 1.67 | -0.37 | -0.18 | -0.96 | -2.36 | -2.33 | -0.21 | -1.02 | -1.18 | 0.96 | -0.67 | -1.00 | 2.27 | -1.19 | -1.43 | 1.70 | -1.00 | -1.03 | 0.01 |
| 10 | -1.91 | -1.81 | -1.00 | -1.76 | -1.26 | -2.35 | -1.44 | -1.39 | -0.29 | -0.17 | -0.15 | -0.27 | 0.10 | 0.19 | -0.55 | -1.56 | -1.20 | -2.57 | -1.04 | -1.39 | 2.06 |
| 11 | -0.07 | -0.24 | 1.60 | -0.05 | -0.25 | 0.78 | -0.79 | -0.72 | -0.48 | -1.22 | -1.11 | -0.89 | -0.81 | -1.05 | 1.65 | 0.04 | -0.78 | 5.97 | -0.80 | -0.96 | 0.84 |
| 12 | -1.52 | -1.31 | -1.97 | -1.69 | -1.62 | -0.42 | -0.61 | -0.58 | -0.19 | -0.44 | -0.23 | -1.56 | -0.30 | -0.23 | -0.45 | -0.66 | -1.11 | 3.28 | -1.25 | -1.30 | 0.12 |
| 13 | 0.18 | -0.03 | 1.87 | -1.81 | -2.07 | 1.09 | -0.67 | -0.68 | 0.08 | 0.16 | -0.04 | 1.24 | -0.27 | -0.13 | -0.89 | -0.76 | -0.90 | 0.98 | -1.26 | -1.14 | -0.95 |
| 14 | -0.77 | -0.80 | 0.28 | -1.98 | -2.15 | 0.69 | -0.16 | -0.29 | 0.78 | -0.95 | -1.79 | 5.70 | 0.48 | 0.56 | -0.43 | 0.23 | 0.26 | -0.22 | -0.56 | -0.50 | -0.55 |
| 15 | 0.40 | 0.28 | 1.09 | -1.54 | -1.34 | -1.01 | 0.54 | 0.30 | 1.54 | -0.86 | -0.38 | -3.48 | 0.60 | 0.78 | -1.16 | -1.23 | -1.09 | -1.02 | -0.52 | -0.55 | 0.03 |
| 16 | -0.41 | -0.49 | 0.72 | -1.71 | -1.54 | -0.84 | -0.09 | -0.56 | 2.88 | -2.27 | -1.85 | -3.09 | -0.56 | -0.50 | -0.40 | -0.70 | -0.74 | 0.22 | -0.50 | -0.59 | 0.43 |
| 17 | -0.65 | -0.80 | 1.26 | -0.37 | -0.59 | 0.91 | -1.10 | -0.99 | -0.69 | -0.74 | -0.86 | 0.67 | -0.04 | -0.16 | 0.88 | -1.21 | -1.05 | -1.15 | -2.09 | -1.77 | -2.23 |
| 18 | 0.38 | -0.07 | 4.08 | 0.26 | 0.06 | 0.80 | -0.15 | -0.27 | 0.68 | -0.52 | -0.82 | 1.93 | 0.16 | -0.21 | 2.50 | -1.67 | -1.67 | 0.00 | -1.80 | -1.89 | 0.38 |
| 19 | -0.08 | -0.09 | 0.08 | 0.10 | 0.18 | -0.44 | -0.93 | -0.96 | 0.22 | -1.51 | -1.66 | 0.91 | -0.17 | -0.14 | -0.14 | -0.54 | -0.64 | 0.72 | -1.32 | -0.87 | -3.11 |
| 20 | -0.44 | -0.69 | 2.21 | -0.23 | 0.02 | -1.23 | -0.17 | -0.13 | -0.26 | -0.38 | -0.05 | -2.45 | -1.96 | -1.68 | -1.83 | 0.14 | 0.02 | 0.87 | -1.19 | -1.12 | -0.63 |
| 21 | -0.62 | -0.63 | -0.01 | -2.11 | -1.71 | -1.89 | -0.94 | -1.00 | 0.31 | -0.21 | -0.33 | 0.70 | -0.93 | -0.87 | -0.33 | -1.17 | -1.33 | 1.14 | -0.42 | -0.56 | 0.69 |
| 22 | 0.16 | 0.29 | -1.28 | -0.80 | -0.79 | -0.15 | -0.94 | -0.98 | 0.26 | 0.76 | 0.70 | 0.30 | -0.76 | -0.99 | 1.60 | -2.06 | -1.69 | -2.71 | -0.79 | -1.13 | 2.02 |
| 23 | -0.56 | -0.61 | 0.41 | -0.86 | -0.97 | 0.43 | 0.06 | 0.09 | -0.21 | -1.54 | -1.71 | 1.04 | -0.40 | -0.36 | -0.24 | -0.77 | -0.77 | 0.02 | -0.93 | -0.89 | -0.50 |
| 24 | -2.06 | -2.06 | -0.01 | -0.19 | -0.35 | 0.68 | -0.28 | -0.70 | 2.63 | 0.41 | 0.32 | 0.51 | -0.98 | -1.04 | 0.44 | -1.42 | -1.43 | 0.10 | -0.31 | -0.13 | -1.41 |
| 25 | -1.93 | -1.90 | -0.37 | 0.12 | 0.06 | 0.17 | -1.43 | -1.35 | -0.51 | -0.41 | -0.46 | 0.23 | -1.30 | -1.23 | -0.45 | -0.34 | -0.33 | -0.08 | -1.28 | -1.29 | -0.15 |
| 26 | -0.43 | -0.44 | 0.04 | 0.09 | 0.28 | -0.94 | 0.26 | 0.11 | 0.92 | -0.08 | -0.02 | -0.58 | -0.04 | 0.23 | -1.82 | -2.05 | -1.70 | -2.55 | -1.25 | -1.49 | 1.35 |

| | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 27 | -1.01 | -0.94 | -0.65 | -0.19 | 0.14 | -1.61 | -0.13 | -0.22 | 0.51 | -0.64 | -0.59 | -0.47 | -0.87 | -0.89 | 0.19 | -0.13 | 0.00 | -0.95 | -1.15 | -1.15 | -0.22 |
| 28 | -0.93 | -1.00 | 0.57 | -0.23 | -0.35 | 0.42 | -1.72 | -1.59 | -0.81 | -1.32 | -1.40 | 0.47 | -1.77 | -1.74 | -0.15 | -0.70 | -0.57 | -0.94 | -0.35 | -0.05 | -2.13 |
| 29 | -0.85 | -1.08 | 2.08 | -0.16 | -0.13 | -0.26 | -1.89 | -2.03 | 0.91 | -0.31 | -0.34 | 0.11 | -1.14 | -1.13 | 0.01 | -1.94 | -1.74 | -1.48 | 0.08 | 0.26 | -1.40 |
| 30 | -0.89 | -0.97 | 0.65 | -0.10 | -0.17 | 0.22 | -1.13 | -1.04 | -0.61 | -1.29 | -1.19 | -0.85 | -1.57 | -1.21 | -2.40 | -1.48 | -1.44 | -0.31 | -1.04 | -0.96 | -0.73 |
| 31 | -1.69 | -1.57 | -1.15 | -1.10 | -1.36 | 1.09 | -0.63 | -0.77 | 0.90 | -1.53 | -1.49 | -0.40 | -0.34 | -0.33 | 0.00 | 0.46 | 0.37 | 0.63 | -1.83 | -1.86 | -0.01 |
| 32 | -0.70 | -0.68 | -0.25 | 0.43 | 0.49 | -0.36 | 0.46 | 0.38 | 0.50 | 0.11 | 0.19 | -0.73 | -0.59 | -0.60 | 0.14 | -0.30 | -0.38 | 0.57 | -1.08 | -1.01 | -0.63 |
| 33 | -1.18 | -0.95 | -2.14 | -1.33 | -1.27 | -0.39 | 0.95 | 0.82 | 0.80 | -0.97 | -0.51 | -3.29 | -0.74 | -0.76 | 0.21 | -0.50 | -0.58 | 0.56 | -0.18 | -0.22 | 0.04 |
| 34 | 0.22 | 0.45 | -2.20 | 0.73 | 0.63 | 0.37 | -0.71 | -0.71 | 0.00 | -1.55 | -1.43 | -0.89 | -1.62 | -1.73 | 0.82 | -0.37 | -0.36 | -0.09 | -0.25 | -0.41 | 0.79 |
| 35 | 0.09 | 0.14 | -0.51 | 0.02 | 0.00 | 0.00 | -0.25 | -0.39 | 0.83 | -0.24 | -0.21 | -0.34 | -0.60 | -0.59 | -0.04 | 0.16 | 0.36 | -1.45 | -1.08 | -0.97 | -0.90 |
| 36 | -1.27 | -1.27 | 0.01 | -1.99 | -1.80 | -0.93 | -1.22 | -1.08 | -0.89 | -1.69 | -2.00 | 2.03 | -0.43 | -0.49 | 0.42 | -0.96 | -0.88 | -0.59 | -0.67 | -0.58 | -0.77 |
| 37 | -0.87 | -0.89 | 0.17 | 0.40 | 0.31 | 0.31 | 0.07 | 0.08 | -0.12 | -0.41 | -0.39 | -0.23 | -1.03 | -1.16 | 0.95 | -0.56 | -0.56 | 0.00 | -0.40 | -0.54 | 0.70 |
| 38 | -0.17 | -0.03 | -1.32 | -1.55 | -1.79 | 1.00 | -1.61 | -1.42 | -1.23 | 0.16 | 0.21 | -0.47 | -0.70 | -0.63 | -0.42 | 0.60 | 0.52 | 0.59 | -0.19 | -0.35 | 0.85 |
| 39 | -2.13 | -2.14 | 0.09 | -1.89 | -1.92 | 0.02 | -0.04 | -0.07 | 0.17 | -0.11 | -0.19 | 0.43 | 0.11 | 0.06 | 0.39 | -0.10 | -0.16 | 0.39 | -0.07 | 0.05 | -0.98 |
| 40 | -0.01 | 0.00 | -0.17 | 0.33 | 0.29 | 0.06 | -1.21 | -1.00 | -1.37 | 0.49 | 0.44 | 0.29 | -0.29 | -0.52 | 1.62 | 0.05 | -0.04 | 0.63 | 0.56 | 0.79 | -1.73 |
| 41 | 0.58 | 0.42 | 1.42 | -1.29 | -1.24 | -0.32 | 0.15 | 0.24 | -0.57 | -1.27 | -1.48 | 1.35 | -0.48 | -0.65 | 1.22 | 0.26 | 0.25 | 0.05 | 0.80 | 0.72 | 0.35 |
| 42 | -2.34 | -2.43 | 0.74 | -1.13 | -1.10 | -0.21 | -2.20 | -1.96 | -1.50 | -0.90 | -0.93 | 0.05 | -0.90 | -0.79 | -0.70 | -1.29 | -1.27 | -0.19 | 1.17 | 1.05 | 0.58 |
| 43 | -0.58 | -0.46 | -1.16 | -0.72 | -0.50 | -1.08 | 0.02 | -0.15 | 1.00 | -0.34 | -0.53 | 1.18 | -0.80 | -0.97 | 1.20 | -0.94 | -0.79 | -1.10 | -0.40 | -0.23 | -1.31 |
| 44 | -0.93 | -1.06 | 1.12 | -0.47 | -0.63 | 0.62 | -0.74 | -0.68 | -0.37 | -0.34 | -0.36 | 0.01 | -0.09 | 0.01 | -0.62 | -0.11 | 0.00 | -0.80 | -0.15 | 0.04 | -1.43 |
| 45 | -1.02 | -1.02 | -0.01 | -0.75 | -0.79 | 0.09 | -2.08 | -2.16 | 0.46 | -1.80 | -1.79 | -0.17 | -0.63 | -0.63 | 0.02 | 0.13 | 0.11 | 0.09 | -0.27 | -0.35 | 0.34 |
| 46 | 0.74 | 0.73 | 0.07 | -0.49 | -0.67 | 0.69 | -0.88 | -0.83 | -0.31 | -0.50 | -0.51 | -0.01 | -1.73 | -1.55 | -1.19 | -0.65 | -0.63 | -0.14 | -0.17 | -0.21 | 0.06 |
| 47 | 0.68 | 0.71 | -0.25 | -0.47 | -0.51 | 0.12 | -0.69 | -0.72 | 0.12 | 0.36 | 0.37 | -0.17 | 0.28 | 0.07 | 1.53 | -0.92 | -1.03 | 0.75 | -0.80 | -0.85 | 0.14 |
| 48 | -0.27 | -0.47 | 1.78 | -0.12 | -0.08 | -0.28 | -0.32 | -0.52 | 1.24 | -0.77 | -0.73 | -0.37 | 0.11 | 0.04 | 0.54 | -0.91 | -0.95 | 0.31 | -1.61 | -1.70 | 0.42 |
| 49 | -0.75 | -0.68 | -0.60 | -1.24 | -1.05 | -0.92 | -1.65 | -1.58 | -0.46 | -0.89 | -1.06 | 1.05 | 0.83 | 0.84 | 0.00 | -0.30 | -0.24 | -0.45 | 0.45 | 0.40 | 0.11 |
| 50 | -0.98 | -0.99 | 0.01 | -1.18 | -1.27 | 0.32 | -0.52 | -0.59 | 0.42 | -1.19 | -1.11 | -0.67 | -0.44 | -0.48 | 0.34 | 0.36 | 0.19 | 1.23 | 0.39 | 0.26 | 0.64 |
| 51 | | | | -0.91 | -0.83 | -0.44 | -0.82 | -0.84 | 0.11 | -0.14 | -0.22 | 0.40 | -1.21 | -1.13 | -0.45 | -0.34 | -0.31 | -0.23 | 0.11 | -0.02 | 0.67 |
| 52 | | | | 0.71 | 0.68 | 0.05 | -1.18 | -0.91 | -1.72 | -1.81 | -1.74 | -0.56 | -0.38 | -0.38 | 0.08 | -0.24 | -0.34 | 0.68 | -0.41 | -0.47 | 0.19 |
| 53 | | | | 0.01 | -0.23 | 1.00 | 0.49 | 0.38 | 0.72 | 0.55 | 0.44 | 0.63 | -0.11 | -0.16 | 0.36 | -1.12 | -1.03 | -0.67 | -0.71 | -0.76 | 0.10 |
| 54 | | | | -1.75 | -1.90 | 0.57 | -0.61 | -0.35 | -1.65 | -0.31 | -0.40 | 0.49 | -0.64 | -0.66 | 0.22 | -0.61 | -0.57 | -0.28 | -0.61 | -0.56 | -0.55 |
| 55 | | | | -0.38 | -0.14 | -1.19 | -0.61 | -0.42 | -1.24 | 0.08 | 0.04 | 0.21 | -1.23 | -1.35 | 0.86 | -0.52 | -0.57 | 0.37 | -0.44 | -0.46 | -0.06 |
| 56 | | | | | | | | | | -0.62 | -0.78 | 0.97 | -1.27 | -1.08 | -1.23 | -0.21 | -0.03 | -1.26 | 0.14 | -0.15 | 1.63 |

| | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 57 | | | | | | | | | | -0.72 | -0.77 | 0.19 | 0.00 | 0.11 | -0.64 | -1.07 | -1.07 | 0.02 | 0.13 | 0.26 | -1.02 |
| 58 | | | | | | | | | | -1.55 | -1.50 | -0.45 | 1.07 | 1.27 | -1.34 | -1.33 | -1.31 | -0.10 | -1.32 | -1.16 | -1.25 |
| 59 | | | | | | | | | | | | | | | | 0.65 | 0.56 | 0.61 | -1.13 | -0.88 | -1.77 |
| 60 | | | | | | | | | | | | | | | | 0.44 | 0.35 | 0.68 | -0.83 | -0.79 | -0.43 |
| Mean | -0.67 | -0.67 | | -0.65 | -0.65 | | -0.70 | -0.70 | | -0.63 | -0.63 | | -0.57 | -0.57 | | -0.67 | -0.67 | | -0.63 | -0.63 | |
| Shift | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | |
| Corr | | 0.98 | | | 0.97 | | | 0.97 | | | 0.95 | | | 0.97 | | | 0.96 | | | 0.97 | |
| SD | 0.76 | 0.75 | | 0.76 | 0.74 | | 0.71 | 0.67 | | 0.66 | 0.68 | | 0.64 | 0.64 | | 0.69 | 0.64 | | 0.64 | 0.64 | |
| Ratio | | 1.02 | | | 1.02 | | | 1.07 | | | 0.97 | | | 0.99 | | | 1.08 | | | 1.01 | |

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Pre-Equating Calibration
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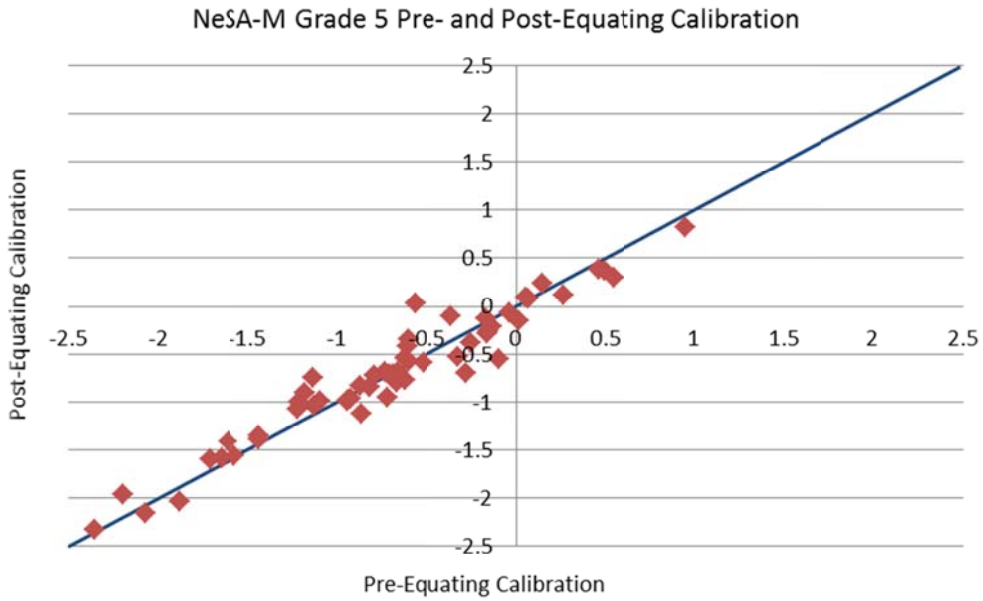
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5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Post-Equating Calibration
Pre-Equating Calibration
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1.5
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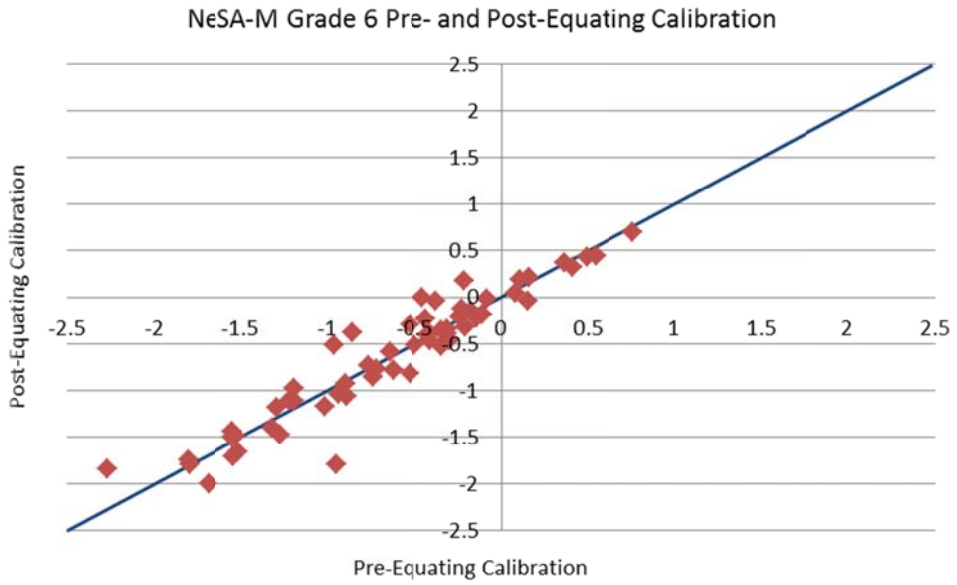
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5


NeSA-M Grade 6 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
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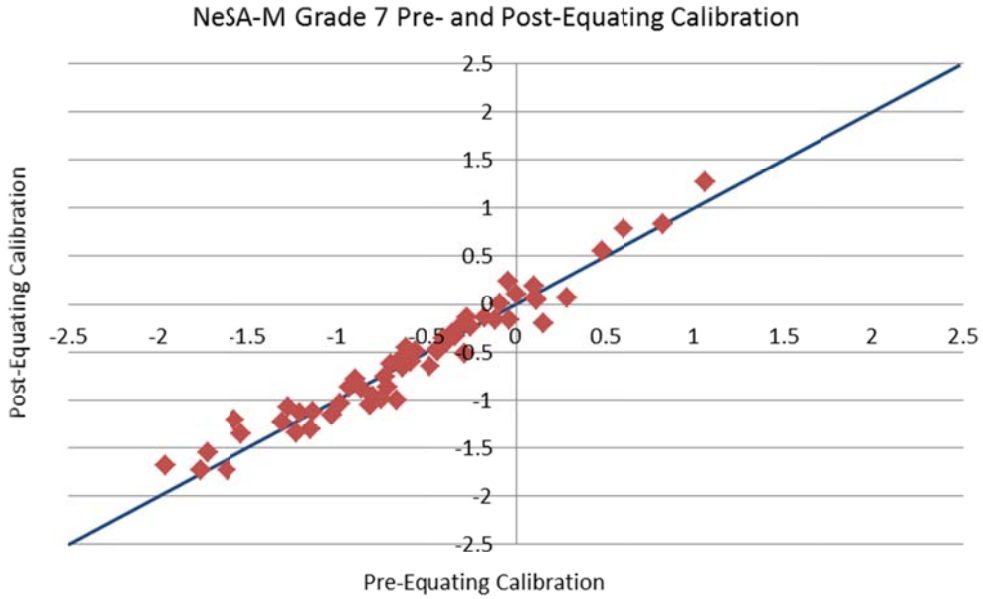
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5


NeSA-M Grade 7 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
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0
-0.5
-1
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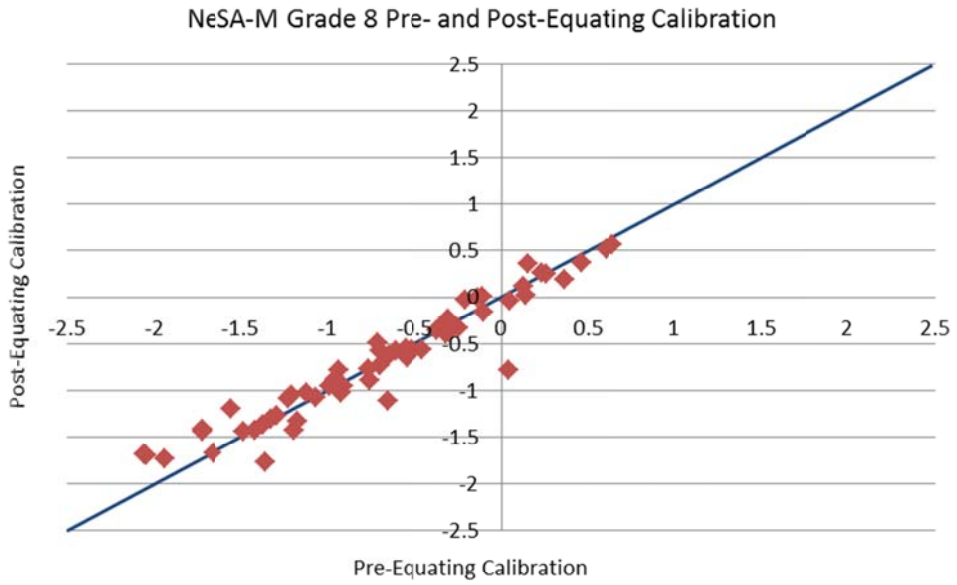
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5


NeSA-M Grade 8 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
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1.5
1
0.5
0
-0.5
-1
-1.5
-2
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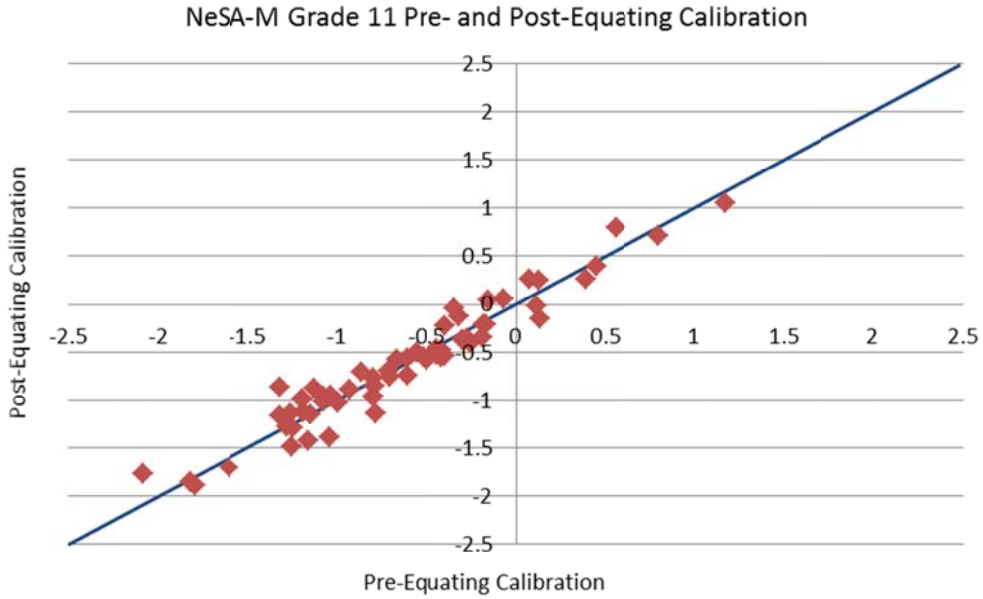
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5


NeSA-M Grade 11 Pre- and Post-Equating Calibration
Post-Equating Calibration
Pre-Equating Calibration
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2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-2.5
-2
-1.5
-1
0
0.5
1
1.5
2
2.5

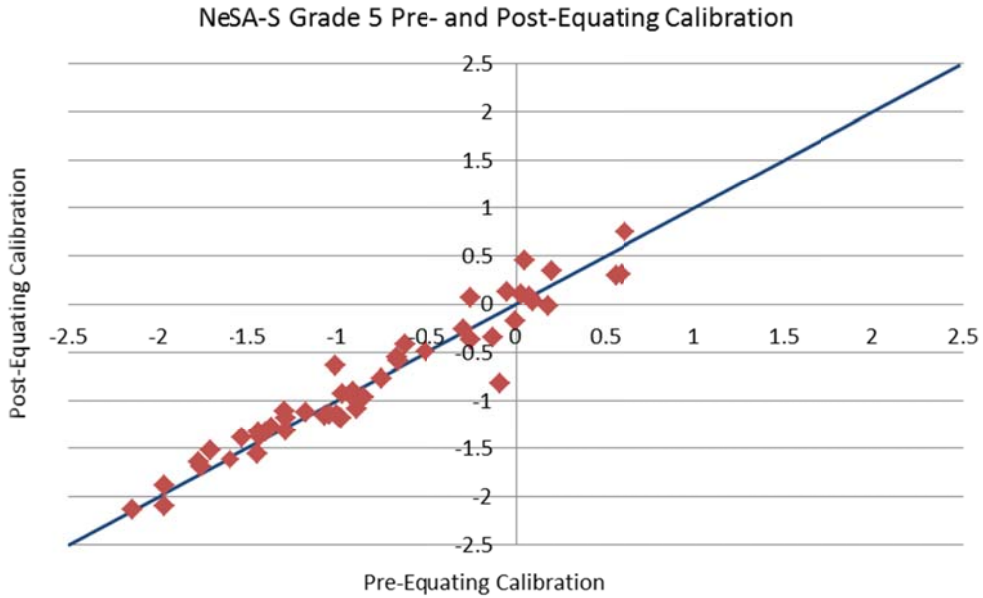
# Appendix P: Science Pre- and Post-Equating Summary

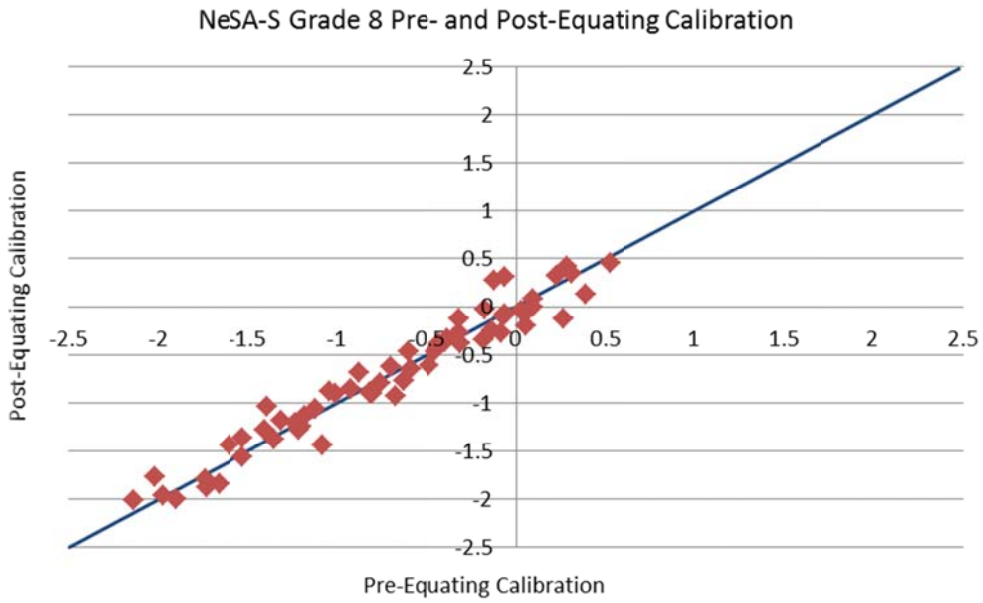
The Pre- values were taken from the calibrated item and used to create the Raw-to-Scale Conversion Tables. The Post- values were taken directly from unanchored calibration runs.

| | 5 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|
| Item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 1 | -0.29 | -0.26 | -0.06 | -1.23 | -1.21 | -0.24 | -1.08 | -1.30 | 1.78 |
| 2 | -0.67 | -0.55 | -0.59 | 0.26 | -0.13 | 2.47 | -0.63 | -0.59 | -0.27 |
| 3 | -1.07 | -1.16 | 0.65 | -0.40 | -0.37 | -0.27 | -0.35 | -0.26 | -0.66 |
| 4 | -0.25 | -0.37 | 0.78 | -0.13 | -0.25 | 0.67 | -0.47 | -0.46 | -0.02 |
| 5 | -0.62 | -0.42 | -1.06 | -0.49 | -0.61 | 0.72 | -0.42 | -1.07 | 5.37 |
| 6 | -0.89 | -1.08 | 1.23 | -0.32 | -0.28 | -0.35 | -0.34 | -0.26 | -0.59 |
| 7 | -1.01 | -0.64 | -2.09 | -1.39 | -1.04 | -2.37 | -0.94 | -0.85 | -0.67 |
| 8 | -0.13 | -0.35 | 1.41 | 0.05 | -0.20 | 1.57 | -1.07 | -1.01 | -0.46 |
| 9 | -0.09 | -0.82 | 4.39 | -1.08 | -1.44 | 2.28 | 0.30 | 0.25 | 0.42 |
| 10 | 0.09 | 0.03 | 0.48 | 0.09 | 0.08 | -0.02 | -0.86 | -0.80 | -0.51 |
| 11 | 0.05 | 0.46 | -2.31 | -0.63 | -0.78 | 0.86 | -1.47 | -1.43 | -0.31 |
| 12 | -0.25 | 0.07 | -1.76 | 0.29 | 0.42 | -0.99 | -1.24 | -0.94 | -2.44 |
| 13 | 0.18 | -0.02 | 1.28 | -1.01 | -0.90 | -0.82 | -0.92 | -0.96 | 0.42 |
| 14 | -0.85 | -0.97 | 0.78 | -0.07 | -0.10 | 0.10 | -0.56 | -0.70 | 1.18 |
| 15 | -0.66 | -0.59 | -0.34 | -1.12 | -1.07 | -0.45 | 0.68 | 0.65 | 0.26 |
| 16 | -1.43 | -1.33 | -0.51 | -0.88 | -0.68 | -1.40 | -0.36 | -0.31 | -0.37 |
| 17 | -1.28 | -1.19 | -0.45 | -1.35 | -1.37 | 0.05 | -0.84 | -0.64 | -1.59 |
| 18 | 0.08 | 0.06 | 0.25 | -0.67 | -0.93 | 1.58 | 0.43 | 0.06 | 3.01 |
| 19 | -1.36 | -1.28 | -0.41 | -1.20 | -1.25 | 0.24 | -1.05 | -1.22 | 1.47 |
| 20 | 0.08 | 0.08 | 0.07 | -1.61 | -1.45 | -1.15 | -0.53 | -0.23 | -2.37 |
| 21 | -1.29 | -1.32 | 0.28 | -1.18 | -1.13 | -0.45 | 0.02 | 0.04 | -0.12 |
| 22 | -0.98 | -1.19 | 1.35 | -2.03 | -1.76 | -1.82 | -0.75 | -0.93 | 1.51 |
| 23 | 0.59 | 0.32 | 1.73 | -0.82 | -0.90 | 0.40 | -1.82 | -1.86 | 0.33 |
| 24 | 0.03 | 0.10 | -0.30 | -1.53 | -1.37 | -1.12 | -0.66 | -0.49 | -1.30 |

| | 5 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|
| Item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 25 | -0.76 | -0.77 | 0.18 | 0.23 | 0.32 | -0.74 | 0.37 | 0.65 | -2.23 |
| 26 | -0.93 | -0.95 | 0.22 | -0.06 | 0.31 | -2.56 | -0.74 | -1.01 | 2.25 |
| 27 | -0.91 | -0.91 | 0.07 | -0.76 | -0.80 | 0.15 | -0.60 | 0.28 | -7.14 |
| 28 | 0.61 | 0.75 | -0.71 | -1.74 | -1.88 | 0.87 | -1.89 | -1.75 | -1.13 |
| 29 | -0.05 | 0.13 | -0.93 | -0.45 | -0.47 | -0.01 | -0.18 | 0.02 | -1.58 |
| 30 | -1.98 | -1.89 | -0.41 | -0.06 | -0.08 | 0.01 | -1.28 | -1.37 | 0.73 |
| 31 | -2.15 | -2.13 | 0.00 | 0.53 | 0.46 | 0.36 | -1.44 | -1.50 | 0.54 |
| 32 | -1.77 | -1.69 | -0.35 | 0.31 | 0.35 | -0.35 | 0.15 | -0.10 | 2.09 |
| 33 | -1.29 | -1.11 | -0.94 | -0.43 | -0.38 | -0.39 | -1.13 | -1.13 | 0.04 |
| 34 | -0.99 | -1.17 | 1.17 | -1.22 | -1.28 | 0.35 | -0.74 | -0.69 | -0.37 |
| 35 | -1.72 | -1.53 | -1.00 | -0.12 | 0.28 | -2.70 | -0.15 | -0.16 | 0.09 |
| 36 | -1.43 | -1.38 | -0.22 | -1.53 | -1.57 | 0.17 | -1.44 | -1.82 | 3.12 |
| 37 | -0.97 | -0.93 | -0.11 | -0.31 | -0.38 | 0.41 | -0.66 | -0.57 | -0.71 |
| 38 | -1.78 | -1.65 | -0.68 | -0.59 | -0.65 | 0.31 | -0.16 | -0.16 | 0.05 |
| 39 | 0.56 | 0.30 | 1.66 | -0.18 | -0.35 | 1.00 | -2.09 | -2.17 | 0.73 |
| 40 | -1.39 | -1.33 | -0.30 | -0.70 | -0.62 | -0.63 | -0.10 | -0.14 | 0.37 |
| 41 | 0.20 | 0.34 | -0.75 | 0.03 | -0.04 | 0.33 | -0.54 | -0.60 | 0.55 |
| 42 | -1.44 | -1.57 | 0.83 | -1.98 | -1.96 | -0.20 | -0.93 | -0.88 | -0.28 |
| 43 | -1.97 | -2.10 | 0.87 | -0.81 | -0.90 | 0.51 | -0.23 | -0.06 | -1.30 |
| 44 | -1.04 | -1.15 | 0.76 | -2.14 | -2.01 | -0.94 | -0.59 | -0.60 | 0.14 |
| 45 | -0.51 | -0.49 | 0.00 | 0.39 | 0.12 | 1.65 | -0.76 | -0.83 | 0.56 |
| 46 | -1.17 | -1.12 | -0.21 | -1.04 | -0.89 | -1.14 | -0.51 | -0.42 | -0.70 |
| 47 | -1.53 | -1.39 | -0.72 | -0.92 | -0.86 | -0.53 | -1.70 | -1.70 | 0.02 |
| 48 | -0.01 | -0.17 | 1.08 | -0.32 | -0.13 | -1.33 | 0.47 | 0.29 | 1.52 |
| 49 | -1.60 | -1.62 | 0.21 | 0.07 | -0.04 | 0.65 | -0.32 | -0.20 | -0.95 |
| 50 | -1.00 | -1.15 | 0.94 | -1.75 | -1.79 | 0.18 | -1.59 | -1.68 | 0.74 |
| 51 | | | | -0.08 | -0.28 | 1.20 | -1.82 | -1.76 | -0.45 |
| 52 | | | | -0.38 | -0.34 | -0.38 | -0.63 | -0.60 | -0.25 |
| 53 | | | | 0.09 | -0.01 | 0.57 | -0.45 | -0.40 | -0.38 |
| 54 | | | | -0.17 | -0.03 | -1.06 | -1.27 | -1.22 | -0.35 |

| | 5 | | | 8 | | | 11 | | |
|---|---|---|---|---|---|---|---|---|---|
| Item | Pre | Post | Z | Pre | Post | Z | Pre | Post | Z |
| 55 | | | | -0.61 | -0.47 | -0.99 | -0.25 | -0.42 | 1.49 |
| 56 | | | | -1.67 | -1.84 | 1.05 | -1.10 | -1.19 | 0.79 |
| 57 | | | | -1.41 | -1.28 | -0.91 | -1.48 | -1.79 | 2.58 |
| 58 | | | | -1.91 | -2.00 | 0.47 | -1.37 | -1.18 | -1.49 |
| 59 | | | | -1.31 | -1.18 | -0.95 | 0.74 | 0.74 | 0.05 |
| 60 | | | | -0.74 | -0.80 | 0.28 | -0.65 | -0.58 | -0.52 |
| Mean | -0.78 | -0.78 | | -0.70 | -0.70 | | -0.70 | -0.70 | |
| Shift | | 0.00 | | | 0.00 | | | 0.00 | |
| Corr | | 0.97 | | | 0.97 | | | 0.95 | |
| SD | 0.73 | 0.72 | | 0.70 | 0.68 | | 0.65 | 0.68 | |
| Ratio | | 1.02 | | | 1.02 | | | 0.96 | |




NeSA-S Grade 8 Pre- and Post-Equating Calibration
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Pre-Equating Calibration
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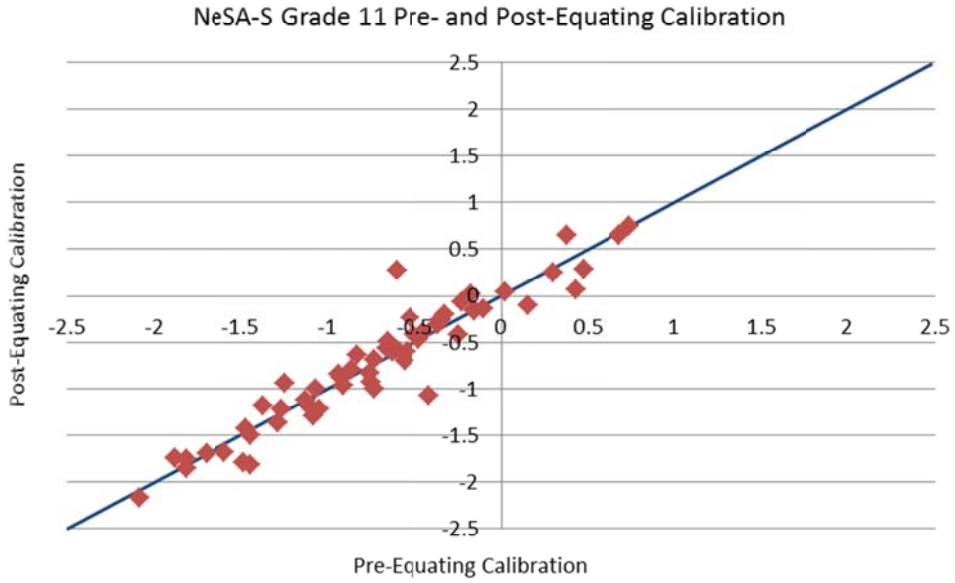
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Post-Equating Calibration
Pre-Equating Calibration
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-2
-2.5
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5

# Appendix Q: Reading Raw-to-Scale Conversion Tables and Distributions of Ability

The charts are simple displays of Scale Score, Raw Score, and percentile rank. The raw score and percentile rank for any Scale Score can be read directly from chart.

The proformance levels *Meets Standards* begins at a Scale Score of 85 and *Exceeds Standards* begins at 135. *Below Standards* is a Scale Score of 84 and below.

The table is a traditional table that was used to create the chart. This table would be used to retrieve the Scale Score or percentile rank for a given raw score. It also includes counts and percentages at each score.

**Grade 3**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 3 | Read | 0 | 1 | .0 | 1 | .0 | 1 | 1 | 52 |
| Spr 2015 | 3 | Read | 1 | 0 | .0 | 1 | .0 | 1 | 1 | 29 |
| Spr 2015 | 3 | Read | 2 | 0 | .0 | 1 | .0 | 1 | 1 | 21 |
| Spr 2015 | 3 | Read | 3 | 1 | .0 | 2 | .0 | 1 | 9 | 17 |
| Spr 2015 | 3 | Read | 4 | 1 | .0 | 3 | .0 | 1 | 18 | 15 |
| Spr 2015 | 3 | Read | 5 | 4 | .0 | 7 | .0 | 1 | 26 | 14 |
| Spr 2015 | 3 | Read | 6 | 12 | .1 | 19 | .1 | 1 | 32 | 13 |
| Spr 2015 | 3 | Read | 7 | 30 | .1 | 49 | .2 | 1 | 37 | 12 |
| Spr 2015 | 3 | Read | 8 | 54 | .2 | 103 | .4 | 1 | 42 | 11 |
| Spr 2015 | 3 | Read | 9 | 71 | .3 | 174 | .8 | 1 | 47 | 11 |
| Spr 2015 | 3 | Read | 10 | 144 | .6 | 318 | 1.4 | 1 | 51 | 11 |
| Spr 2015 | 3 | Read | 11 | 166 | .7 | 484 | 2.1 | 2 | 54 | 10 |
| Spr 2015 | 3 | Read | 12 | 252 | 1.1 | 736 | 3.2 | 3 | 58 | 10 |
| Spr 2015 | 3 | Read | 13 | 298 | 1.3 | 1034 | 4.5 | 4 | 61 | 10 |
| Spr 2015 | 3 | Read | 14 | 354 | 1.5 | 1388 | 6.0 | 5 | 65 | 10 |
| Spr 2015 | 3 | Read | 15 | 359 | 1.6 | 1747 | 7.6 | 7 | 68 | 9 |
| Spr 2015 | 3 | Read | 16 | 422 | 1.8 | 2169 | 9.4 | 9 | 71 | 9 |
| Spr 2015 | 3 | Read | 17 | 452 | 2.0 | 2621 | 11.4 | 10 | 74 | 9 |
| Spr 2015 | 3 | Read | 18 | 468 | 2.0 | 3089 | 13.4 | 12 | 77 | 9 |
| Spr 2015 | 3 | Read | 19 | 507 | 2.2 | 3596 | 15.6 | 15 | 79 | 9 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 3 | Read | 20 | 470 | 2.0 | 4066 | 17.7 | 17 | 82 | 9 |
| Spr 2015 | 3 | Read | 21 | 546 | 2.4 | 4612 | 20.0 | 19 | 85 | 9 |
| Spr 2015 | 3 | Read | 22 | 549 | 2.4 | 5161 | 22.4 | 21 | 88 | 9 |
| Spr 2015 | 3 | Read | 23 | 564 | 2.5 | 5725 | 24.9 | 24 | 90 | 9 |
| Spr 2015 | 3 | Read | 24 | 596 | 2.6 | 6321 | 27.5 | 26 | 93 | 9 |
| Spr 2015 | 3 | Read | 25 | 586 | 2.5 | 6907 | 30.0 | 29 | 96 | 9 |
| Spr 2015 | 3 | Read | 26 | 651 | 2.8 | 7558 | 32.8 | 31 | 99 | 9 |
| Spr 2015 | 3 | Read | 27 | 701 | 3.0 | 8259 | 35.9 | 34 | 102 | 9 |
| Spr 2015 | 3 | Read | 28 | 667 | 2.9 | 8926 | 38.8 | 37 | 105 | 9 |
| Spr 2015 | 3 | Read | 29 | 719 | 3.1 | 9645 | 41.9 | 40 | 107 | 9 |
| Spr 2015 | 3 | Read | 30 | 739 | 3.2 | 10384 | 45.1 | 44 | 110 | 9 |
| Spr 2015 | 3 | Read | 31 | 722 | 3.1 | 11106 | 48.3 | 47 | 114 | 10 |
| Spr 2015 | 3 | Read | 32 | 804 | 3.5 | 11910 | 51.8 | 50 | 117 | 10 |
| Spr 2015 | 3 | Read | 33 | 865 | 3.8 | 12775 | 55.5 | 54 | 120 | 10 |
| Spr 2015 | 3 | Read | 34 | 849 | 3.7 | 13624 | 59.2 | 57 | 124 | 10 |
| Spr 2015 | 3 | Read | 35 | 877 | 3.8 | 14501 | 63.0 | 61 | 127 | 11 |
| Spr 2015 | 3 | Read | 36 | 932 | 4.0 | 15433 | 67.1 | 65 | 131 | 11 |
| Spr 2015 | 3 | Read | 37 | 978 | 4.2 | 16411 | 71.3 | 69 | 136 | 11 |
| Spr 2015 | 3 | Read | 38 | 971 | 4.2 | 17382 | 75.5 | 73 | 141 | 12 |
| Spr 2015 | 3 | Read | 39 | 939 | 4.1 | 18321 | 79.6 | 78 | 146 | 13 |
| Spr 2015 | 3 | Read | 40 | 1037 | 4.5 | 19358 | 84.1 | 82 | 152 | 14 |
| Spr 2015 | 3 | Read | 41 | 989 | 4.3 | 20347 | 88.4 | 86 | 159 | 15 |
| Spr 2015 | 3 | Read | 42 | 962 | 4.2 | 21309 | 92.6 | 91 | 168 | 17 |
| Spr 2015 | 3 | Read | 43 | 868 | 3.8 | 22177 | 96.4 | 94 | 181 | 21 |
| Spr 2015 | 3 | Read | 44 | 576 | 2.5 | 22753 | 98.9 | 98 | 200 | 29 |
| Spr 2015 | 3 | Read | 45 | 260 | 1.1 | 23013 | 100.0 | 99 | 200 | 52 |

**Grade 4**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 4 | Read | 0 | 0 | .0 | 0 | .0 | 1 | 1 | 67 |
| Spr 2015 | 4 | Read | 1 | 0 | .0 | 0 | .0 | 1 | 1 | 37 |
| Spr 2015 | 4 | Read | 2 | 1 | .0 | 1 | .0 | 1 | 1 | 27 |
| Spr 2015 | 4 | Read | 3 | 1 | .0 | 2 | .0 | 1 | 1 | 22 |
| Spr 2015 | 4 | Read | 4 | 0 | .0 | 2 | .0 | 1 | 1 | 20 |
| Spr 2015 | 4 | Read | 5 | 3 | .0 | 5 | .0 | 1 | 3 | 18 |
| Spr 2015 | 4 | Read | 6 | 7 | .0 | 12 | .1 | 1 | 11 | 16 |
| Spr 2015 | 4 | Read | 7 | 20 | .1 | 32 | .1 | 1 | 18 | 16 |
| Spr 2015 | 4 | Read | 8 | 32 | .1 | 64 | .3 | 1 | 24 | 15 |
| Spr 2015 | 4 | Read | 9 | 51 | .2 | 115 | .5 | 1 | 30 | 14 |
| Spr 2015 | 4 | Read | 10 | 90 | .4 | 205 | .9 | 1 | 35 | 14 |
| Spr 2015 | 4 | Read | 11 | 121 | .5 | 326 | 1.4 | 1 | 40 | 13 |
| Spr 2015 | 4 | Read | 12 | 163 | .7 | 489 | 2.2 | 2 | 44 | 13 |
| Spr 2015 | 4 | Read | 13 | 208 | .9 | 697 | 3.1 | 3 | 49 | 13 |
| Spr 2015 | 4 | Read | 14 | 244 | 1.1 | 941 | 4.2 | 4 | 53 | 12 |
| Spr 2015 | 4 | Read | 15 | 274 | 1.2 | 1215 | 5.4 | 5 | 57 | 12 |
| Spr 2015 | 4 | Read | 16 | 320 | 1.4 | 1535 | 6.8 | 6 | 61 | 12 |
| Spr 2015 | 4 | Read | 17 | 357 | 1.6 | 1892 | 8.4 | 8 | 65 | 12 |
| Spr 2015 | 4 | Read | 18 | 404 | 1.8 | 2296 | 10.2 | 9 | 69 | 12 |
| Spr 2015 | 4 | Read | 19 | 428 | 1.9 | 2724 | 12.1 | 11 | 72 | 12 |
| Spr 2015 | 4 | Read | 20 | 476 | 2.1 | 3200 | 14.2 | 13 | 76 | 11 |
| Spr 2015 | 4 | Read | 21 | 525 | 2.3 | 3725 | 16.5 | 15 | 80 | 11 |
| Spr 2015 | 4 | Read | 22 | 538 | 2.4 | 4263 | 18.9 | 18 | 83 | 11 |
| Spr 2015 | 4 | Read | 23 | 577 | 2.6 | 4840 | 21.4 | 20 | 87 | 11 |
| Spr 2015 | 4 | Read | 24 | 584 | 2.6 | 5424 | 24.0 | 23 | 90 | 11 |
| Spr 2015 | 4 | Read | 25 | 687 | 3.0 | 6111 | 27.1 | 26 | 94 | 11 |
| Spr 2015 | 4 | Read | 26 | 781 | 3.5 | 6892 | 30.5 | 29 | 97 | 12 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 4 | Read | 27 | 785 | 3.5 | 7677 | 34.0 | 32 | 101 | 12 |
| Spr 2015 | 4 | Read | 28 | 822 | 3.6 | 8499 | 37.6 | 36 | 105 | 12 |
| Spr 2015 | 4 | Read | 29 | 879 | 3.9 | 9378 | 41.5 | 40 | 109 | 12 |
| Spr 2015 | 4 | Read | 30 | 851 | 3.8 | 10229 | 45.3 | 43 | 113 | 12 |
| Spr 2015 | 4 | Read | 31 | 922 | 4.1 | 11151 | 49.4 | 47 | 117 | 12 |
| Spr 2015 | 4 | Read | 32 | 951 | 4.2 | 12102 | 53.6 | 51 | 121 | 13 |
| Spr 2015 | 4 | Read | 33 | 983 | 4.4 | 13085 | 57.9 | 56 | 125 | 13 |
| Spr 2015 | 4 | Read | 34 | 987 | 4.4 | 14072 | 62.3 | 60 | 130 | 13 |
| Spr 2015 | 4 | Read | 35 | 955 | 4.2 | 15027 | 66.5 | 64 | 135 | 14 |
| Spr 2015 | 4 | Read | 36 | 965 | 4.3 | 15992 | 70.8 | 69 | 140 | 14 |
| Spr 2015 | 4 | Read | 37 | 1016 | 4.5 | 17008 | 75.3 | 73 | 146 | 15 |
| Spr 2015 | 4 | Read | 38 | 1044 | 4.6 | 18052 | 79.9 | 78 | 152 | 15 |
| Spr 2015 | 4 | Read | 39 | 992 | 4.4 | 19044 | 84.3 | 82 | 159 | 16 |
| Spr 2015 | 4 | Read | 40 | 937 | 4.1 | 19981 | 88.5 | 86 | 167 | 18 |
| Spr 2015 | 4 | Read | 41 | 880 | 3.9 | 20861 | 92.3 | 90 | 176 | 19 |
| Spr 2015 | 4 | Read | 42 | 710 | 3.1 | 21571 | 95.5 | 94 | 188 | 22 |
| Spr 2015 | 4 | Read | 43 | 540 | 2.4 | 22111 | 97.9 | 97 | 200 | 27 |
| Spr 2015 | 4 | Read | 44 | 345 | 1.5 | 22456 | 99.4 | 99 | 200 | 37 |
| Spr 2015 | 4 | Read | 45 | 134 | .6 | 22590 | 100.0 | 99 | 200 | 67 |

**Grade 5**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Read | 0 | 0 | .0 | 0 | .0 | 1 | 1 | 72 |
| Spr 2015 | 5 | Read | 1 | 0 | .0 | 0 | .0 | 1 | 1 | 40 |
| Spr 2015 | 5 | Read | 2 | 0 | .0 | 0 | .0 | 1 | 1 | 29 |
| Spr 2015 | 5 | Read | 3 | 2 | .0 | 2 | .0 | 1 | 1 | 24 |
| Spr 2015 | 5 | Read | 4 | 1 | .0 | 3 | .0 | 1 | 1 | 21 |
| Spr 2015 | 5 | Read | 5 | 1 | .0 | 4 | .0 | 1 | 1 | 19 |
| Spr 2015 | 5 | Read | 6 | 3 | .0 | 7 | .0 | 1 | 1 | 18 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Read | 7 | 10 | .0 | 17 | .1 | 1 | 6 | 17 |
| Spr 2015 | 5 | Read | 8 | 17 | .1 | 34 | .1 | 1 | 12 | 16 |
| Spr 2015 | 5 | Read | 9 | 34 | .1 | 68 | .3 | 1 | 19 | 15 |
| Spr 2015 | 5 | Read | 10 | 55 | .2 | 123 | .5 | 1 | 24 | 15 |
| Spr 2015 | 5 | Read | 11 | 84 | .4 | 207 | .9 | 1 | 30 | 14 |
| Spr 2015 | 5 | Read | 12 | 136 | .6 | 343 | 1.5 | 1 | 35 | 14 |
| Spr 2015 | 5 | Read | 13 | 138 | .6 | 481 | 2.1 | 2 | 39 | 14 |
| Spr 2015 | 5 | Read | 14 | 172 | .8 | 653 | 2.9 | 3 | 44 | 13 |
| Spr 2015 | 5 | Read | 15 | 218 | 1.0 | 871 | 3.8 | 3 | 48 | 13 |
| Spr 2015 | 5 | Read | 16 | 228 | 1.0 | 1099 | 4.8 | 4 | 52 | 13 |
| Spr 2015 | 5 | Read | 17 | 279 | 1.2 | 1378 | 6.0 | 5 | 57 | 13 |
| Spr 2015 | 5 | Read | 18 | 269 | 1.2 | 1647 | 7.2 | 7 | 61 | 12 |
| Spr 2015 | 5 | Read | 19 | 300 | 1.3 | 1947 | 8.5 | 8 | 64 | 12 |
| Spr 2015 | 5 | Read | 20 | 328 | 1.4 | 2275 | 9.9 | 9 | 68 | 12 |
| Spr 2015 | 5 | Read | 21 | 332 | 1.5 | 2607 | 11.4 | 11 | 72 | 12 |
| Spr 2015 | 5 | Read | 22 | 391 | 1.7 | 2998 | 13.1 | 12 | 76 | 12 |
| Spr 2015 | 5 | Read | 23 | 451 | 2.0 | 3449 | 15.1 | 14 | 80 | 12 |
| Spr 2015 | 5 | Read | 24 | 479 | 2.1 | 3928 | 17.2 | 16 | 83 | 12 |
| Spr 2015 | 5 | Read | 25 | 506 | 2.2 | 4434 | 19.4 | 18 | 87 | 12 |
| Spr 2015 | 5 | Read | 26 | 512 | 2.2 | 4946 | 21.6 | 21 | 91 | 12 |
| Spr 2015 | 5 | Read | 27 | 555 | 2.4 | 5501 | 24.0 | 23 | 94 | 12 |
| Spr 2015 | 5 | Read | 28 | 592 | 2.6 | 6093 | 26.6 | 25 | 98 | 12 |
| Spr 2015 | 5 | Read | 29 | 638 | 2.8 | 6731 | 29.4 | 28 | 102 | 12 |
| Spr 2015 | 5 | Read | 30 | 682 | 3.0 | 7413 | 32.4 | 31 | 106 | 12 |
| Spr 2015 | 5 | Read | 31 | 689 | 3.0 | 8102 | 35.4 | 34 | 110 | 13 |
| Spr 2015 | 5 | Read | 32 | 754 | 3.3 | 8856 | 38.7 | 37 | 114 | 13 |
| Spr 2015 | 5 | Read | 33 | 792 | 3.5 | 9648 | 42.2 | 40 | 118 | 13 |
| Spr 2015 | 5 | Read | 34 | 862 | 3.8 | 10510 | 45.9 | 44 | 123 | 13 |
| Spr 2015 | 5 | Read | 35 | 844 | 3.7 | 11354 | 49.6 | 48 | 127 | 13 |
| Spr 2015 | 5 | Read | 36 | 941 | 4.1 | 12295 | 53.7 | 52 | 132 | 14 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Read | 37 | 959 | 4.2 | 13254 | 57.9 | 56 | 137 | 14 |
| Spr 2015 | 5 | Read | 38 | 1046 | 4.6 | 14300 | 62.5 | 60 | 142 | 15 |
| Spr 2015 | 5 | Read | 39 | 1026 | 4.5 | 15326 | 67.0 | 65 | 148 | 15 |
| Spr 2015 | 5 | Read | 40 | 1134 | 5.0 | 16460 | 71.9 | 69 | 154 | 16 |
| Spr 2015 | 5 | Read | 41 | 1133 | 5.0 | 17593 | 76.9 | 74 | 161 | 17 |
| Spr 2015 | 5 | Read | 42 | 1124 | 4.9 | 18717 | 81.8 | 79 | 168 | 18 |
| Spr 2015 | 5 | Read | 43 | 1113 | 4.9 | 19830 | 86.7 | 84 | 177 | 19 |
| Spr 2015 | 5 | Read | 44 | 993 | 4.3 | 20823 | 91.0 | 89 | 187 | 21 |
| Spr 2015 | 5 | Read | 45 | 861 | 3.8 | 21684 | 94.8 | 93 | 200 | 24 |
| Spr 2015 | 5 | Read | 46 | 622 | 2.7 | 22306 | 97.5 | 96 | 200 | 29 |
| Spr 2015 | 5 | Read | 47 | 408 | 1.8 | 22714 | 99.3 | 98 | 200 | 40 |
| Spr 2015 | 5 | Read | 48 | 164 | .7 | 22878 | 100.0 | 99 | 200 | 72 |

**Grade 6**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 6 | Read | 0 | 0 | .0 | 0 | .0 | 1 | 1 | 69 |
| Spr 2015 | 6 | Read | 1 | 1 | .0 | 1 | .0 | 1 | 1 | 38 |
| Spr 2015 | 6 | Read | 2 | 0 | .0 | 1 | .0 | 1 | 1 | 28 |
| Spr 2015 | 6 | Read | 3 | 2 | .0 | 3 | .0 | 1 | 1 | 23 |
| Spr 2015 | 6 | Read | 4 | 2 | .0 | 5 | .0 | 1 | 1 | 20 |
| Spr 2015 | 6 | Read | 5 | 3 | .0 | 8 | .0 | 1 | 1 | 18 |
| Spr 2015 | 6 | Read | 6 | 7 | .0 | 15 | .1 | 1 | 1 | 17 |
| Spr 2015 | 6 | Read | 7 | 19 | .1 | 34 | .2 | 1 | 6 | 16 |
| Spr 2015 | 6 | Read | 8 | 25 | .1 | 59 | .3 | 1 | 12 | 15 |
| Spr 2015 | 6 | Read | 9 | 41 | .2 | 100 | .4 | 1 | 18 | 14 |
| Spr 2015 | 6 | Read | 10 | 59 | .3 | 159 | .7 | 1 | 23 | 14 |
| Spr 2015 | 6 | Read | 11 | 94 | .4 | 253 | 1.1 | 1 | 28 | 14 |
| Spr 2015 | 6 | Read | 12 | 121 | .5 | 374 | 1.7 | 1 | 33 | 13 |
| Spr 2015 | 6 | Read | 13 | 164 | .7 | 538 | 2.4 | 2 | 37 | 13 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 6 | Read | 14 | 188 | .8 | 726 | 3.2 | 3 | 42 | 13 |
| Spr 2015 | 6 | Read | 15 | 189 | .8 | 915 | 4.1 | 4 | 46 | 12 |
| Spr 2015 | 6 | Read | 16 | 244 | 1.1 | 1159 | 5.2 | 5 | 50 | 12 |
| Spr 2015 | 6 | Read | 17 | 237 | 1.1 | 1396 | 6.2 | 6 | 53 | 12 |
| Spr 2015 | 6 | Read | 18 | 281 | 1.3 | 1677 | 7.5 | 7 | 57 | 12 |
| Spr 2015 | 6 | Read | 19 | 268 | 1.2 | 1945 | 8.7 | 8 | 61 | 12 |
| Spr 2015 | 6 | Read | 20 | 317 | 1.4 | 2262 | 10.1 | 9 | 65 | 12 |
| Spr 2015 | 6 | Read | 21 | 328 | 1.5 | 2590 | 11.6 | 11 | 68 | 12 |
| Spr 2015 | 6 | Read | 22 | 378 | 1.7 | 2968 | 13.3 | 12 | 72 | 12 |
| Spr 2015 | 6 | Read | 23 | 394 | 1.8 | 3362 | 15.0 | 14 | 75 | 12 |
| Spr 2015 | 6 | Read | 24 | 423 | 1.9 | 3785 | 16.9 | 16 | 79 | 12 |
| Spr 2015 | 6 | Read | 25 | 476 | 2.1 | 4261 | 19.0 | 18 | 82 | 12 |
| Spr 2015 | 6 | Read | 26 | 546 | 2.4 | 4807 | 21.5 | 20 | 86 | 12 |
| Spr 2015 | 6 | Read | 27 | 531 | 2.4 | 5338 | 23.9 | 23 | 89 | 12 |
| Spr 2015 | 6 | Read | 28 | 599 | 2.7 | 5937 | 26.5 | 25 | 93 | 12 |
| Spr 2015 | 6 | Read | 29 | 627 | 2.8 | 6564 | 29.3 | 28 | 97 | 12 |
| Spr 2015 | 6 | Read | 30 | 678 | 3.0 | 7242 | 32.4 | 31 | 100 | 12 |
| Spr 2015 | 6 | Read | 31 | 741 | 3.3 | 7983 | 35.7 | 34 | 104 | 12 |
| Spr 2015 | 6 | Read | 32 | 705 | 3.2 | 8688 | 38.8 | 37 | 108 | 12 |
| Spr 2015 | 6 | Read | 33 | 810 | 3.6 | 9498 | 42.4 | 41 | 112 | 12 |
| Spr 2015 | 6 | Read | 34 | 850 | 3.8 | 10348 | 46.2 | 44 | 116 | 13 |
| Spr 2015 | 6 | Read | 35 | 902 | 4.0 | 11250 | 50.3 | 48 | 120 | 13 |
| Spr 2015 | 6 | Read | 36 | 922 | 4.1 | 12172 | 54.4 | 52 | 125 | 13 |
| Spr 2015 | 6 | Read | 37 | 984 | 4.4 | 13156 | 58.8 | 57 | 129 | 13 |
| Spr 2015 | 6 | Read | 38 | 1061 | 4.7 | 14217 | 63.5 | 61 | 134 | 14 |
| Spr 2015 | 6 | Read | 39 | 1038 | 4.6 | 15255 | 68.2 | 66 | 140 | 14 |
| Spr 2015 | 6 | Read | 40 | 1061 | 4.7 | 16316 | 72.9 | 71 | 145 | 15 |
| Spr 2015 | 6 | Read | 41 | 1114 | 5.0 | 17430 | 77.9 | 75 | 152 | 16 |
| Spr 2015 | 6 | Read | 42 | 1066 | 4.8 | 18496 | 82.7 | 80 | 159 | 17 |
| Spr 2015 | 6 | Read | 43 | 1066 | 4.8 | 19562 | 87.4 | 85 | 167 | 18 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 6 | Read | 44 | 931 | 4.2 | 20493 | 91.6 | 90 | 177 | 20 |
| Spr 2015 | 6 | Read | 45 | 815 | 3.6 | 21308 | 95.2 | 93 | 189 | 23 |
| Spr 2015 | 6 | Read | 46 | 610 | 2.7 | 21918 | 97.9 | 97 | 200 | 28 |
| Spr 2015 | 6 | Read | 47 | 344 | 1.5 | 22262 | 99.5 | 99 | 200 | 38 |
| Spr 2015 | 6 | Read | 48 | 115 | .5 | 22377 | 100.0 | 99 | 200 | 69 |

**Grade 7**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 7 | Read | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 71 |
| Spr 2015 | 7 | Read | 1 | 0 | .0 | 0 | .0 | 0 | 1 | 39 |
| Spr 2015 | 7 | Read | 2 | 0 | .0 | 0 | .0 | 0 | 1 | 28 |
| Spr 2015 | 7 | Read | 3 | 2 | .0 | 2 | .0 | 1 | 1 | 23 |
| Spr 2015 | 7 | Read | 4 | 0 | .0 | 2 | .0 | 1 | 1 | 21 |
| Spr 2015 | 7 | Read | 5 | 3 | .0 | 5 | .0 | 1 | 1 | 19 |
| Spr 2015 | 7 | Read | 6 | 11 | .0 | 16 | .1 | 1 | 3 | 17 |
| Spr 2015 | 7 | Read | 7 | 25 | .1 | 41 | .2 | 1 | 10 | 16 |
| Spr 2015 | 7 | Read | 8 | 38 | .2 | 79 | .4 | 1 | 17 | 16 |
| Spr 2015 | 7 | Read | 9 | 70 | .3 | 149 | .7 | 1 | 23 | 15 |
| Spr 2015 | 7 | Read | 10 | 90 | .4 | 239 | 1.1 | 1 | 28 | 14 |
| Spr 2015 | 7 | Read | 11 | 145 | .7 | 384 | 1.7 | 1 | 34 | 14 |
| Spr 2015 | 7 | Read | 12 | 181 | .8 | 565 | 2.5 | 2 | 38 | 14 |
| Spr 2015 | 7 | Read | 13 | 211 | .9 | 776 | 3.5 | 3 | 43 | 13 |
| Spr 2015 | 7 | Read | 14 | 220 | 1.0 | 996 | 4.5 | 4 | 48 | 13 |
| Spr 2015 | 7 | Read | 15 | 254 | 1.1 | 1250 | 5.6 | 5 | 52 | 13 |
| Spr 2015 | 7 | Read | 16 | 259 | 1.2 | 1509 | 6.8 | 6 | 56 | 13 |
| Spr 2015 | 7 | Read | 17 | 260 | 1.2 | 1769 | 8.0 | 7 | 60 | 12 |
| Spr 2015 | 7 | Read | 18 | 338 | 1.5 | 2107 | 9.5 | 9 | 64 | 12 |
| Spr 2015 | 7 | Read | 19 | 303 | 1.4 | 2410 | 10.8 | 10 | 68 | 12 |
| Spr 2015 | 7 | Read | 20 | 379 | 1.7 | 2789 | 12.6 | 12 | 71 | 12 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 7 | Read | 21 | 365 | 1.6 | 3154 | 14.2 | 13 | 75 | 12 |
| Spr 2015 | 7 | Read | 22 | 408 | 1.8 | 3562 | 16.0 | 15 | 79 | 12 |
| Spr 2015 | 7 | Read | 23 | 380 | 1.7 | 3942 | 17.7 | 17 | 82 | 12 |
| Spr 2015 | 7 | Read | 24 | 409 | 1.8 | 4351 | 19.6 | 19 | 86 | 12 |
| Spr 2015 | 7 | Read | 25 | 495 | 2.2 | 4846 | 21.8 | 21 | 90 | 12 |
| Spr 2015 | 7 | Read | 26 | 509 | 2.3 | 5355 | 24.1 | 23 | 93 | 12 |
| Spr 2015 | 7 | Read | 27 | 521 | 2.3 | 5876 | 26.5 | 25 | 97 | 12 |
| Spr 2015 | 7 | Read | 28 | 560 | 2.5 | 6436 | 29.0 | 28 | 101 | 12 |
| Spr 2015 | 7 | Read | 29 | 647 | 2.9 | 7083 | 31.9 | 30 | 104 | 12 |
| Spr 2015 | 7 | Read | 30 | 627 | 2.8 | 7710 | 34.7 | 33 | 108 | 12 |
| Spr 2015 | 7 | Read | 31 | 652 | 2.9 | 8362 | 37.6 | 36 | 112 | 12 |
| Spr 2015 | 7 | Read | 32 | 727 | 3.3 | 9089 | 40.9 | 39 | 116 | 12 |
| Spr 2015 | 7 | Read | 33 | 751 | 3.4 | 9840 | 44.3 | 43 | 120 | 13 |
| Spr 2015 | 7 | Read | 34 | 796 | 3.6 | 10636 | 47.9 | 46 | 124 | 13 |
| Spr 2015 | 7 | Read | 35 | 802 | 3.6 | 11438 | 51.5 | 50 | 129 | 13 |
| Spr 2015 | 7 | Read | 36 | 878 | 4.0 | 12316 | 55.4 | 53 | 133 | 13 |
| Spr 2015 | 7 | Read | 37 | 894 | 4.0 | 13210 | 59.5 | 57 | 138 | 14 |
| Spr 2015 | 7 | Read | 38 | 971 | 4.4 | 14181 | 63.8 | 62 | 143 | 14 |
| Spr 2015 | 7 | Read | 39 | 950 | 4.3 | 15131 | 68.1 | 66 | 149 | 15 |
| Spr 2015 | 7 | Read | 40 | 1033 | 4.7 | 16164 | 72.8 | 70 | 155 | 15 |
| Spr 2015 | 7 | Read | 41 | 1001 | 4.5 | 17165 | 77.3 | 75 | 161 | 16 |
| Spr 2015 | 7 | Read | 42 | 1014 | 4.6 | 18179 | 81.8 | 80 | 169 | 17 |
| Spr 2015 | 7 | Read | 43 | 979 | 4.4 | 19158 | 86.3 | 84 | 177 | 19 |
| Spr 2015 | 7 | Read | 44 | 962 | 4.3 | 20120 | 90.6 | 88 | 187 | 21 |
| Spr 2015 | 7 | Read | 45 | 858 | 3.9 | 20978 | 94.4 | 93 | 199 | 23 |
| Spr 2015 | 7 | Read | 46 | 657 | 3.0 | 21635 | 97.4 | 96 | 200 | 28 |
| Spr 2015 | 7 | Read | 47 | 406 | 1.8 | 22041 | 99.2 | 98 | 200 | 39 |
| Spr 2015 | 7 | Read | 48 | 171 | .8 | 22212 | 100.0 | 99 | 200 | 71 |

**Grade 8**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Read | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 68 |
| Spr 2015 | 8 | Read | 1 | 0 | .0 | 0 | .0 | 0 | 1 | 38 |
| Spr 2015 | 8 | Read | 2 | 0 | .0 | 0 | .0 | 0 | 1 | 27 |
| Spr 2015 | 8 | Read | 3 | 0 | .0 | 0 | .0 | 0 | 1 | 22 |
| Spr 2015 | 8 | Read | 4 | 0 | .0 | 0 | .0 | 1 | 1 | 20 |
| Spr 2015 | 8 | Read | 5 | 7 | .0 | 7 | .0 | 1 | 1 | 18 |
| Spr 2015 | 8 | Read | 6 | 8 | .0 | 15 | .1 | 1 | 1 | 16 |
| Spr 2015 | 8 | Read | 7 | 10 | .0 | 25 | .1 | 1 | 7 | 15 |
| Spr 2015 | 8 | Read | 8 | 24 | .1 | 49 | .2 | 1 | 13 | 15 |
| Spr 2015 | 8 | Read | 9 | 44 | .2 | 93 | .4 | 1 | 18 | 14 |
| Spr 2015 | 8 | Read | 10 | 84 | .4 | 177 | .8 | 1 | 23 | 13 |
| Spr 2015 | 8 | Read | 11 | 93 | .4 | 270 | 1.2 | 1 | 28 | 13 |
| Spr 2015 | 8 | Read | 12 | 120 | .5 | 390 | 1.8 | 2 | 33 | 13 |
| Spr 2015 | 8 | Read | 13 | 154 | .7 | 544 | 2.5 | 2 | 37 | 12 |
| Spr 2015 | 8 | Read | 14 | 184 | .8 | 728 | 3.3 | 3 | 41 | 12 |
| Spr 2015 | 8 | Read | 15 | 204 | .9 | 932 | 4.3 | 4 | 45 | 12 |
| Spr 2015 | 8 | Read | 16 | 227 | 1.0 | 1159 | 5.3 | 5 | 49 | 12 |
| Spr 2015 | 8 | Read | 17 | 243 | 1.1 | 1402 | 6.4 | 6 | 52 | 12 |
| Spr 2015 | 8 | Read | 18 | 257 | 1.2 | 1659 | 7.6 | 7 | 56 | 11 |
| Spr 2015 | 8 | Read | 19 | 266 | 1.2 | 1925 | 8.8 | 8 | 59 | 11 |
| Spr 2015 | 8 | Read | 20 | 316 | 1.4 | 2241 | 10.2 | 10 | 63 | 11 |
| Spr 2015 | 8 | Read | 21 | 314 | 1.4 | 2555 | 11.7 | 11 | 66 | 11 |
| Spr 2015 | 8 | Read | 22 | 363 | 1.7 | 2918 | 13.3 | 13 | 69 | 11 |
| Spr 2015 | 8 | Read | 23 | 389 | 1.8 | 3307 | 15.1 | 14 | 73 | 11 |
| Spr 2015 | 8 | Read | 24 | 425 | 1.9 | 3732 | 17.0 | 16 | 76 | 11 |
| Spr 2015 | 8 | Read | 25 | 402 | 1.8 | 4134 | 18.9 | 18 | 79 | 11 |
| Spr 2015 | 8 | Read | 26 | 438 | 2.0 | 4572 | 20.9 | 20 | 83 | 11 |
| Spr 2015 | 8 | Read | 27 | 481 | 2.2 | 5053 | 23.1 | 22 | 86 | 11 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Read | 28 | 485 | 2.2 | 5538 | 25.3 | 24 | 89 | 11 |
| Spr 2015 | 8 | Read | 29 | 578 | 2.6 | 6116 | 27.9 | 27 | 93 | 11 |
| Spr 2015 | 8 | Read | 30 | 588 | 2.7 | 6704 | 30.6 | 29 | 96 | 11 |
| Spr 2015 | 8 | Read | 31 | 650 | 3.0 | 7354 | 33.6 | 32 | 99 | 11 |
| Spr 2015 | 8 | Read | 32 | 669 | 3.1 | 8023 | 36.6 | 35 | 103 | 11 |
| Spr 2015 | 8 | Read | 33 | 697 | 3.2 | 8720 | 39.8 | 38 | 106 | 12 |
| Spr 2015 | 8 | Read | 34 | 753 | 3.4 | 9473 | 43.2 | 42 | 110 | 12 |
| Spr 2015 | 8 | Read | 35 | 835 | 3.8 | 10308 | 47.1 | 45 | 114 | 12 |
| Spr 2015 | 8 | Read | 36 | 878 | 4.0 | 11186 | 51.1 | 49 | 118 | 12 |
| Spr 2015 | 8 | Read | 37 | 898 | 4.1 | 12084 | 55.2 | 53 | 122 | 12 |
| Spr 2015 | 8 | Read | 38 | 941 | 4.3 | 13025 | 59.5 | 57 | 126 | 13 |
| Spr 2015 | 8 | Read | 39 | 993 | 4.5 | 14018 | 64.0 | 62 | 131 | 13 |
| Spr 2015 | 8 | Read | 40 | 1059 | 4.8 | 15077 | 68.8 | 66 | 136 | 14 |
| Spr 2015 | 8 | Read | 41 | 1068 | 4.9 | 16145 | 73.7 | 71 | 141 | 14 |
| Spr 2015 | 8 | Read | 42 | 1041 | 4.8 | 17186 | 78.5 | 76 | 146 | 15 |
| Spr 2015 | 8 | Read | 43 | 991 | 4.5 | 18177 | 83.0 | 81 | 153 | 16 |
| Spr 2015 | 8 | Read | 44 | 994 | 4.5 | 19171 | 87.5 | 85 | 159 | 17 |
| Spr 2015 | 8 | Read | 45 | 907 | 4.1 | 20078 | 91.7 | 90 | 167 | 18 |
| Spr 2015 | 8 | Read | 46 | 725 | 3.3 | 20803 | 95.0 | 93 | 177 | 20 |
| Spr 2015 | 8 | Read | 47 | 535 | 2.4 | 21338 | 97.4 | 96 | 189 | 22 |
| Spr 2015 | 8 | Read | 48 | 354 | 1.6 | 21692 | 99.0 | 98 | 200 | 27 |
| Spr 2015 | 8 | Read | 49 | 162 | .7 | 21854 | 99.8 | 99 | 200 | 38 |
| Spr 2015 | 8 | Read | 50 | 50 | .2 | 21904 | 100.0 | 99 | 200 | 68 |

**Grade 11**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Read | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 73 |
| Spr 2015 | 11 | Read | 1 | 0 | .0 | 0 | .0 | 1 | 1 | 40 |
| Spr 2015 | 11 | Read | 2 | 0 | .0 | 0 | .0 | 1 | 1 | 29 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Read | 3 | 0 | .0 | 0 | .0 | 1 | 1 | 24 |
| Spr 2015 | 11 | Read | 4 | 1 | .0 | 1 | .0 | 1 | 1 | 21 |
| Spr 2015 | 11 | Read | 5 | 2 | .0 | 3 | .0 | 1 | 1 | 19 |
| Spr 2015 | 11 | Read | 6 | 5 | .0 | 8 | .0 | 1 | 1 | 18 |
| Spr 2015 | 11 | Read | 7 | 17 | .1 | 25 | .1 | 1 | 1 | 17 |
| Spr 2015 | 11 | Read | 8 | 32 | .2 | 57 | .3 | 1 | 1 | 16 |
| Spr 2015 | 11 | Read | 9 | 48 | .2 | 105 | .5 | 1 | 1 | 15 |
| Spr 2015 | 11 | Read | 10 | 53 | .3 | 158 | .7 | 1 | 3 | 15 |
| Spr 2015 | 11 | Read | 11 | 90 | .4 | 248 | 1.2 | 1 | 8 | 14 |
| Spr 2015 | 11 | Read | 12 | 125 | .6 | 373 | 1.8 | 2 | 13 | 14 |
| Spr 2015 | 11 | Read | 13 | 178 | .8 | 551 | 2.6 | 2 | 18 | 14 |
| Spr 2015 | 11 | Read | 14 | 191 | .9 | 742 | 3.5 | 3 | 23 | 13 |
| Spr 2015 | 11 | Read | 15 | 214 | 1.0 | 956 | 4.5 | 4 | 27 | 13 |
| Spr 2015 | 11 | Read | 16 | 244 | 1.2 | 1200 | 5.7 | 5 | 31 | 13 |
| Spr 2015 | 11 | Read | 17 | 260 | 1.2 | 1460 | 6.9 | 6 | 35 | 13 |
| Spr 2015 | 11 | Read | 18 | 260 | 1.2 | 1720 | 8.1 | 8 | 39 | 13 |
| Spr 2015 | 11 | Read | 19 | 262 | 1.2 | 1982 | 9.4 | 9 | 43 | 12 |
| Spr 2015 | 11 | Read | 20 | 291 | 1.4 | 2273 | 10.8 | 10 | 47 | 12 |
| Spr 2015 | 11 | Read | 21 | 255 | 1.2 | 2528 | 12.0 | 11 | 51 | 12 |
| Spr 2015 | 11 | Read | 22 | 297 | 1.4 | 2825 | 13.4 | 13 | 55 | 12 |
| Spr 2015 | 11 | Read | 23 | 321 | 1.5 | 3146 | 14.9 | 14 | 58 | 12 |
| Spr 2015 | 11 | Read | 24 | 343 | 1.6 | 3489 | 16.5 | 16 | 62 | 12 |
| Spr 2015 | 11 | Read | 25 | 377 | 1.8 | 3866 | 18.3 | 17 | 66 | 12 |
| Spr 2015 | 11 | Read | 26 | 448 | 2.1 | 4314 | 20.4 | 19 | 69 | 12 |
| Spr 2015 | 11 | Read | 27 | 480 | 2.3 | 4794 | 22.7 | 22 | 73 | 12 |
| Spr 2015 | 11 | Read | 28 | 469 | 2.2 | 5263 | 24.9 | 24 | 77 | 12 |
| Spr 2015 | 11 | Read | 29 | 527 | 2.5 | 5790 | 27.4 | 26 | 80 | 12 |
| Spr 2015 | 11 | Read | 30 | 549 | 2.6 | 6339 | 30.0 | 29 | 84 | 12 |
| Spr 2015 | 11 | Read | 31 | 602 | 2.8 | 6941 | 32.9 | 31 | 88 | 12 |
| Spr 2015 | 11 | Read | 32 | 605 | 2.9 | 7546 | 35.7 | 34 | 92 | 12 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Read | 33 | 689 | 3.3 | 8235 | 39.0 | 37 | 96 | 13 |
| Spr 2015 | 11 | Read | 34 | 673 | 3.2 | 8908 | 42.2 | 41 | 100 | 13 |
| Spr 2015 | 11 | Read | 35 | 794 | 3.8 | 9702 | 45.9 | 44 | 104 | 13 |
| Spr 2015 | 11 | Read | 36 | 817 | 3.9 | 10519 | 49.8 | 48 | 108 | 13 |
| Spr 2015 | 11 | Read | 37 | 854 | 4.0 | 11373 | 53.8 | 52 | 113 | 13 |
| Spr 2015 | 11 | Read | 38 | 871 | 4.1 | 12244 | 58.0 | 56 | 117 | 14 |
| Spr 2015 | 11 | Read | 39 | 935 | 4.4 | 13179 | 62.4 | 60 | 122 | 14 |
| Spr 2015 | 11 | Read | 40 | 954 | 4.5 | 14133 | 66.9 | 65 | 127 | 15 |
| Spr 2015 | 11 | Read | 41 | 947 | 4.5 | 15080 | 71.4 | 69 | 133 | 15 |
| Spr 2015 | 11 | Read | 42 | 951 | 4.5 | 16031 | 75.9 | 74 | 139 | 16 |
| Spr 2015 | 11 | Read | 43 | 946 | 4.5 | 16977 | 80.4 | 78 | 146 | 17 |
| Spr 2015 | 11 | Read | 44 | 900 | 4.3 | 17877 | 84.6 | 83 | 153 | 18 |
| Spr 2015 | 11 | Read | 45 | 851 | 4.0 | 18728 | 88.7 | 87 | 162 | 19 |
| Spr 2015 | 11 | Read | 46 | 763 | 3.6 | 19491 | 92.3 | 90 | 172 | 21 |
| Spr 2015 | 11 | Read | 47 | 679 | 3.2 | 20170 | 95.5 | 94 | 185 | 24 |
| Spr 2015 | 11 | Read | 48 | 516 | 2.4 | 20686 | 97.9 | 97 | 200 | 29 |
| Spr 2015 | 11 | Read | 49 | 318 | 1.5 | 21004 | 99.4 | 99 | 200 | 40 |
| Spr 2015 | 11 | Read | 50 | 121 | .6 | 21125 | 100.0 | 99 | 200 | 73 |

# Appendix R: Mathematics Raw-to-Scale Conversion Tables and Distributions of Ability

The charts are simple displays of Scale Score, Raw Score, and percentile rank. The raw score and percentile rank for any Scale Score can be read directly from chart.

The proformance levels *Meets Standards* begins at a Scale Score of 85 and *Exceeds Standards* begins at 135. *Below Standards* is a Scale Score of 84 and below.

The table is a traditional table that was used to create the chart. This table would be used to retrieve the Scale Score or percentile rank for a given raw score. It also includes counts and percentages at each score.

**Grade 3**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 3 | Math | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 54 |
| Spr 2015 | 3 | Math | 1 | 0 | .0 | 0 | .0 | 0 | 1 | 30 |
| Spr 2015 | 3 | Math | 2 | 1 | .0 | 1 | .0 | 1 | 1 | 22 |
| Spr 2015 | 3 | Math | 3 | 1 | .0 | 2 | .0 | 1 | 1 | 18 |
| Spr 2015 | 3 | Math | 4 | 1 | .0 | 3 | .0 | 1 | 4 | 16 |
| Spr 2015 | 3 | Math | 5 | 1 | .0 | 4 | .0 | 1 | 11 | 14 |
| Spr 2015 | 3 | Math | 6 | 8 | .0 | 12 | .1 | 1 | 18 | 13 |
| Spr 2015 | 3 | Math | 7 | 8 | .0 | 20 | .1 | 1 | 23 | 12 |
| Spr 2015 | 3 | Math | 8 | 26 | .1 | 46 | .2 | 1 | 28 | 12 |
| Spr 2015 | 3 | Math | 9 | 53 | .2 | 99 | .4 | 1 | 33 | 11 |
| Spr 2015 | 3 | Math | 10 | 74 | .3 | 173 | .7 | 1 | 37 | 11 |
| Spr 2015 | 3 | Math | 11 | 118 | .5 | 291 | 1.3 | 1 | 41 | 11 |
| Spr 2015 | 3 | Math | 12 | 139 | .6 | 430 | 1.9 | 2 | 45 | 10 |
| Spr 2015 | 3 | Math | 13 | 191 | .8 | 621 | 2.7 | 2 | 48 | 10 |
| Spr 2015 | 3 | Math | 14 | 203 | .9 | 824 | 3.6 | 3 | 51 | 10 |
| Spr 2015 | 3 | Math | 15 | 248 | 1.1 | 1072 | 4.6 | 4 | 55 | 10 |
| Spr 2015 | 3 | Math | 16 | 251 | 1.1 | 1323 | 5.7 | 5 | 58 | 9 |
| Spr 2015 | 3 | Math | 17 | 302 | 1.3 | 1625 | 7.0 | 6 | 61 | 9 |
| Spr 2015 | 3 | Math | 18 | 357 | 1.5 | 1982 | 8.6 | 8 | 64 | 9 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 3 | Math | 19 | 344 | 1.5 | 2326 | 10.1 | 9 | 66 | 9 |
| Spr 2015 | 3 | Math | 20 | 428 | 1.9 | 2754 | 11.9 | 11 | 69 | 9 |
| Spr 2015 | 3 | Math | 21 | 421 | 1.8 | 3175 | 13.7 | 13 | 72 | 9 |
| Spr 2015 | 3 | Math | 22 | 448 | 1.9 | 3623 | 15.7 | 15 | 75 | 9 |
| Spr 2015 | 3 | Math | 23 | 461 | 2.0 | 4084 | 17.7 | 17 | 77 | 9 |
| Spr 2015 | 3 | Math | 24 | 516 | 2.2 | 4600 | 19.9 | 19 | 80 | 9 |
| Spr 2015 | 3 | Math | 25 | 560 | 2.4 | 5160 | 22.3 | 21 | 83 | 9 |
| Spr 2015 | 3 | Math | 26 | 525 | 2.3 | 5685 | 24.6 | 23 | 85 | 9 |
| Spr 2015 | 3 | Math | 27 | 620 | 2.7 | 6305 | 27.3 | 26 | 88 | 9 |
| Spr 2015 | 3 | Math | 28 | 594 | 2.6 | 6899 | 29.8 | 29 | 91 | 9 |
| Spr 2015 | 3 | Math | 29 | 655 | 2.8 | 7554 | 32.7 | 31 | 93 | 9 |
| Spr 2015 | 3 | Math | 30 | 613 | 2.7 | 8167 | 35.3 | 34 | 96 | 9 |
| Spr 2015 | 3 | Math | 31 | 716 | 3.1 | 8883 | 38.4 | 37 | 99 | 9 |
| Spr 2015 | 3 | Math | 32 | 736 | 3.2 | 9619 | 41.6 | 40 | 102 | 9 |
| Spr 2015 | 3 | Math | 33 | 724 | 3.1 | 10343 | 44.7 | 43 | 105 | 9 |
| Spr 2015 | 3 | Math | 34 | 786 | 3.4 | 11129 | 48.1 | 46 | 108 | 9 |
| Spr 2015 | 3 | Math | 35 | 793 | 3.4 | 11922 | 51.5 | 50 | 111 | 10 |
| Spr 2015 | 3 | Math | 36 | 796 | 3.4 | 12718 | 55.0 | 53 | 114 | 10 |
| Spr 2015 | 3 | Math | 37 | 827 | 3.6 | 13545 | 58.6 | 57 | 117 | 10 |
| Spr 2015 | 3 | Math | 38 | 831 | 3.6 | 14376 | 62.2 | 60 | 121 | 10 |
| Spr 2015 | 3 | Math | 39 | 856 | 3.7 | 15232 | 65.9 | 64 | 124 | 10 |
| Spr 2015 | 3 | Math | 40 | 886 | 3.8 | 16118 | 69.7 | 68 | 128 | 11 |
| Spr 2015 | 3 | Math | 41 | 862 | 3.7 | 16980 | 73.4 | 72 | 132 | 11 |
| Spr 2015 | 3 | Math | 42 | 827 | 3.6 | 17807 | 77.0 | 75 | 137 | 12 |
| Spr 2015 | 3 | Math | 43 | 833 | 3.6 | 18640 | 80.6 | 79 | 141 | 12 |
| Spr 2015 | 3 | Math | 44 | 866 | 3.7 | 19506 | 84.3 | 82 | 147 | 13 |
| Spr 2015 | 3 | Math | 45 | 834 | 3.6 | 20340 | 87.9 | 86 | 153 | 14 |
| Spr 2015 | 3 | Math | 46 | 811 | 3.5 | 21151 | 91.4 | 90 | 161 | 16 |
| Spr 2015 | 3 | Math | 47 | 692 | 3.0 | 21843 | 94.4 | 93 | 170 | 18 |
| Spr 2015 | 3 | Math | 48 | 619 | 2.7 | 22462 | 97.1 | 96 | 183 | 21 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 3 | Math | 49 | 450 | 1.9 | 22912 | 99.1 | 98 | 200 | 30 |
| Spr 2015 | 3 | Math | 50 | 218 | .9 | 23130 | 100.0 | 99 | 200 | 54 |

**Grade 4**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 4 | Math | 0 | 1 | .0 | 1 | .0 | 1 | 1 | 51 |
| Spr 2015 | 4 | Math | 1 | 2 | .0 | 3 | .0 | 1 | 1 | 28 |
| Spr 2015 | 4 | Math | 2 | 0 | .0 | 3 | .0 | 1 | 1 | 20 |
| Spr 2015 | 4 | Math | 3 | 2 | .0 | 5 | .0 | 1 | 1 | 17 |
| Spr 2015 | 4 | Math | 4 | 0 | .0 | 5 | .0 | 1 | 6 | 15 |
| Spr 2015 | 4 | Math | 5 | 1 | .0 | 6 | .0 | 1 | 13 | 13 |
| Spr 2015 | 4 | Math | 6 | 2 | .0 | 8 | .0 | 1 | 19 | 12 |
| Spr 2015 | 4 | Math | 7 | 7 | .0 | 15 | .1 | 1 | 24 | 12 |
| Spr 2015 | 4 | Math | 8 | 9 | .0 | 24 | .1 | 1 | 28 | 11 |
| Spr 2015 | 4 | Math | 9 | 27 | .1 | 51 | .2 | 1 | 33 | 11 |
| Spr 2015 | 4 | Math | 10 | 56 | .2 | 107 | .5 | 1 | 36 | 10 |
| Spr 2015 | 4 | Math | 11 | 70 | .3 | 177 | .8 | 1 | 40 | 10 |
| Spr 2015 | 4 | Math | 12 | 118 | .5 | 295 | 1.3 | 1 | 43 | 10 |
| Spr 2015 | 4 | Math | 13 | 118 | .5 | 413 | 1.8 | 2 | 47 | 9 |
| Spr 2015 | 4 | Math | 14 | 139 | .6 | 552 | 2.4 | 2 | 50 | 9 |
| Spr 2015 | 4 | Math | 15 | 185 | .8 | 737 | 3.2 | 3 | 52 | 9 |
| Spr 2015 | 4 | Math | 16 | 228 | 1.0 | 965 | 4.3 | 4 | 55 | 9 |
| Spr 2015 | 4 | Math | 17 | 202 | .9 | 1167 | 5.1 | 5 | 58 | 9 |
| Spr 2015 | 4 | Math | 18 | 284 | 1.3 | 1451 | 6.4 | 6 | 61 | 8 |
| Spr 2015 | 4 | Math | 19 | 276 | 1.2 | 1727 | 7.6 | 7 | 63 | 8 |
| Spr 2015 | 4 | Math | 20 | 314 | 1.4 | 2041 | 9.0 | 8 | 66 | 8 |
| Spr 2015 | 4 | Math | 21 | 324 | 1.4 | 2365 | 10.4 | 10 | 68 | 8 |
| Spr 2015 | 4 | Math | 22 | 340 | 1.5 | 2705 | 11.9 | 11 | 71 | 8 |
| Spr 2015 | 4 | Math | 23 | 350 | 1.5 | 3055 | 13.5 | 13 | 73 | 8 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 4 | Math | 24 | 406 | 1.8 | 3461 | 15.3 | 14 | 75 | 8 |
| Spr 2015 | 4 | Math | 25 | 368 | 1.6 | 3829 | 16.9 | 16 | 78 | 8 |
| Spr 2015 | 4 | Math | 26 | 418 | 1.8 | 4247 | 18.7 | 18 | 80 | 8 |
| Spr 2015 | 4 | Math | 27 | 468 | 2.1 | 4715 | 20.8 | 20 | 82 | 8 |
| Spr 2015 | 4 | Math | 28 | 456 | 2.0 | 5171 | 22.8 | 22 | 84 | 8 |
| Spr 2015 | 4 | Math | 29 | 504 | 2.2 | 5675 | 25.0 | 24 | 87 | 8 |
| Spr 2015 | 4 | Math | 30 | 497 | 2.2 | 6172 | 27.2 | 26 | 89 | 8 |
| Spr 2015 | 4 | Math | 31 | 535 | 2.4 | 6707 | 29.6 | 28 | 91 | 8 |
| Spr 2015 | 4 | Math | 32 | 579 | 2.6 | 7286 | 32.1 | 31 | 94 | 8 |
| Spr 2015 | 4 | Math | 33 | 575 | 2.5 | 7861 | 34.7 | 33 | 96 | 8 |
| Spr 2015 | 4 | Math | 34 | 621 | 2.7 | 8482 | 37.4 | 36 | 98 | 8 |
| Spr 2015 | 4 | Math | 35 | 626 | 2.8 | 9108 | 40.1 | 39 | 101 | 8 |
| Spr 2015 | 4 | Math | 36 | 654 | 2.9 | 9762 | 43.0 | 42 | 103 | 8 |
| Spr 2015 | 4 | Math | 37 | 664 | 2.9 | 10426 | 46.0 | 44 | 106 | 8 |
| Spr 2015 | 4 | Math | 38 | 705 | 3.1 | 11131 | 49.1 | 48 | 108 | 9 |
| Spr 2015 | 4 | Math | 39 | 745 | 3.3 | 11876 | 52.4 | 51 | 111 | 9 |
| Spr 2015 | 4 | Math | 40 | 693 | 3.1 | 12569 | 55.4 | 54 | 114 | 9 |
| Spr 2015 | 4 | Math | 41 | 758 | 3.3 | 13327 | 58.7 | 57 | 117 | 9 |
| Spr 2015 | 4 | Math | 42 | 766 | 3.4 | 14093 | 62.1 | 60 | 120 | 9 |
| Spr 2015 | 4 | Math | 43 | 762 | 3.4 | 14855 | 65.5 | 64 | 123 | 9 |
| Spr 2015 | 4 | Math | 44 | 807 | 3.6 | 15662 | 69.0 | 67 | 126 | 10 |
| Spr 2015 | 4 | Math | 45 | 823 | 3.6 | 16485 | 72.7 | 71 | 130 | 10 |
| Spr 2015 | 4 | Math | 46 | 847 | 3.7 | 17332 | 76.4 | 75 | 133 | 10 |
| Spr 2015 | 4 | Math | 47 | 798 | 3.5 | 18130 | 79.9 | 78 | 137 | 11 |
| Spr 2015 | 4 | Math | 48 | 760 | 3.4 | 18890 | 83.3 | 82 | 142 | 12 |
| Spr 2015 | 4 | Math | 49 | 766 | 3.4 | 19656 | 86.6 | 85 | 147 | 12 |
| Spr 2015 | 4 | Math | 50 | 771 | 3.4 | 20427 | 90.0 | 88 | 153 | 13 |
| Spr 2015 | 4 | Math | 51 | 680 | 3.0 | 21107 | 93.0 | 92 | 160 | 15 |
| Spr 2015 | 4 | Math | 52 | 594 | 2.6 | 21701 | 95.7 | 94 | 169 | 17 |
| Spr 2015 | 4 | Math | 53 | 481 | 2.1 | 22182 | 97.8 | 97 | 181 | 20 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 4 | Math | 54 | 371 | 1.6 | 22553 | 99.4 | 99 | 200 | 28 |
| Spr 2015 | 4 | Math | 55 | 132 | .6 | 22685 | 100.0 | 99 | 200 | 51 |

**Grade 5**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Math | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 53 |
| Spr 2015 | 5 | Math | 1 | 2 | .0 | 2 | .0 | 1 | 1 | 29 |
| Spr 2015 | 5 | Math | 2 | 0 | .0 | 2 | .0 | 1 | 1 | 21 |
| Spr 2015 | 5 | Math | 3 | 1 | .0 | 3 | .0 | 1 | 1 | 17 |
| Spr 2015 | 5 | Math | 4 | 0 | .0 | 3 | .0 | 1 | 2 | 15 |
| Spr 2015 | 5 | Math | 5 | 0 | .0 | 3 | .0 | 1 | 9 | 14 |
| Spr 2015 | 5 | Math | 6 | 0 | .0 | 3 | .0 | 1 | 15 | 13 |
| Spr 2015 | 5 | Math | 7 | 2 | .0 | 5 | .0 | 1 | 20 | 12 |
| Spr 2015 | 5 | Math | 8 | 8 | .0 | 13 | .1 | 1 | 25 | 11 |
| Spr 2015 | 5 | Math | 9 | 10 | .0 | 23 | .1 | 1 | 29 | 11 |
| Spr 2015 | 5 | Math | 10 | 31 | .1 | 54 | .2 | 1 | 33 | 10 |
| Spr 2015 | 5 | Math | 11 | 43 | .2 | 97 | .4 | 1 | 37 | 10 |
| Spr 2015 | 5 | Math | 12 | 57 | .2 | 154 | .7 | 1 | 40 | 10 |
| Spr 2015 | 5 | Math | 13 | 86 | .4 | 240 | 1.0 | 1 | 44 | 10 |
| Spr 2015 | 5 | Math | 14 | 98 | .4 | 338 | 1.5 | 1 | 47 | 9 |
| Spr 2015 | 5 | Math | 15 | 152 | .7 | 490 | 2.1 | 2 | 50 | 9 |
| Spr 2015 | 5 | Math | 16 | 181 | .8 | 671 | 2.9 | 3 | 53 | 9 |
| Spr 2015 | 5 | Math | 17 | 231 | 1.0 | 902 | 3.9 | 3 | 55 | 9 |
| Spr 2015 | 5 | Math | 18 | 238 | 1.0 | 1140 | 5.0 | 4 | 58 | 9 |
| Spr 2015 | 5 | Math | 19 | 267 | 1.2 | 1407 | 6.1 | 6 | 61 | 9 |
| Spr 2015 | 5 | Math | 20 | 304 | 1.3 | 1711 | 7.5 | 7 | 63 | 9 |
| Spr 2015 | 5 | Math | 21 | 325 | 1.4 | 2036 | 8.9 | 8 | 66 | 8 |
| Spr 2015 | 5 | Math | 22 | 367 | 1.6 | 2403 | 10.5 | 10 | 68 | 8 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Math | 23 | 361 | 1.6 | 2764 | 12.0 | 11 | 70 | 8 |
| Spr 2015 | 5 | Math | 24 | 383 | 1.7 | 3147 | 13.7 | 13 | 73 | 8 |
| Spr 2015 | 5 | Math | 25 | 409 | 1.8 | 3556 | 15.5 | 15 | 75 | 8 |
| Spr 2015 | 5 | Math | 26 | 439 | 1.9 | 3995 | 17.4 | 16 | 78 | 8 |
| Spr 2015 | 5 | Math | 27 | 468 | 2.0 | 4463 | 19.5 | 18 | 80 | 8 |
| Spr 2015 | 5 | Math | 28 | 474 | 2.1 | 4937 | 21.5 | 20 | 82 | 8 |
| Spr 2015 | 5 | Math | 29 | 525 | 2.3 | 5462 | 23.8 | 23 | 84 | 8 |
| Spr 2015 | 5 | Math | 30 | 530 | 2.3 | 5992 | 26.1 | 25 | 87 | 8 |
| Spr 2015 | 5 | Math | 31 | 547 | 2.4 | 6539 | 28.5 | 27 | 89 | 8 |
| Spr 2015 | 5 | Math | 32 | 573 | 2.5 | 7112 | 31.0 | 30 | 92 | 8 |
| Spr 2015 | 5 | Math | 33 | 581 | 2.5 | 7693 | 33.5 | 32 | 94 | 8 |
| Spr 2015 | 5 | Math | 34 | 593 | 2.6 | 8286 | 36.1 | 35 | 96 | 8 |
| Spr 2015 | 5 | Math | 35 | 615 | 2.7 | 8901 | 38.8 | 37 | 99 | 8 |
| Spr 2015 | 5 | Math | 36 | 670 | 2.9 | 9571 | 41.7 | 40 | 101 | 9 |
| Spr 2015 | 5 | Math | 37 | 671 | 2.9 | 10242 | 44.6 | 43 | 104 | 9 |
| Spr 2015 | 5 | Math | 38 | 699 | 3.0 | 10941 | 47.7 | 46 | 106 | 9 |
| Spr 2015 | 5 | Math | 39 | 697 | 3.0 | 11638 | 50.7 | 49 | 109 | 9 |
| Spr 2015 | 5 | Math | 40 | 674 | 2.9 | 12312 | 53.7 | 52 | 112 | 9 |
| Spr 2015 | 5 | Math | 41 | 731 | 3.2 | 13043 | 56.8 | 55 | 115 | 9 |
| Spr 2015 | 5 | Math | 42 | 762 | 3.3 | 13805 | 60.2 | 59 | 118 | 10 |
| Spr 2015 | 5 | Math | 43 | 738 | 3.2 | 14543 | 63.4 | 62 | 121 | 10 |
| Spr 2015 | 5 | Math | 44 | 680 | 3.0 | 15223 | 66.3 | 65 | 125 | 10 |
| Spr 2015 | 5 | Math | 45 | 762 | 3.3 | 15985 | 69.7 | 68 | 128 | 10 |
| Spr 2015 | 5 | Math | 46 | 806 | 3.5 | 16791 | 73.2 | 71 | 132 | 11 |
| Spr 2015 | 5 | Math | 47 | 802 | 3.5 | 17593 | 76.7 | 75 | 136 | 11 |
| Spr 2015 | 5 | Math | 48 | 793 | 3.5 | 18386 | 80.1 | 78 | 141 | 12 |
| Spr 2015 | 5 | Math | 49 | 768 | 3.3 | 19154 | 83.5 | 82 | 146 | 13 |
| Spr 2015 | 5 | Math | 50 | 772 | 3.4 | 19926 | 86.8 | 85 | 152 | 14 |
| Spr 2015 | 5 | Math | 51 | 754 | 3.3 | 20680 | 90.1 | 88 | 160 | 15 |
| Spr 2015 | 5 | Math | 52 | 762 | 3.3 | 21442 | 93.4 | 92 | 169 | 17 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Math | 53 | 645 | 2.8 | 22087 | 96.3 | 95 | 181 | 21 |
| Spr 2015 | 5 | Math | 54 | 557 | 2.4 | 22644 | 98.7 | 97 | 200 | 29 |
| Spr 2015 | 5 | Math | 55 | 302 | 1.3 | 22946 | 100.0 | 99 | 200 | 53 |

**Grade** 6

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 6 | Math | 0 | 1 | .0 | 1 | .0 | 1 | 1 | 55 |
| Spr 2015 | 6 | Math | 1 | 0 | .0 | 1 | .0 | 1 | 1 | 31 |
| Spr 2015 | 6 | Math | 2 | 1 | .0 | 2 | .0 | 1 | 1 | 22 |
| Spr 2015 | 6 | Math | 3 | 0 | .0 | 2 | .0 | 1 | 1 | 18 |
| Spr 2015 | 6 | Math | 4 | 0 | .0 | 2 | .0 | 1 | 1 | 16 |
| Spr 2015 | 6 | Math | 5 | 0 | .0 | 2 | .0 | 1 | 3 | 14 |
| Spr 2015 | 6 | Math | 6 | 1 | .0 | 3 | .0 | 1 | 9 | 13 |
| Spr 2015 | 6 | Math | 7 | 7 | .0 | 10 | .0 | 1 | 15 | 13 |
| Spr 2015 | 6 | Math | 8 | 8 | .0 | 18 | .1 | 1 | 19 | 12 |
| Spr 2015 | 6 | Math | 9 | 16 | .1 | 34 | .2 | 1 | 24 | 11 |
| Spr 2015 | 6 | Math | 10 | 31 | .1 | 65 | .3 | 1 | 28 | 11 |
| Spr 2015 | 6 | Math | 11 | 50 | .2 | 115 | .5 | 1 | 32 | 10 |
| Spr 2015 | 6 | Math | 12 | 76 | .3 | 191 | .9 | 1 | 35 | 10 |
| Spr 2015 | 6 | Math | 13 | 91 | .4 | 282 | 1.3 | 1 | 39 | 10 |
| Spr 2015 | 6 | Math | 14 | 141 | .6 | 423 | 1.9 | 2 | 42 | 10 |
| Spr 2015 | 6 | Math | 15 | 171 | .8 | 594 | 2.6 | 2 | 45 | 9 |
| Spr 2015 | 6 | Math | 16 | 208 | .9 | 802 | 3.6 | 3 | 48 | 9 |
| Spr 2015 | 6 | Math | 17 | 253 | 1.1 | 1055 | 4.7 | 4 | 50 | 9 |
| Spr 2015 | 6 | Math | 18 | 290 | 1.3 | 1345 | 6.0 | 5 | 53 | 9 |
| Spr 2015 | 6 | Math | 19 | 287 | 1.3 | 1632 | 7.3 | 7 | 56 | 9 |
| Spr 2015 | 6 | Math | 20 | 294 | 1.3 | 1926 | 8.6 | 8 | 58 | 9 |
| Spr 2015 | 6 | Math | 21 | 308 | 1.4 | 2234 | 10.0 | 9 | 61 | 9 |
| Spr 2015 | 6 | Math | 22 | 317 | 1.4 | 2551 | 11.4 | 11 | 63 | 9 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 6 | Math | 23 | 358 | 1.6 | 2909 | 13.0 | 12 | 66 | 9 |
| Spr 2015 | 6 | Math | 24 | 370 | 1.6 | 3279 | 14.6 | 14 | 68 | 8 |
| Spr 2015 | 6 | Math | 25 | 401 | 1.8 | 3680 | 16.4 | 16 | 70 | 8 |
| Spr 2015 | 6 | Math | 26 | 391 | 1.7 | 4071 | 18.1 | 17 | 73 | 8 |
| Spr 2015 | 6 | Math | 27 | 389 | 1.7 | 4460 | 19.9 | 19 | 75 | 8 |
| Spr 2015 | 6 | Math | 28 | 413 | 1.8 | 4873 | 21.7 | 21 | 77 | 8 |
| Spr 2015 | 6 | Math | 29 | 428 | 1.9 | 5301 | 23.6 | 23 | 80 | 8 |
| Spr 2015 | 6 | Math | 30 | 452 | 2.0 | 5753 | 25.6 | 25 | 82 | 8 |
| Spr 2015 | 6 | Math | 31 | 447 | 2.0 | 6200 | 27.6 | 27 | 84 | 8 |
| Spr 2015 | 6 | Math | 32 | 492 | 2.2 | 6692 | 29.8 | 29 | 87 | 8 |
| Spr 2015 | 6 | Math | 33 | 521 | 2.3 | 7213 | 32.1 | 31 | 89 | 8 |
| Spr 2015 | 6 | Math | 34 | 535 | 2.4 | 7748 | 34.5 | 33 | 91 | 8 |
| Spr 2015 | 6 | Math | 35 | 500 | 2.2 | 8248 | 36.7 | 36 | 94 | 9 |
| Spr 2015 | 6 | Math | 36 | 545 | 2.4 | 8793 | 39.2 | 38 | 96 | 9 |
| Spr 2015 | 6 | Math | 37 | 602 | 2.7 | 9395 | 41.9 | 41 | 99 | 9 |
| Spr 2015 | 6 | Math | 38 | 574 | 2.6 | 9969 | 44.4 | 43 | 101 | 9 |
| Spr 2015 | 6 | Math | 39 | 582 | 2.6 | 10551 | 47.0 | 46 | 104 | 9 |
| Spr 2015 | 6 | Math | 40 | 587 | 2.6 | 11138 | 49.6 | 48 | 106 | 9 |
| Spr 2015 | 6 | Math | 41 | 627 | 2.8 | 11765 | 52.4 | 51 | 109 | 9 |
| Spr 2015 | 6 | Math | 42 | 598 | 2.7 | 12363 | 55.1 | 54 | 112 | 9 |
| Spr 2015 | 6 | Math | 43 | 651 | 2.9 | 13014 | 58.0 | 57 | 114 | 9 |
| Spr 2015 | 6 | Math | 44 | 622 | 2.8 | 13636 | 60.8 | 59 | 117 | 10 |
| Spr 2015 | 6 | Math | 45 | 700 | 3.1 | 14336 | 63.9 | 62 | 121 | 10 |
| Spr 2015 | 6 | Math | 46 | 660 | 2.9 | 14996 | 66.8 | 65 | 124 | 10 |
| Spr 2015 | 6 | Math | 47 | 672 | 3.0 | 15668 | 69.8 | 68 | 127 | 10 |
| Spr 2015 | 6 | Math | 48 | 727 | 3.2 | 16395 | 73.0 | 71 | 131 | 11 |
| Spr 2015 | 6 | Math | 49 | 731 | 3.3 | 17126 | 76.3 | 75 | 135 | 11 |
| Spr 2015 | 6 | Math | 50 | 761 | 3.4 | 17887 | 79.7 | 78 | 140 | 12 |
| Spr 2015 | 6 | Math | 51 | 793 | 3.5 | 18680 | 83.2 | 81 | 144 | 12 |
| Spr 2015 | 6 | Math | 52 | 750 | 3.3 | 19430 | 86.6 | 85 | 150 | 13 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 6 | Math | 53 | 760 | 3.4 | 20190 | 90.0 | 88 | 156 | 14 |
| Spr 2015 | 6 | Math | 54 | 677 | 3.0 | 20867 | 93.0 | 91 | 164 | 16 |
| Spr 2015 | 6 | Math | 55 | 601 | 2.7 | 21468 | 95.6 | 94 | 173 | 18 |
| Spr 2015 | 6 | Math | 56 | 447 | 2.0 | 21915 | 97.6 | 97 | 186 | 22 |
| Spr 2015 | 6 | Math | 57 | 358 | 1.6 | 22273 | 99.2 | 98 | 200 | 31 |
| Spr 2015 | 6 | Math | 58 | 172 | .8 | 22445 | 100.0 | 99 | 200 | 55 |

**Grade** 7

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 7 | Math | 0 | 1 | .0 | 1 | .0 | 1 | 1 | 54 |
| Spr 2015 | 7 | Math | 1 | 0 | .0 | 1 | .0 | 1 | 1 | 30 |
| Spr 2015 | 7 | Math | 2 | 1 | .0 | 2 | .0 | 1 | 1 | 21 |
| Spr 2015 | 7 | Math | 3 | 0 | .0 | 2 | .0 | 1 | 1 | 18 |
| Spr 2015 | 7 | Math | 4 | 2 | .0 | 4 | .0 | 1 | 1 | 15 |
| Spr 2015 | 7 | Math | 5 | 1 | .0 | 5 | .0 | 1 | 7 | 14 |
| Spr 2015 | 7 | Math | 6 | 6 | .0 | 11 | .0 | 1 | 13 | 13 |
| Spr 2015 | 7 | Math | 7 | 11 | .0 | 22 | .1 | 1 | 18 | 12 |
| Spr 2015 | 7 | Math | 8 | 9 | .0 | 31 | .1 | 1 | 23 | 11 |
| Spr 2015 | 7 | Math | 9 | 25 | .1 | 56 | .3 | 1 | 27 | 11 |
| Spr 2015 | 7 | Math | 10 | 62 | .3 | 118 | .5 | 1 | 31 | 11 |
| Spr 2015 | 7 | Math | 11 | 68 | .3 | 186 | .8 | 1 | 35 | 10 |
| Spr 2015 | 7 | Math | 12 | 117 | .5 | 303 | 1.4 | 1 | 38 | 10 |
| Spr 2015 | 7 | Math | 13 | 156 | .7 | 459 | 2.1 | 2 | 41 | 10 |
| Spr 2015 | 7 | Math | 14 | 170 | .8 | 629 | 2.8 | 2 | 44 | 9 |
| Spr 2015 | 7 | Math | 15 | 250 | 1.1 | 879 | 4.0 | 3 | 47 | 9 |
| Spr 2015 | 7 | Math | 16 | 254 | 1.1 | 1133 | 5.1 | 5 | 50 | 9 |
| Spr 2015 | 7 | Math | 17 | 274 | 1.2 | 1407 | 6.3 | 6 | 53 | 9 |
| Spr 2015 | 7 | Math | 18 | 297 | 1.3 | 1704 | 7.7 | 7 | 55 | 9 |
| Spr 2015 | 7 | Math | 19 | 275 | 1.2 | 1979 | 8.9 | 8 | 58 | 9 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 7 | Math | 20 | 334 | 1.5 | 2313 | 10.4 | 10 | 60 | 8 |
| Spr 2015 | 7 | Math | 21 | 297 | 1.3 | 2610 | 11.8 | 11 | 63 | 8 |
| Spr 2015 | 7 | Math | 22 | 371 | 1.7 | 2981 | 13.4 | 13 | 65 | 8 |
| Spr 2015 | 7 | Math | 23 | 343 | 1.5 | 3324 | 15.0 | 14 | 67 | 8 |
| Spr 2015 | 7 | Math | 24 | 352 | 1.6 | 3676 | 16.6 | 16 | 70 | 8 |
| Spr 2015 | 7 | Math | 25 | 342 | 1.5 | 4018 | 18.1 | 17 | 72 | 8 |
| Spr 2015 | 7 | Math | 26 | 379 | 1.7 | 4397 | 19.8 | 19 | 74 | 8 |
| Spr 2015 | 7 | Math | 27 | 379 | 1.7 | 4776 | 21.5 | 21 | 76 | 8 |
| Spr 2015 | 7 | Math | 28 | 359 | 1.6 | 5135 | 23.1 | 22 | 79 | 8 |
| Spr 2015 | 7 | Math | 29 | 399 | 1.8 | 5534 | 24.9 | 24 | 81 | 8 |
| Spr 2015 | 7 | Math | 30 | 424 | 1.9 | 5958 | 26.8 | 26 | 83 | 8 |
| Spr 2015 | 7 | Math | 31 | 445 | 2.0 | 6403 | 28.8 | 28 | 85 | 8 |
| Spr 2015 | 7 | Math | 32 | 482 | 2.2 | 6885 | 31.0 | 30 | 88 | 8 |
| Spr 2015 | 7 | Math | 33 | 518 | 2.3 | 7403 | 33.3 | 32 | 90 | 8 |
| Spr 2015 | 7 | Math | 34 | 474 | 2.1 | 7877 | 35.5 | 34 | 92 | 8 |
| Spr 2015 | 7 | Math | 35 | 507 | 2.3 | 8384 | 37.8 | 37 | 94 | 8 |
| Spr 2015 | 7 | Math | 36 | 546 | 2.5 | 8930 | 40.2 | 39 | 97 | 8 |
| Spr 2015 | 7 | Math | 37 | 539 | 2.4 | 9469 | 42.6 | 41 | 99 | 8 |
| Spr 2015 | 7 | Math | 38 | 557 | 2.5 | 10026 | 45.2 | 44 | 101 | 8 |
| Spr 2015 | 7 | Math | 39 | 549 | 2.5 | 10575 | 47.6 | 46 | 104 | 9 |
| Spr 2015 | 7 | Math | 40 | 593 | 2.7 | 11168 | 50.3 | 49 | 106 | 9 |
| Spr 2015 | 7 | Math | 41 | 565 | 2.5 | 11733 | 52.8 | 52 | 109 | 9 |
| Spr 2015 | 7 | Math | 42 | 619 | 2.8 | 12352 | 55.6 | 54 | 112 | 9 |
| Spr 2015 | 7 | Math | 43 | 579 | 2.6 | 12931 | 58.2 | 57 | 115 | 9 |
| Spr 2015 | 7 | Math | 44 | 596 | 2.7 | 13527 | 60.9 | 60 | 117 | 9 |
| Spr 2015 | 7 | Math | 45 | 668 | 3.0 | 14195 | 63.9 | 62 | 120 | 10 |
| Spr 2015 | 7 | Math | 46 | 616 | 2.8 | 14811 | 66.7 | 65 | 124 | 10 |
| Spr 2015 | 7 | Math | 47 | 686 | 3.1 | 15497 | 69.8 | 68 | 127 | 10 |
| Spr 2015 | 7 | Math | 48 | 628 | 2.8 | 16125 | 72.6 | 71 | 131 | 11 |
| Spr 2015 | 7 | Math | 49 | 699 | 3.1 | 16824 | 75.8 | 74 | 135 | 11 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 7 | Math | 50 | 674 | 3.0 | 17498 | 78.8 | 77 | 139 | 11 |
| Spr 2015 | 7 | Math | 51 | 680 | 3.1 | 18178 | 81.9 | 80 | 144 | 12 |
| Spr 2015 | 7 | Math | 52 | 732 | 3.3 | 18910 | 85.2 | 84 | 149 | 13 |
| Spr 2015 | 7 | Math | 53 | 657 | 3.0 | 19567 | 88.1 | 87 | 155 | 14 |
| Spr 2015 | 7 | Math | 54 | 672 | 3.0 | 20239 | 91.2 | 90 | 162 | 15 |
| Spr 2015 | 7 | Math | 55 | 612 | 2.8 | 20851 | 93.9 | 93 | 172 | 18 |
| Spr 2015 | 7 | Math | 56 | 617 | 2.8 | 21468 | 96.7 | 95 | 184 | 21 |
| Spr 2015 | 7 | Math | 57 | 458 | 2.1 | 21926 | 98.8 | 98 | 200 | 30 |
| Spr 2015 | 7 | Math | 58 | 277 | 1.2 | 22203 | 100.0 | 99 | 200 | 54 |

**Grade** 8

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Math | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 54 |
| Spr 2015 | 8 | Math | 1 | 2 | .0 | 2 | .0 | 1 | 1 | 30 |
| Spr 2015 | 8 | Math | 2 | 0 | .0 | 2 | .0 | 1 | 1 | 21 |
| Spr 2015 | 8 | Math | 3 | 1 | .0 | 3 | .0 | 1 | 1 | 18 |
| Spr 2015 | 8 | Math | 4 | 1 | .0 | 4 | .0 | 1 | 1 | 15 |
| Spr 2015 | 8 | Math | 5 | 7 | .0 | 11 | .1 | 1 | 1 | 14 |
| Spr 2015 | 8 | Math | 6 | 3 | .0 | 14 | .1 | 1 | 7 | 13 |
| Spr 2015 | 8 | Math | 7 | 7 | .0 | 21 | .1 | 1 | 12 | 12 |
| Spr 2015 | 8 | Math | 8 | 8 | .0 | 29 | .1 | 1 | 17 | 11 |
| Spr 2015 | 8 | Math | 9 | 26 | .1 | 55 | .3 | 1 | 21 | 11 |
| Spr 2015 | 8 | Math | 10 | 37 | .2 | 92 | .4 | 1 | 25 | 11 |
| Spr 2015 | 8 | Math | 11 | 69 | .3 | 161 | .7 | 1 | 28 | 10 |
| Spr 2015 | 8 | Math | 12 | 98 | .4 | 259 | 1.2 | 1 | 32 | 10 |
| Spr 2015 | 8 | Math | 13 | 132 | .6 | 391 | 1.8 | 1 | 35 | 10 |
| Spr 2015 | 8 | Math | 14 | 160 | .7 | 551 | 2.5 | 2 | 38 | 9 |
| Spr 2015 | 8 | Math | 15 | 199 | .9 | 750 | 3.4 | 3 | 41 | 9 |
| Spr 2015 | 8 | Math | 16 | 235 | 1.1 | 985 | 4.5 | 4 | 44 | 9 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Math | 17 | 256 | 1.2 | 1241 | 5.6 | 5 | 47 | 9 |
| Spr 2015 | 8 | Math | 18 | 296 | 1.3 | 1537 | 7.0 | 6 | 49 | 9 |
| Spr 2015 | 8 | Math | 19 | 270 | 1.2 | 1807 | 8.2 | 8 | 52 | 9 |
| Spr 2015 | 8 | Math | 20 | 301 | 1.4 | 2108 | 9.6 | 9 | 54 | 8 |
| Spr 2015 | 8 | Math | 21 | 295 | 1.3 | 2403 | 10.9 | 10 | 56 | 8 |
| Spr 2015 | 8 | Math | 22 | 334 | 1.5 | 2737 | 12.4 | 12 | 59 | 8 |
| Spr 2015 | 8 | Math | 23 | 357 | 1.6 | 3094 | 14.1 | 13 | 61 | 8 |
| Spr 2015 | 8 | Math | 24 | 296 | 1.3 | 3390 | 15.4 | 15 | 63 | 8 |
| Spr 2015 | 8 | Math | 25 | 335 | 1.5 | 3725 | 16.9 | 16 | 66 | 8 |
| Spr 2015 | 8 | Math | 26 | 344 | 1.6 | 4069 | 18.5 | 18 | 68 | 8 |
| Spr 2015 | 8 | Math | 27 | 383 | 1.7 | 4452 | 20.3 | 19 | 70 | 8 |
| Spr 2015 | 8 | Math | 28 | 389 | 1.8 | 4841 | 22.0 | 21 | 72 | 8 |
| Spr 2015 | 8 | Math | 29 | 414 | 1.9 | 5255 | 23.9 | 23 | 74 | 8 |
| Spr 2015 | 8 | Math | 30 | 395 | 1.8 | 5650 | 25.7 | 25 | 77 | 8 |
| Spr 2015 | 8 | Math | 31 | 409 | 1.9 | 6059 | 27.6 | 27 | 79 | 8 |
| Spr 2015 | 8 | Math | 32 | 438 | 2.0 | 6497 | 29.6 | 29 | 81 | 8 |
| Spr 2015 | 8 | Math | 33 | 532 | 2.4 | 7029 | 32.0 | 31 | 83 | 8 |
| Spr 2015 | 8 | Math | 34 | 467 | 2.1 | 7496 | 34.1 | 33 | 85 | 8 |
| Spr 2015 | 8 | Math | 35 | 519 | 2.4 | 8015 | 36.5 | 35 | 88 | 8 |
| Spr 2015 | 8 | Math | 36 | 528 | 2.4 | 8543 | 38.9 | 38 | 90 | 8 |
| Spr 2015 | 8 | Math | 37 | 521 | 2.4 | 9064 | 41.2 | 40 | 92 | 8 |
| Spr 2015 | 8 | Math | 38 | 528 | 2.4 | 9592 | 43.6 | 42 | 94 | 8 |
| Spr 2015 | 8 | Math | 39 | 544 | 2.5 | 10136 | 46.1 | 45 | 97 | 8 |
| Spr 2015 | 8 | Math | 40 | 559 | 2.5 | 10695 | 48.6 | 47 | 99 | 8 |
| Spr 2015 | 8 | Math | 41 | 519 | 2.4 | 11214 | 51.0 | 50 | 102 | 9 |
| Spr 2015 | 8 | Math | 42 | 562 | 2.6 | 11776 | 53.6 | 52 | 104 | 9 |
| Spr 2015 | 8 | Math | 43 | 553 | 2.5 | 12329 | 56.1 | 55 | 107 | 9 |
| Spr 2015 | 8 | Math | 44 | 609 | 2.8 | 12938 | 58.8 | 57 | 109 | 9 |
| Spr 2015 | 8 | Math | 45 | 557 | 2.5 | 13495 | 61.4 | 60 | 112 | 9 |
| Spr 2015 | 8 | Math | 46 | 635 | 2.9 | 14130 | 64.3 | 63 | 115 | 9 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Math | 47 | 620 | 2.8 | 14750 | 67.1 | 66 | 118 | 10 |
| Spr 2015 | 8 | Math | 48 | 623 | 2.8 | 15373 | 69.9 | 69 | 121 | 10 |
| Spr 2015 | 8 | Math | 49 | 618 | 2.8 | 15991 | 72.7 | 71 | 125 | 10 |
| Spr 2015 | 8 | Math | 50 | 598 | 2.7 | 16589 | 75.5 | 74 | 128 | 10 |
| Spr 2015 | 8 | Math | 51 | 606 | 2.8 | 17195 | 78.2 | 77 | 132 | 11 |
| Spr 2015 | 8 | Math | 52 | 614 | 2.8 | 17809 | 81.0 | 80 | 137 | 11 |
| Spr 2015 | 8 | Math | 53 | 638 | 2.9 | 18447 | 83.9 | 82 | 141 | 12 |
| Spr 2015 | 8 | Math | 54 | 551 | 2.5 | 18998 | 86.4 | 85 | 147 | 13 |
| Spr 2015 | 8 | Math | 55 | 588 | 2.7 | 19586 | 89.1 | 88 | 153 | 14 |
| Spr 2015 | 8 | Math | 56 | 654 | 3.0 | 20240 | 92.1 | 91 | 160 | 15 |
| Spr 2015 | 8 | Math | 57 | 539 | 2.5 | 20779 | 94.5 | 93 | 169 | 18 |
| Spr 2015 | 8 | Math | 58 | 524 | 2.4 | 21303 | 96.9 | 96 | 182 | 21 |
| Spr 2015 | 8 | Math | 59 | 419 | 1.9 | 21722 | 98.8 | 98 | 200 | 30 |
| Spr 2015 | 8 | Math | 60 | 263 | 1.2 | 21985 | 100.0 | 99 | 200 | 54 |

**Grade 11**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Math | 0 | 1 | .0 | 1 | .0 | 1 | 1 | 66 |
| Spr 2015 | 11 | Math | 1 | 3 | .0 | 4 | .0 | 1 | 1 | 36 |
| Spr 2015 | 11 | Math | 2 | 0 | .0 | 4 | .0 | 1 | 1 | 26 |
| Spr 2015 | 11 | Math | 3 | 1 | .0 | 5 | .0 | 1 | 1 | 22 |
| Spr 2015 | 11 | Math | 4 | 1 | .0 | 6 | .0 | 1 | 1 | 19 |
| Spr 2015 | 11 | Math | 5 | 1 | .0 | 7 | .0 | 1 | 1 | 17 |
| Spr 2015 | 11 | Math | 6 | 1 | .0 | 8 | .0 | 1 | 1 | 16 |
| Spr 2015 | 11 | Math | 7 | 6 | .0 | 14 | .1 | 1 | 1 | 15 |
| Spr 2015 | 11 | Math | 8 | 8 | .0 | 22 | .1 | 1 | 1 | 14 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Math | 9 | 15 | .1 | 37 | .2 | 1 | 5 | 13 |
| Spr 2015 | 11 | Math | 10 | 36 | .2 | 73 | .3 | 1 | 10 | 13 |
| Spr 2015 | 11 | Math | 11 | 51 | .2 | 124 | .6 | 1 | 14 | 12 |
| Spr 2015 | 11 | Math | 12 | 80 | .4 | 204 | 1.0 | 1 | 18 | 12 |
| Spr 2015 | 11 | Math | 13 | 106 | .5 | 310 | 1.5 | 1 | 22 | 12 |
| Spr 2015 | 11 | Math | 14 | 159 | .8 | 469 | 2.2 | 2 | 26 | 11 |
| Spr 2015 | 11 | Math | 15 | 225 | 1.1 | 694 | 3.3 | 3 | 29 | 11 |
| Spr 2015 | 11 | Math | 16 | 262 | 1.2 | 956 | 4.5 | 4 | 33 | 11 |
| Spr 2015 | 11 | Math | 17 | 277 | 1.3 | 1233 | 5.8 | 5 | 36 | 11 |
| Spr 2015 | 11 | Math | 18 | 376 | 1.8 | 1609 | 7.6 | 7 | 39 | 11 |
| Spr 2015 | 11 | Math | 19 | 367 | 1.7 | 1976 | 9.4 | 9 | 42 | 10 |
| Spr 2015 | 11 | Math | 20 | 374 | 1.8 | 2350 | 11.1 | 10 | 45 | 10 |
| Spr 2015 | 11 | Math | 21 | 390 | 1.8 | 2740 | 13.0 | 12 | 48 | 10 |
| Spr 2015 | 11 | Math | 22 | 410 | 1.9 | 3150 | 14.9 | 14 | 51 | 10 |
| Spr 2015 | 11 | Math | 23 | 436 | 2.1 | 3586 | 17.0 | 16 | 54 | 10 |
| Spr 2015 | 11 | Math | 24 | 393 | 1.9 | 3979 | 18.9 | 18 | 56 | 10 |
| Spr 2015 | 11 | Math | 25 | 419 | 2.0 | 4398 | 20.8 | 20 | 59 | 10 |
| Spr 2015 | 11 | Math | 26 | 395 | 1.9 | 4793 | 22.7 | 22 | 62 | 10 |
| Spr 2015 | 11 | Math | 27 | 391 | 1.9 | 5184 | 24.6 | 24 | 64 | 10 |
| Spr 2015 | 11 | Math | 28 | 404 | 1.9 | 5588 | 26.5 | 26 | 67 | 10 |
| Spr 2015 | 11 | Math | 29 | 397 | 1.9 | 5985 | 28.4 | 27 | 70 | 10 |
| Spr 2015 | 11 | Math | 30 | 424 | 2.0 | 6409 | 30.4 | 29 | 72 | 10 |
| Spr 2015 | 11 | Math | 31 | 392 | 1.9 | 6801 | 32.2 | 31 | 75 | 10 |
| Spr 2015 | 11 | Math | 32 | 434 | 2.1 | 7235 | 34.3 | 33 | 77 | 10 |
| Spr 2015 | 11 | Math | 33 | 412 | 2.0 | 7647 | 36.2 | 35 | 80 | 10 |
| Spr 2015 | 11 | Math | 34 | 431 | 2.0 | 8078 | 38.3 | 37 | 83 | 10 |
| Spr 2015 | 11 | Math | 35 | 424 | 2.0 | 8502 | 40.3 | 39 | 85 | 10 |
| Spr 2015 | 11 | Math | 36 | 485 | 2.3 | 8987 | 42.6 | 41 | 88 | 10 |
| Spr 2015 | 11 | Math | 37 | 493 | 2.3 | 9480 | 44.9 | 44 | 91 | 10 |
| Spr 2015 | 11 | Math | 38 | 442 | 2.1 | 9922 | 47.0 | 46 | 94 | 10 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Math | 39 | 497 | 2.4 | 10419 | 49.4 | 48 | 96 | 10 |
| Spr 2015 | 11 | Math | 40 | 482 | 2.3 | 10901 | 51.6 | 51 | 99 | 10 |
| Spr 2015 | 11 | Math | 41 | 480 | 2.3 | 11381 | 53.9 | 53 | 102 | 10 |
| Spr 2015 | 11 | Math | 42 | 492 | 2.3 | 11873 | 56.3 | 55 | 105 | 11 |
| Spr 2015 | 11 | Math | 43 | 506 | 2.4 | 12379 | 58.6 | 57 | 109 | 11 |
| Spr 2015 | 11 | Math | 44 | 549 | 2.6 | 12928 | 61.2 | 60 | 112 | 11 |
| Spr 2015 | 11 | Math | 45 | 554 | 2.6 | 13482 | 63.9 | 63 | 115 | 11 |
| Spr 2015 | 11 | Math | 46 | 520 | 2.5 | 14002 | 66.3 | 65 | 119 | 11 |
| Spr 2015 | 11 | Math | 47 | 534 | 2.5 | 14536 | 68.9 | 68 | 122 | 12 |
| Spr 2015 | 11 | Math | 48 | 566 | 2.7 | 15102 | 71.5 | 70 | 126 | 12 |
| Spr 2015 | 11 | Math | 49 | 590 | 2.8 | 15692 | 74.3 | 73 | 130 | 12 |
| Spr 2015 | 11 | Math | 50 | 571 | 2.7 | 16263 | 77.1 | 76 | 135 | 13 |
| Spr 2015 | 11 | Math | 51 | 560 | 2.7 | 16823 | 79.7 | 78 | 140 | 13 |
| Spr 2015 | 11 | Math | 52 | 561 | 2.7 | 17384 | 82.4 | 81 | 145 | 14 |
| Spr 2015 | 11 | Math | 53 | 546 | 2.6 | 17930 | 84.9 | 84 | 151 | 15 |
| Spr 2015 | 11 | Math | 54 | 592 | 2.8 | 18522 | 87.8 | 86 | 157 | 16 |
| Spr 2015 | 11 | Math | 55 | 538 | 2.5 | 19060 | 90.3 | 89 | 165 | 17 |
| Spr 2015 | 11 | Math | 56 | 515 | 2.4 | 19575 | 92.7 | 92 | 174 | 19 |
| Spr 2015 | 11 | Math | 57 | 500 | 2.4 | 20075 | 95.1 | 94 | 185 | 22 |
| Spr 2015 | 11 | Math | 58 | 480 | 2.3 | 20555 | 97.4 | 96 | 200 | 26 |
| Spr 2015 | 11 | Math | 59 | 338 | 1.6 | 20893 | 99.0 | 98 | 200 | 36 |
| Spr 2015 | 11 | Math | 60 | 214 | 1.0 | 21107 | 100.0 | 99 | 200 | 66 |

# Appendix S: Science Raw-to-Scale Conversion Tables and Distributions of Ability

The charts are simple displays of Scale Score, Raw Score, and percentile rank. The raw score and percentile rank for any Scale Score can be read directly from chart.

The proformance levels *Meets Standards* begins at a Scale Score of 85 and *Exceeds Standards* begins at 135. *Below Standards* is a Scale Score of 84 and below.

The table is a traditional table that was used to create the chart. This table would be used to retrieve the Scale Score or percentile rank for a given raw score. It also includes counts and percentages at each score.

**Grade 5**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Science | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 59 |
| Spr 2015 | 5 | Science | 1 | 0 | .0 | 0 | .0 | 0 | 1 | 33 |
| Spr 2015 | 5 | Science | 2 | 1 | .0 | 1 | .0 | 1 | 1 | 23 |
| Spr 2015 | 5 | Science | 3 | 0 | .0 | 1 | .0 | 1 | 1 | 19 |
| Spr 2015 | 5 | Science | 4 | 0 | .0 | 1 | .0 | 1 | 1 | 17 |
| Spr 2015 | 5 | Science | 5 | 1 | .0 | 2 | .0 | 1 | 1 | 15 |
| Spr 2015 | 5 | Science | 6 | 4 | .0 | 6 | .0 | 1 | 5 | 14 |
| Spr 2015 | 5 | Science | 7 | 4 | .0 | 10 | .0 | 1 | 11 | 13 |
| Spr 2015 | 5 | Science | 8 | 5 | .0 | 15 | .1 | 1 | 17 | 13 |
| Spr 2015 | 5 | Science | 9 | 14 | .1 | 29 | .1 | 1 | 21 | 12 |
| Spr 2015 | 5 | Science | 10 | 35 | .2 | 64 | .3 | 1 | 26 | 12 |
| Spr 2015 | 5 | Science | 11 | 52 | .2 | 116 | .5 | 1 | 30 | 11 |
| Spr 2015 | 5 | Science | 12 | 83 | .4 | 199 | .9 | 1 | 34 | 11 |
| Spr 2015 | 5 | Science | 13 | 89 | .4 | 288 | 1.3 | 1 | 38 | 11 |
| Spr 2015 | 5 | Science | 14 | 147 | .6 | 435 | 1.9 | 2 | 41 | 11 |
| Spr 2015 | 5 | Science | 15 | 148 | .6 | 583 | 2.5 | 2 | 45 | 10 |
| Spr 2015 | 5 | Science | 16 | 181 | .8 | 764 | 3.3 | 3 | 48 | 10 |
| Spr 2015 | 5 | Science | 17 | 238 | 1.0 | 1002 | 4.4 | 4 | 51 | 10 |
| Spr 2015 | 5 | Science | 18 | 280 | 1.2 | 1282 | 5.6 | 5 | 55 | 10 |
| Spr 2015 | 5 | Science | 19 | 306 | 1.3 | 1588 | 6.9 | 6 | 58 | 10 |
| Spr 2015 | 5 | Science | 20 | 340 | 1.5 | 1928 | 8.4 | 8 | 61 | 10 |
| Spr 2015 | 5 | Science | 21 | 377 | 1.6 | 2305 | 10.0 | 9 | 64 | 10 |
| Spr 2015 | 5 | Science | 22 | 426 | 1.9 | 2731 | 11.9 | 11 | 67 | 10 |
| Spr 2015 | 5 | Science | 23 | 480 | 2.1 | 3211 | 14.0 | 13 | 69 | 10 |
| Spr 2015 | 5 | Science | 24 | 465 | 2.0 | 3676 | 16.0 | 15 | 72 | 10 |
| Spr 2015 | 5 | Science | 25 | 557 | 2.4 | 4233 | 18.4 | 17 | 75 | 10 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 5 | Science | 26 | 607 | 2.6 | 4840 | 21.1 | 20 | 78 | 10 |
| Spr 2015 | 5 | Science | 27 | 629 | 2.7 | 5469 | 23.8 | 22 | 81 | 10 |
| Spr 2015 | 5 | Science | 28 | 664 | 2.9 | 6133 | 26.7 | 25 | 84 | 10 |
| Spr 2015 | 5 | Science | 29 | 757 | 3.3 | 6890 | 30.0 | 28 | 87 | 10 |
| Spr 2015 | 5 | Science | 30 | 692 | 3.0 | 7582 | 33.0 | 32 | 90 | 10 |
| Spr 2015 | 5 | Science | 31 | 805 | 3.5 | 8387 | 36.5 | 35 | 93 | 10 |
| Spr 2015 | 5 | Science | 32 | 838 | 3.7 | 9225 | 40.2 | 38 | 96 | 10 |
| Spr 2015 | 5 | Science | 33 | 896 | 3.9 | 10121 | 44.1 | 42 | 99 | 10 |
| Spr 2015 | 5 | Science | 34 | 914 | 4.0 | 11035 | 48.1 | 46 | 102 | 10 |
| Spr 2015 | 5 | Science | 35 | 892 | 3.9 | 11927 | 52.0 | 50 | 106 | 10 |
| Spr 2015 | 5 | Science | 36 | 936 | 4.1 | 12863 | 56.1 | 54 | 109 | 11 |
| Spr 2015 | 5 | Science | 37 | 977 | 4.3 | 13840 | 60.3 | 58 | 113 | 11 |
| Spr 2015 | 5 | Science | 38 | 1015 | 4.4 | 14855 | 64.7 | 63 | 117 | 11 |
| Spr 2015 | 5 | Science | 39 | 995 | 4.3 | 15850 | 69.1 | 67 | 121 | 11 |
| Spr 2015 | 5 | Science | 40 | 1016 | 4.4 | 16866 | 73.5 | 71 | 125 | 12 |
| Spr 2015 | 5 | Science | 41 | 1025 | 4.5 | 17891 | 78.0 | 76 | 129 | 12 |
| Spr 2015 | 5 | Science | 42 | 921 | 4.0 | 18812 | 82.0 | 80 | 134 | 13 |
| Spr 2015 | 5 | Science | 43 | 904 | 3.9 | 19716 | 85.9 | 84 | 140 | 14 |
| Spr 2015 | 5 | Science | 44 | 819 | 3.6 | 20535 | 89.5 | 88 | 146 | 14 |
| Spr 2015 | 5 | Science | 45 | 717 | 3.1 | 21252 | 92.6 | 91 | 153 | 16 |
| Spr 2015 | 5 | Science | 46 | 621 | 2.7 | 21873 | 95.3 | 94 | 161 | 17 |
| Spr 2015 | 5 | Science | 47 | 474 | 2.1 | 22347 | 97.4 | 96 | 171 | 19 |
| Spr 2015 | 5 | Science | 48 | 370 | 1.6 | 22717 | 99.0 | 98 | 185 | 23 |
| Spr 2015 | 5 | Science | 49 | 174 | .8 | 22891 | 99.7 | 99 | 200 | 33 |
| Spr 2015 | 5 | Science | 50 | 58 | .3 | 22949 | 100.0 | 99 | 200 | 59 |

**Grade 8**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Science | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 61 |
| Spr 2015 | 8 | Science | 1 | 1 | .0 | 1 | .0 | 1 | 1 | 34 |
| Spr 2015 | 8 | Science | 2 | 0 | .0 | 1 | .0 | 1 | 1 | 24 |
| Spr 2015 | 8 | Science | 3 | 0 | .0 | 1 | .0 | 1 | 1 | 20 |
| Spr 2015 | 8 | Science | 4 | 0 | .0 | 1 | .0 | 1 | 1 | 18 |
| Spr 2015 | 8 | Science | 5 | 0 | .0 | 1 | .0 | 1 | 1 | 16 |
| Spr 2015 | 8 | Science | 6 | 1 | .0 | 2 | .0 | 1 | 1 | 15 |
| Spr 2015 | 8 | Science | 7 | 3 | .0 | 5 | .0 | 1 | 2 | 14 |
| Spr 2015 | 8 | Science | 8 | 3 | .0 | 8 | .0 | 1 | 8 | 13 |
| Spr 2015 | 8 | Science | 9 | 4 | .0 | 12 | .1 | 1 | 13 | 13 |
| Spr 2015 | 8 | Science | 10 | 15 | .1 | 27 | .1 | 1 | 17 | 12 |
| Spr 2015 | 8 | Science | 11 | 18 | .1 | 45 | .2 | 1 | 21 | 12 |
| Spr 2015 | 8 | Science | 12 | 45 | .2 | 90 | .4 | 1 | 25 | 11 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Science | 13 | 57 | .3 | 147 | .7 | 1 | 29 | 11 |
| Spr 2015 | 8 | Science | 14 | 89 | .4 | 236 | 1.1 | 1 | 32 | 11 |
| Spr 2015 | 8 | Science | 15 | 102 | .5 | 338 | 1.5 | 1 | 36 | 10 |
| Spr 2015 | 8 | Science | 16 | 114 | .5 | 452 | 2.1 | 2 | 39 | 10 |
| Spr 2015 | 8 | Science | 17 | 200 | .9 | 652 | 3.0 | 3 | 42 | 10 |
| Spr 2015 | 8 | Science | 18 | 223 | 1.0 | 875 | 4.0 | 3 | 45 | 10 |
| Spr 2015 | 8 | Science | 19 | 236 | 1.1 | 1111 | 5.1 | 5 | 48 | 10 |
| Spr 2015 | 8 | Science | 20 | 233 | 1.1 | 1344 | 6.1 | 6 | 51 | 10 |
| Spr 2015 | 8 | Science | 21 | 266 | 1.2 | 1610 | 7.3 | 7 | 53 | 10 |
| Spr 2015 | 8 | Science | 22 | 276 | 1.3 | 1886 | 8.6 | 8 | 56 | 9 |
| Spr 2015 | 8 | Science | 23 | 318 | 1.4 | 2204 | 10.0 | 9 | 59 | 9 |
| Spr 2015 | 8 | Science | 24 | 338 | 1.5 | 2542 | 11.6 | 11 | 61 | 9 |
| Spr 2015 | 8 | Science | 25 | 354 | 1.6 | 2896 | 13.2 | 12 | 64 | 9 |
| Spr 2015 | 8 | Science | 26 | 390 | 1.8 | 3286 | 14.9 | 14 | 66 | 9 |
| Spr 2015 | 8 | Science | 27 | 411 | 1.9 | 3697 | 16.8 | 16 | 69 | 9 |
| Spr 2015 | 8 | Science | 28 | 431 | 2.0 | 4128 | 18.8 | 18 | 71 | 9 |
| Spr 2015 | 8 | Science | 29 | 447 | 2.0 | 4575 | 20.8 | 20 | 74 | 9 |
| Spr 2015 | 8 | Science | 30 | 480 | 2.2 | 5055 | 23.0 | 22 | 76 | 9 |
| Spr 2015 | 8 | Science | 31 | 506 | 2.3 | 5561 | 25.3 | 24 | 79 | 9 |
| Spr 2015 | 8 | Science | 32 | 464 | 2.1 | 6025 | 27.4 | 26 | 81 | 9 |
| Spr 2015 | 8 | Science | 33 | 524 | 2.4 | 6549 | 29.8 | 29 | 84 | 9 |
| Spr 2015 | 8 | Science | 34 | 519 | 2.4 | 7068 | 32.1 | 31 | 86 | 9 |
| Spr 2015 | 8 | Science | 35 | 579 | 2.6 | 7647 | 34.8 | 33 | 89 | 9 |
| Spr 2015 | 8 | Science | 36 | 545 | 2.5 | 8192 | 37.2 | 36 | 91 | 9 |
| Spr 2015 | 8 | Science | 37 | 587 | 2.7 | 8779 | 39.9 | 39 | 94 | 9 |
| Spr 2015 | 8 | Science | 38 | 634 | 2.9 | 9413 | 42.8 | 41 | 97 | 9 |
| Spr 2015 | 8 | Science | 39 | 624 | 2.8 | 10037 | 45.6 | 44 | 99 | 10 |
| Spr 2015 | 8 | Science | 40 | 667 | 3.0 | 10704 | 48.7 | 47 | 102 | 10 |
| Spr 2015 | 8 | Science | 41 | 680 | 3.1 | 11384 | 51.8 | 50 | 105 | 10 |
| Spr 2015 | 8 | Science | 42 | 704 | 3.2 | 12088 | 55.0 | 53 | 108 | 10 |
| Spr 2015 | 8 | Science | 43 | 686 | 3.1 | 12774 | 58.1 | 57 | 111 | 10 |
| Spr 2015 | 8 | Science | 44 | 728 | 3.3 | 13502 | 61.4 | 60 | 114 | 10 |
| Spr 2015 | 8 | Science | 45 | 719 | 3.3 | 14221 | 64.7 | 63 | 117 | 10 |
| Spr 2015 | 8 | Science | 46 | 682 | 3.1 | 14903 | 67.8 | 66 | 120 | 11 |
| Spr 2015 | 8 | Science | 47 | 710 | 3.2 | 15613 | 71.0 | 69 | 124 | 11 |
| Spr 2015 | 8 | Science | 48 | 732 | 3.3 | 16345 | 74.3 | 73 | 127 | 11 |
| Spr 2015 | 8 | Science | 49 | 676 | 3.1 | 17021 | 77.4 | 76 | 131 | 12 |
| Spr 2015 | 8 | Science | 50 | 681 | 3.1 | 17702 | 80.5 | 79 | 135 | 12 |
| Spr 2015 | 8 | Science | 51 | 703 | 3.2 | 18405 | 83.7 | 82 | 140 | 12 |
| Spr 2015 | 8 | Science | 52 | 667 | 3.0 | 19072 | 86.7 | 85 | 144 | 13 |
| Spr 2015 | 8 | Science | 53 | 598 | 2.7 | 19670 | 89.4 | 88 | 150 | 14 |
| Spr 2015 | 8 | Science | 54 | 537 | 2.4 | 20207 | 91.9 | 91 | 156 | 15 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 8 | Science | 55 | 529 | 2.4 | 20736 | 94.3 | 93 | 163 | 16 |
| Spr 2015 | 8 | Science | 56 | 457 | 2.1 | 21193 | 96.4 | 95 | 171 | 18 |
| Spr 2015 | 8 | Science | 57 | 345 | 1.6 | 21538 | 97.9 | 97 | 182 | 20 |
| Spr 2015 | 8 | Science | 58 | 242 | 1.1 | 21780 | 99.0 | 98 | 196 | 24 |
| Spr 2015 | 8 | Science | 59 | 166 | .8 | 21946 | 99.8 | 99 | 200 | 34 |
| Spr 2015 | 8 | Science | 60 | 47 | .2 | 21993 | 100.0 | 99 | 200 | 61 |

**Grade 11**

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Science | 0 | 0 | .0 | 0 | .0 | 0 | 1 | 49 |
| Spr 2015 | 11 | Science | 1 | 0 | .0 | 0 | .0 | 1 | 1 | 27 |
| Spr 2015 | 11 | Science | 2 | 0 | .0 | 0 | .0 | 1 | 1 | 20 |
| Spr 2015 | 11 | Science | 3 | 1 | .0 | 1 | .0 | 1 | 1 | 16 |
| Spr 2015 | 11 | Science | 4 | 0 | .0 | 1 | .0 | 1 | 4 | 14 |
| Spr 2015 | 11 | Science | 5 | 0 | .0 | 1 | .0 | 1 | 11 | 13 |
| Spr 2015 | 11 | Science | 6 | 3 | .0 | 4 | .0 | 1 | 17 | 12 |
| Spr 2015 | 11 | Science | 7 | 1 | .0 | 5 | .0 | 1 | 22 | 11 |
| Spr 2015 | 11 | Science | 8 | 4 | .0 | 9 | .0 | 1 | 26 | 10 |
| Spr 2015 | 11 | Science | 9 | 8 | .0 | 17 | .1 | 1 | 30 | 10 |
| Spr 2015 | 11 | Science | 10 | 12 | .1 | 29 | .1 | 1 | 33 | 10 |
| Spr 2015 | 11 | Science | 11 | 39 | .2 | 68 | .3 | 1 | 37 | 9 |
| Spr 2015 | 11 | Science | 12 | 46 | .2 | 114 | .5 | 1 | 40 | 9 |
| Spr 2015 | 11 | Science | 13 | 63 | .3 | 177 | .8 | 1 | 43 | 9 |
| Spr 2015 | 11 | Science | 14 | 98 | .5 | 275 | 1.3 | 1 | 45 | 9 |
| Spr 2015 | 11 | Science | 15 | 107 | .5 | 382 | 1.8 | 2 | 48 | 8 |
| Spr 2015 | 11 | Science | 16 | 154 | .7 | 536 | 2.5 | 2 | 50 | 8 |
| Spr 2015 | 11 | Science | 17 | 156 | .7 | 692 | 3.3 | 3 | 53 | 8 |
| Spr 2015 | 11 | Science | 18 | 179 | .8 | 871 | 4.1 | 4 | 55 | 8 |
| Spr 2015 | 11 | Science | 19 | 224 | 1.1 | 1095 | 5.2 | 5 | 58 | 8 |
| Spr 2015 | 11 | Science | 20 | 247 | 1.2 | 1342 | 6.4 | 6 | 60 | 8 |
| Spr 2015 | 11 | Science | 21 | 269 | 1.3 | 1611 | 7.6 | 7 | 62 | 8 |
| Spr 2015 | 11 | Science | 22 | 284 | 1.3 | 1895 | 9.0 | 8 | 64 | 8 |
| Spr 2015 | 11 | Science | 23 | 303 | 1.4 | 2198 | 10.4 | 10 | 66 | 7 |
| Spr 2015 | 11 | Science | 24 | 263 | 1.2 | 2461 | 11.7 | 11 | 68 | 7 |
| Spr 2015 | 11 | Science | 25 | 318 | 1.5 | 2779 | 13.2 | 12 | 70 | 7 |
| Spr 2015 | 11 | Science | 26 | 348 | 1.6 | 3127 | 14.8 | 14 | 72 | 7 |
| Spr 2015 | 11 | Science | 27 | 335 | 1.6 | 3462 | 16.4 | 16 | 74 | 7 |
| Spr 2015 | 11 | Science | 28 | 382 | 1.8 | 3844 | 18.2 | 17 | 76 | 7 |
| Spr 2015 | 11 | Science | 29 | 379 | 1.8 | 4223 | 20.0 | 19 | 78 | 7 |
| Spr 2015 | 11 | Science | 30 | 404 | 1.9 | 4627 | 21.9 | 21 | 80 | 7 |
| Spr 2015 | 11 | Science | 31 | 427 | 2.0 | 5054 | 24.0 | 23 | 82 | 7 |

| Admin | Grade | Content Area | Raw Score | Count | Percent | Cum. Count | Cum. Percent | Percentile | Scale Score | *S.E.* |
|---|---|---|---|---|---|---|---|---|---|---|
| Spr 2015 | 11 | Science | 32 | 420 | 2.0 | 5474 | 25.9 | 25 | 84 | 7 |
| Spr 2015 | 11 | Science | 33 | 450 | 2.1 | 5924 | 28.1 | 27 | 86 | 7 |
| Spr 2015 | 11 | Science | 34 | 478 | 2.3 | 6402 | 30.3 | 29 | 88 | 7 |
| Spr 2015 | 11 | Science | 35 | 525 | 2.5 | 6927 | 32.8 | 32 | 90 | 7 |
| Spr 2015 | 11 | Science | 36 | 545 | 2.6 | 7472 | 35.4 | 34 | 92 | 7 |
| Spr 2015 | 11 | Science | 37 | 557 | 2.6 | 8029 | 38.0 | 37 | 94 | 7 |
| Spr 2015 | 11 | Science | 38 | 598 | 2.8 | 8627 | 40.9 | 39 | 96 | 8 |
| Spr 2015 | 11 | Science | 39 | 609 | 2.9 | 9236 | 43.8 | 42 | 98 | 8 |
| Spr 2015 | 11 | Science | 40 | 598 | 2.8 | 9834 | 46.6 | 45 | 101 | 8 |
| Spr 2015 | 11 | Science | 41 | 622 | 2.9 | 10456 | 49.5 | 48 | 103 | 8 |
| Spr 2015 | 11 | Science | 42 | 682 | 3.2 | 11138 | 52.8 | 51 | 105 | 8 |
| Spr 2015 | 11 | Science | 43 | 704 | 3.3 | 11842 | 56.1 | 54 | 108 | 8 |
| Spr 2015 | 11 | Science | 44 | 700 | 3.3 | 12542 | 59.4 | 58 | 110 | 8 |
| Spr 2015 | 11 | Science | 45 | 730 | 3.5 | 13272 | 62.9 | 61 | 112 | 8 |
| Spr 2015 | 11 | Science | 46 | 721 | 3.4 | 13993 | 66.3 | 65 | 115 | 9 |
| Spr 2015 | 11 | Science | 47 | 732 | 3.5 | 14725 | 69.8 | 68 | 118 | 9 |
| Spr 2015 | 11 | Science | 48 | 776 | 3.7 | 15501 | 73.5 | 72 | 121 | 9 |
| Spr 2015 | 11 | Science | 49 | 699 | 3.3 | 16200 | 76.8 | 75 | 124 | 9 |
| Spr 2015 | 11 | Science | 50 | 688 | 3.3 | 16888 | 80.0 | 78 | 127 | 10 |
| Spr 2015 | 11 | Science | 51 | 732 | 3.5 | 17620 | 83.5 | 82 | 131 | 10 |
| Spr 2015 | 11 | Science | 52 | 701 | 3.3 | 18321 | 86.8 | 85 | 135 | 11 |
| Spr 2015 | 11 | Science | 53 | 638 | 3.0 | 18959 | 89.8 | 88 | 139 | 11 |
| Spr 2015 | 11 | Science | 54 | 519 | 2.5 | 19478 | 92.3 | 91 | 144 | 12 |
| Spr 2015 | 11 | Science | 55 | 509 | 2.4 | 19987 | 94.7 | 94 | 149 | 13 |
| Spr 2015 | 11 | Science | 56 | 435 | 2.1 | 20422 | 96.8 | 96 | 156 | 14 |
| Spr 2015 | 11 | Science | 57 | 294 | 1.4 | 20716 | 98.2 | 97 | 165 | 16 |
| Spr 2015 | 11 | Science | 58 | 216 | 1.0 | 20932 | 99.2 | 99 | 176 | 20 |
| Spr 2015 | 11 | Science | 59 | 131 | .6 | 21063 | 99.8 | 99 | 196 | 27 |
| Spr 2015 | 11 | Science | 60 | 39 | .2 | 21102 | 100.0 | 99 | 200 | 49 |

# Appendix T: Reading Field Test Differential Item Functioning

***AM=American Indian, AS=Asian, BL=African American/Black, HI= Hispanic, MU=Multiple Ethnicities, WH=White**
**200 student minimum for reporting.**

| Grade 3 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706352 | 6272 | 2906 | A- | 517 | A- | 1408 | B- | 86 | | 206 | A- | 214 | B- |
| FT | 706353 | 6272 | 2906 | A- | 517 | A- | 1408 | A- | 86 | | 206 | B- | 214 | A+ |
| FT | 706354 | 6272 | 2906 | A+ | 517 | A- | 1408 | A- | 86 | | 206 | A- | 214 | A- |
| FT | 706355 | 6272 | 2906 | A+ | 517 | A+ | 1408 | A+ | 86 | | 206 | A+ | 214 | A+ |
| FT | 706356 | 6272 | 2906 | A+ | 517 | A+ | 1408 | A+ | 86 | | 206 | A+ | 214 | A- |
| FT | 706357 | 6272 | 2906 | A+ | 517 | A- | 1408 | A+ | 86 | | 206 | A+ | 214 | A+ |
| FT | 706358 | 6272 | 2906 | A+ | 517 | A- | 1408 | A- | 86 | | 206 | A+ | 214 | A- |
| FT | 706359 | 6272 | 2906 | A+ | 517 | A+ | 1408 | A+ | 86 | | 206 | A- | 214 | A- |
| FT | 706360 | 6272 | 2906 | A+ | 517 | A- | 1408 | A+ | 86 | | 206 | A+ | 214 | A+ |
| FT | 706362 | 6272 | 2906 | A+ | 517 | A- | 1408 | A- | 86 | | 206 | A+ | 214 | A- |
| FT | 706364 | 4245 | 2098 | A+ | 276 | A- | 758 | A- | 52 | | 94 | | 148 | |
| FT | 706365 | 4245 | 2098 | A- | 276 | B- | 758 | B- | 52 | | 94 | | 148 | |
| FT | 706367 | 4245 | 2098 | A- | 276 | B- | 758 | A- | 52 | | 94 | | 148 | |
| FT | 706369 | 4245 | 2098 | A- | 276 | A- | 758 | A+ | 52 | | 94 | | 148 | |
| FT | 706370 | 4245 | 2098 | A- | 276 | A- | 758 | A+ | 52 | | 94 | | 148 | |
| FT | 706371 | 4245 | 2098 | A+ | 276 | A+ | 758 | A+ | 52 | | 94 | | 148 | |
| FT | 706372 | 4245 | 2098 | A+ | 276 | B- | 758 | A- | 52 | | 94 | | 148 | |
| FT | 706373 | 4245 | 2098 | A+ | 276 | A- | 758 | A+ | 52 | | 94 | | 148 | |
| FT | 706374 | 4245 | 2098 | A+ | 276 | B- | 758 | A+ | 52 | | 94 | | 148 | |
| FT | 706375 | 4245 | 2098 | A+ | 276 | A+ | 758 | A+ | 52 | | 94 | | 148 | |
| FT | 706376 | 4392 | 2177 | A- | 293 | A- | 760 | A- | 69 | | 96 | | 163 | |
| FT | 706377 | 4392 | 2177 | A- | 293 | A- | 760 | A- | 69 | | 96 | | 163 | |
| FT | 706379 | 4392 | 2177 | A- | 293 | A- | 760 | A- | 69 | | 96 | | 163 | |

| Grade 3 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706380 | 4392 | 2177 | A- | 293 | A+ | 760 | A+ | 69 | | 96 | | 163 | |
| FT | 706381 | 4392 | 2177 | A+ | 293 | A- | 760 | A- | 69 | | 96 | | 163 | |
| FT | 706382 | 4392 | 2177 | A- | 293 | A+ | 760 | A+ | 69 | | 96 | | 163 | |
| FT | 706383 | 4392 | 2177 | A- | 293 | A- | 760 | A+ | 69 | | 96 | | 163 | |
| FT | 706384 | 4392 | 2177 | A+ | 293 | A- | 760 | A+ | 69 | | 96 | | 163 | |
| FT | 706385 | 4392 | 2177 | A- | 293 | A- | 760 | A+ | 69 | | 96 | | 163 | |
| FT | 706386 | 4392 | 2177 | A+ | 293 | A- | 760 | A- | 69 | | 96 | | 163 | |
| FT | 706388 | 4049 | 2056 | A+ | 280 | A- | 659 | A+ | 49 | | 89 | | 154 | |
| FT | 706389 | 4049 | 2056 | A- | 280 | A- | 659 | A- | 49 | | 89 | | 154 | |
| FT | 706390 | 4049 | 2056 | A+ | 280 | A- | 659 | A+ | 49 | | 89 | | 154 | |
| FT | 706391 | 4049 | 2056 | A+ | 280 | A- | 659 | A- | 49 | | 89 | | 154 | |
| FT | 706392 | 4049 | 2056 | A+ | 280 | A- | 659 | A- | 49 | | 89 | | 154 | |
| FT | 706393 | 4049 | 2056 | A+ | 280 | A- | 659 | A+ | 49 | | 89 | | 154 | |
| FT | 706394 | 4049 | 2056 | A+ | 280 | A+ | 659 | A- | 49 | | 89 | | 154 | |
| FT | 706396 | 4049 | 2056 | A+ | 280 | A- | 659 | B- | 49 | | 89 | | 154 | |
| FT | 706397 | 4049 | 2056 | A- | 280 | A- | 659 | A- | 49 | | 89 | | 154 | |
| FT | 706398 | 4049 | 2056 | A- | 280 | A- | 659 | B- | 49 | | 89 | | 154 | |
| FT | 706399 | 4055 | 2021 | A+ | 253 | A+ | 652 | A+ | 68 | | 82 | | 169 | |
| FT | 706400 | 4055 | 2021 | A+ | 253 | A- | 652 | C- | 68 | | 82 | | 169 | |
| FT | 706401 | 4055 | 2021 | A- | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706402 | 4055 | 2021 | A- | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706403 | 4055 | 2021 | A- | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706404 | 4055 | 2021 | A- | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706405 | 4055 | 2021 | A- | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706406 | 4055 | 2021 | A- | 253 | A+ | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706409 | 4055 | 2021 | A- | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |
| FT | 706410 | 4055 | 2021 | A+ | 253 | A- | 652 | A- | 68 | | 82 | | 169 | |

| Grade 4 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706610 | 5789 | 2650 | A- | 421 | A+ | 1258 | A- | 87 | | 166 | | 230 | A+ |
| FT | 706611 | 5789 | 2650 | A- | 421 | A- | 1258 | A- | 87 | | 166 | | 230 | A- |
| FT | 706614 | 5789 | 2650 | A- | 421 | B- | 1258 | A- | 87 | | 166 | | 230 | A- |
| FT | 706615 | 5789 | 2650 | A- | 421 | A+ | 1258 | A- | 87 | | 166 | | 230 | A+ |
| FT | 706616 | 5789 | 2650 | A+ | 421 | A- | 1258 | A- | 87 | | 166 | | 230 | A+ |
| FT | 706617 | 5789 | 2650 | A+ | 421 | A- | 1258 | A- | 87 | | 166 | | 230 | A+ |
| FT | 706618 | 5789 | 2650 | A- | 421 | A- | 1258 | A- | 87 | | 166 | | 230 | A+ |
| FT | 706619 | 5789 | 2650 | A- | 421 | A+ | 1258 | A+ | 87 | | 166 | | 230 | A- |
| FT | 706620 | 5789 | 2650 | A+ | 421 | A+ | 1258 | A+ | 87 | | 166 | | 230 | A+ |
| FT | 706621 | 4389 | 2144 | A+ | 295 | A+ | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706623 | 4389 | 2144 | A+ | 295 | A+ | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706624 | 4389 | 2144 | A+ | 295 | A- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706625 | 4389 | 2144 | A+ | 295 | A- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706626 | 4389 | 2144 | A+ | 295 | A- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706627 | 4389 | 2144 | A- | 295 | A- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706628 | 4389 | 2144 | A- | 295 | A+ | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706629 | 4389 | 2144 | A- | 295 | B- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706630 | 4389 | 2144 | A- | 295 | A- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706631 | 4389 | 2144 | A+ | 295 | A- | 743 | A- | 50 | | 92 | | 170 | |
| FT | 706632 | 5789 | 2650 | A- | 421 | A- | 1258 | A- | 87 | | 166 | | 230 | A- |
| FT | 706633 | 4262 | 2125 | A+ | 305 | C- | 712 | A+ | 39 | | 94 | | 159 | |
| FT | 706635 | 4262 | 2125 | A+ | 305 | C- | 712 | A+ | 39 | | 94 | | 159 | |
| FT | 706636 | 4262 | 2125 | A+ | 305 | C- | 712 | B- | 39 | | 94 | | 159 | |
| FT | 706637 | 4262 | 2125 | A+ | 305 | A- | 712 | A+ | 39 | | 94 | | 159 | |
| FT | 706638 | 4262 | 2125 | A+ | 305 | A- | 712 | A- | 39 | | 94 | | 159 | |
| FT | 706639 | 4262 | 2125 | A- | 305 | A- | 712 | A- | 39 | | 94 | | 159 | |
| FT | 706640 | 4262 | 2125 | A+ | 305 | B- | 712 | A- | 39 | | 94 | | 159 | |
| FT | 706641 | 4262 | 2125 | A+ | 305 | A- | 712 | A- | 39 | | 94 | | 159 | |
| FT | 706642 | 4262 | 2125 | A- | 305 | B- | 712 | A- | 39 | | 94 | | 159 | |

| Grade 4 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706643 | 4262 | 2125 | A+ | 305 | A- | 712 | A- | 39 | | 94 | | 159 | |
| FT | 706645 | 3970 | 2012 | A- | 260 | A- | 683 | A+ | 50 | | 109 | | 142 | |
| FT | 706646 | 3970 | 2012 | A- | 260 | A- | 683 | A- | 50 | | 109 | | 142 | |
| FT | 706647 | 3970 | 2012 | A- | 260 | A- | 683 | A+ | 50 | | 109 | | 142 | |
| FT | 706649 | 3970 | 2012 | A- | 260 | A- | 683 | A- | 50 | | 109 | | 142 | |
| FT | 706650 | 3970 | 2012 | A- | 260 | A- | 683 | A- | 50 | | 109 | | 142 | |
| FT | 706651 | 3970 | 2012 | A+ | 260 | A- | 683 | A+ | 50 | | 109 | | 142 | |
| FT | 706652 | 3970 | 2012 | A+ | 260 | A- | 683 | A- | 50 | | 109 | | 142 | |
| FT | 706654 | 3970 | 2012 | B- | 260 | A- | 683 | B- | 50 | | 109 | | 142 | |
| FT | 706655 | 3970 | 2012 | A- | 260 | A+ | 683 | A- | 50 | | 109 | | 142 | |
| FT | 706656 | 3970 | 2012 | A+ | 260 | A- | 683 | A+ | 50 | | 109 | | 142 | |
| FT | 706657 | 4179 | 2061 | A+ | 285 | A+ | 654 | A+ | 42 | | 90 | | 140 | |
| FT | 706658 | 4179 | 2061 | A- | 285 | A+ | 654 | A+ | 42 | | 90 | | 140 | |
| FT | 706659 | 4179 | 2061 | A- | 285 | A- | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706660 | 4179 | 2061 | A- | 285 | A- | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706661 | 4179 | 2061 | A- | 285 | A- | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706662 | 4179 | 2061 | A- | 285 | A- | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706664 | 4179 | 2061 | A- | 285 | A- | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706665 | 4179 | 2061 | A- | 285 | A- | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706666 | 4179 | 2061 | A- | 285 | A+ | 654 | A- | 42 | | 90 | | 140 | |
| FT | 706667 | 4179 | 2061 | A- | 285 | A+ | 654 | A- | 42 | | 90 | | 140 | |

| Grade 5 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706443 | 4137 | 2038 | A- | 270 | A- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706444 | 4137 | 2038 | A- | 270 | B- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706445 | 4137 | 2038 | A- | 270 | A- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706447 | 4137 | 2038 | A- | 270 | B- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706448 | 4137 | 2038 | A- | 270 | A- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706449 | 4137 | 2038 | A- | 270 | A- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706450 | 4137 | 2038 | A- | 270 | B- | 709 | A+ | 66 | | 100 | | 146 | |
| FT | 706451 | 4137 | 2038 | A+ | 270 | A- | 709 | A+ | 66 | | 100 | | 146 | |
| FT | 706452 | 4137 | 2038 | A- | 270 | A- | 709 | A+ | 66 | | 100 | | 146 | |
| FT | 706454 | 4137 | 2038 | A- | 270 | B- | 709 | A- | 66 | | 100 | | 146 | |
| FT | 706455 | 5859 | 2783 | A+ | 466 | A- | 1208 | A- | 86 | | 172 | | 228 | A- |
| FT | 706456 | 5859 | 2783 | A- | 466 | A- | 1208 | A+ | 86 | | 172 | | 228 | A- |
| FT | 706457 | 5859 | 2783 | A- | 466 | A- | 1208 | A- | 86 | | 172 | | 228 | A- |
| FT | 706458 | 5859 | 2783 | A+ | 466 | A- | 1208 | A+ | 86 | | 172 | | 228 | A+ |
| FT | 706459 | 5859 | 2783 | A+ | 466 | A- | 1208 | A+ | 86 | | 172 | | 228 | A- |
| FT | 706460 | 5859 | 2783 | A+ | 466 | A+ | 1208 | A- | 86 | | 172 | | 228 | A+ |
| FT | 706461 | 5859 | 2783 | A+ | 466 | A- | 1208 | A+ | 86 | | 172 | | 228 | A+ |
| FT | 706462 | 5859 | 2783 | A+ | 466 | B- | 1208 | A- | 86 | | 172 | | 228 | A+ |
| FT | 706464 | 5859 | 2783 | A- | 466 | C- | 1208 | B- | 86 | | 172 | | 228 | A- |
| FT | 706466 | 5859 | 2783 | A+ | 466 | B- | 1208 | A- | 86 | | 172 | | 228 | A- |
| FT | 706468 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706469 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706470 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706471 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706472 | 4212 | 2101 | A+ | 217 | C- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706473 | 4212 | 2101 | A- | 217 | A+ | 699 | A+ | 51 | | 92 | | 140 | |
| FT | 706474 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706476 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706477 | 4212 | 2101 | A+ | 217 | C- | 699 | C- | 51 | | 92 | | 140 | |

| Grade 5 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706478 | 4212 | 2101 | A+ | 217 | A- | 699 | A- | 51 | | 92 | | 140 | |
| FT | 706479 | 4658 | 2318 | A- | 287 | A- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706480 | 4658 | 2318 | A+ | 287 | C- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706481 | 4658 | 2318 | A- | 287 | A- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706482 | 4658 | 2318 | A+ | 287 | A+ | 795 | A+ | 58 | | 100 | | 141 | |
| FT | 706484 | 4658 | 2318 | A- | 287 | A- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706485 | 4658 | 2318 | A- | 287 | A- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706486 | 4658 | 2318 | A- | 287 | A- | 795 | B- | 58 | | 100 | | 141 | |
| FT | 706488 | 4658 | 2318 | A- | 287 | A- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706489 | 4658 | 2318 | A+ | 287 | A+ | 795 | A+ | 58 | | 100 | | 141 | |
| FT | 706490 | 4658 | 2318 | A- | 287 | A- | 795 | A- | 58 | | 100 | | 141 | |
| FT | 706492 | 4012 | 1967 | A- | 236 | A- | 650 | A- | 57 | | 86 | | 141 | |
| FT | 706494 | 4012 | 1967 | A- | 236 | B- | 650 | A+ | 57 | | 86 | | 141 | |
| FT | 706495 | 4012 | 1967 | A+ | 236 | A- | 650 | A- | 57 | | 86 | | 141 | |
| FT | 706496 | 4012 | 1967 | A+ | 236 | A- | 650 | A- | 57 | | 86 | | 141 | |
| FT | 706497 | 4012 | 1967 | A- | 236 | A- | 650 | A- | 57 | | 86 | | 141 | |
| FT | 706498 | 4012 | 1967 | A+ | 236 | A- | 650 | A+ | 57 | | 86 | | 141 | |
| FT | 706499 | 4012 | 1967 | A- | 236 | A+ | 650 | A+ | 57 | | 86 | | 141 | |
| FT | 706500 | 4012 | 1967 | A- | 236 | A- | 650 | B- | 57 | | 86 | | 141 | |
| FT | 706501 | 4012 | 1967 | A- | 236 | A- | 650 | A- | 57 | | 86 | | 141 | |
| FT | 706502 | 4012 | 1967 | A- | 236 | A- | 650 | A- | 57 | | 86 | | 141 | |

| Grade 6 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706503 | 4236 | 2088 | A+ | 268 | A- | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706504 | 4236 | 2088 | A- | 268 | A+ | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706505 | 4236 | 2088 | A+ | 268 | A- | 741 | A- | 64 | | 80 | | 134 | |
| FT | 706506 | 4236 | 2088 | A- | 268 | A- | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706507 | 4236 | 2088 | A+ | 268 | A+ | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706508 | 4236 | 2088 | A+ | 268 | A- | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706510 | 4236 | 2088 | A- | 268 | A- | 741 | A- | 64 | | 80 | | 134 | |
| FT | 706511 | 4236 | 2088 | A- | 268 | A+ | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706513 | 4236 | 2088 | A- | 268 | B- | 741 | B- | 64 | | 80 | | 134 | |
| FT | 706514 | 4236 | 2088 | A+ | 268 | A+ | 741 | A+ | 64 | | 80 | | 134 | |
| FT | 706515 | 3979 | 1961 | A+ | 267 | A- | 669 | A- | 41 | | 105 | | 144 | |
| FT | 706516 | 3979 | 1961 | A+ | 267 | A+ | 669 | A+ | 41 | | 105 | | 144 | |
| FT | 706517 | 3979 | 1961 | A- | 267 | A- | 669 | A+ | 41 | | 105 | | 144 | |
| FT | 706518 | 3979 | 1961 | A+ | 267 | A+ | 669 | A+ | 41 | | 105 | | 144 | |
| FT | 706519 | 3979 | 1961 | A- | 267 | A- | 669 | A- | 41 | | 105 | | 144 | |
| FT | 706520 | 3979 | 1961 | A+ | 267 | A- | 669 | A- | 41 | | 105 | | 144 | |
| FT | 706522 | 3979 | 1961 | A- | 267 | A- | 669 | A- | 41 | | 105 | | 144 | |
| FT | 706523 | 3979 | 1961 | A+ | 267 | A- | 669 | A- | 41 | | 105 | | 144 | |
| FT | 706524 | 3979 | 1961 | A- | 267 | B- | 669 | A- | 41 | | 105 | | 144 | |
| FT | 706525 | 3979 | 1961 | A- | 267 | C- | 669 | C- | 41 | | 105 | | 144 | |
| FT | 706526 | 4253 | 2058 | A+ | 256 | A+ | 714 | A+ | 64 | | 93 | | 162 | |
| FT | 706527 | 4253 | 2058 | A- | 256 | B- | 714 | B- | 64 | | 93 | | 162 | |
| FT | 706528 | 4253 | 2058 | A+ | 256 | A+ | 714 | A+ | 64 | | 93 | | 162 | |
| FT | 706529 | 4253 | 2058 | A+ | 256 | A- | 714 | A- | 64 | | 93 | | 162 | |
| FT | 706530 | 4253 | 2058 | A+ | 256 | A- | 714 | A+ | 64 | | 93 | | 162 | |
| FT | 706531 | 4253 | 2058 | A+ | 256 | A- | 714 | A+ | 64 | | 93 | | 162 | |
| FT | 706532 | 4253 | 2058 | A+ | 256 | B- | 714 | A- | 64 | | 93 | | 162 | |
| FT | 706534 | 4253 | 2058 | A+ | 256 | A- | 714 | A+ | 64 | | 93 | | 162 | |

| Grade 6 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706535 | 4253 | 2058 | A+ | 256 | A- | 714 | A- | 64 | | 93 | | 162 | |
| FT | 706536 | 4253 | 2058 | A- | 256 | B- | 714 | A- | 64 | | 93 | | 162 | |
| FT | 706540 | 4116 | 2059 | A- | 237 | A- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706541 | 4116 | 2059 | A+ | 237 | A- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706542 | 4116 | 2059 | A+ | 237 | A- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706543 | 4116 | 2059 | A+ | 237 | A- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706544 | 4116 | 2059 | A+ | 237 | A- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706545 | 4116 | 2059 | A- | 237 | A- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706546 | 4116 | 2059 | A+ | 237 | A+ | 704 | A+ | 48 | | 89 | | 142 | |
| FT | 706547 | 4116 | 2059 | A+ | 237 | A+ | 704 | A+ | 48 | | 89 | | 142 | |
| FT | 706548 | 4116 | 2059 | A+ | 237 | A+ | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706549 | 4116 | 2059 | A- | 237 | B- | 704 | A- | 48 | | 89 | | 142 | |
| FT | 706552 | 5793 | 2693 | A+ | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706553 | 5793 | 2693 | A+ | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706554 | 5793 | 2693 | A- | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706555 | 5793 | 2693 | B- | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | A+ |
| FT | 706556 | 5793 | 2693 | A- | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706558 | 5793 | 2693 | A- | 438 | B- | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706559 | 5793 | 2693 | A+ | 438 | A+ | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706560 | 5793 | 2693 | A+ | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | B- |
| FT | 706561 | 5793 | 2693 | A+ | 438 | A+ | 1138 | A- | 77 | | 169 | | 212 | A- |
| FT | 706562 | 5793 | 2693 | A+ | 438 | A- | 1138 | A- | 77 | | 169 | | 212 | A- |

| Grade 7 Reading | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706685 | 4167 | 2065 | A- | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706686 | 4167 | 2065 | B- | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706689 | 4167 | 2065 | A- | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706690 | 4167 | 2065 | A- | 250 | B- | 671 | B- | 57 | | 77 | | 130 | |
| FT | 706691 | 4167 | 2065 | A+ | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706692 | 4167 | 2065 | A+ | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706693 | 4167 | 2065 | A+ | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706694 | 4167 | 2065 | A- | 250 | A- | 671 | A+ | 57 | | 77 | | 130 | |
| FT | 706695 | 4167 | 2065 | A- | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706696 | 4167 | 2065 | A+ | 250 | A- | 671 | A- | 57 | | 77 | | 130 | |
| FT | 706699 | 5580 | 2644 | A+ | 414 | A- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706700 | 5580 | 2644 | A+ | 414 | A- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706701 | 5580 | 2644 | A+ | 414 | B- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706703 | 3970 | 1950 | B+ | 221 | A- | 687 | A+ | 53 | | 81 | | 155 | |
| FT | 706706 | 3970 | 1950 | A- | 221 | A+ | 687 | A+ | 53 | | 81 | | 155 | |
| FT | 706707 | 3970 | 1950 | A+ | 221 | A- | 687 | A+ | 53 | | 81 | | 155 | |
| FT | 706708 | 3970 | 1950 | A- | 221 | B- | 687 | A- | 53 | | 81 | | 155 | |
| FT | 706709 | 3970 | 1950 | A- | 221 | A- | 687 | A- | 53 | | 81 | | 155 | |
| FT | 706710 | 3970 | 1950 | A- | 221 | A- | 687 | A- | 53 | | 81 | | 155 | |
| FT | 706711 | 3970 | 1950 | A+ | 221 | A- | 687 | A- | 53 | | 81 | | 155 | |
| FT | 706712 | 3970 | 1950 | A- | 221 | B- | 687 | A- | 53 | | 81 | | 155 | |
| FT | 706713 | 3970 | 1950 | A+ | 221 | A+ | 687 | A+ | 53 | | 81 | | 155 | |
| FT | 706714 | 3970 | 1950 | A+ | 221 | A+ | 687 | A+ | 53 | | 81 | | 155 | |
| FT | 706715 | 4506 | 2201 | A- | 256 | A- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706716 | 4506 | 2201 | A- | 256 | A+ | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706718 | 4506 | 2201 | A+ | 256 | A- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706719 | 4506 | 2201 | A- | 256 | A- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706720 | 4506 | 2201 | A+ | 256 | B- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706721 | 4506 | 2201 | A- | 256 | A- | 820 | A+ | 58 | | 92 | | 157 | |

| Grade 7 Reading | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706722 | 4506 | 2201 | A- | 256 | A- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706724 | 4506 | 2201 | A+ | 256 | B- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706725 | 4506 | 2201 | A- | 256 | A- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706726 | 4506 | 2201 | A+ | 256 | B- | 820 | A- | 58 | | 92 | | 157 | |
| FT | 706728 | 3987 | 2063 | A+ | 228 | A+ | 679 | B- | 52 | | 94 | | 127 | |
| FT | 706729 | 3987 | 2063 | A+ | 228 | B+ | 679 | A+ | 52 | | 94 | | 127 | |
| FT | 706730 | 3987 | 2063 | A- | 228 | A- | 679 | B- | 52 | | 94 | | 127 | |
| FT | 706731 | 5580 | 2644 | A+ | 414 | A- | 1070 | A+ | 74 | | 172 | | 168 | |
| FT | 706732 | 5580 | 2644 | A+ | 414 | A- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706733 | 3987 | 2063 | A+ | 228 | A- | 679 | A+ | 52 | | 94 | | 127 | |
| FT | 706734 | 3987 | 2063 | A- | 228 | A+ | 679 | A+ | 52 | | 94 | | 127 | |
| FT | 706735 | 5580 | 2644 | A+ | 414 | A+ | 1070 | A+ | 74 | | 172 | | 168 | |
| FT | 706736 | 5580 | 2644 | B+ | 414 | A- | 1070 | A+ | 74 | | 172 | | 168 | |
| FT | 706737 | 5580 | 2644 | A- | 414 | A- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706738 | 5580 | 2644 | A+ | 414 | A- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706739 | 5580 | 2644 | A+ | 414 | A- | 1070 | A- | 74 | | 172 | | 168 | |
| FT | 706740 | 3987 | 2063 | A+ | 228 | A- | 679 | A+ | 52 | | 94 | | 127 | |
| FT | 706742 | 3987 | 2063 | A- | 228 | A- | 679 | C- | 52 | | 94 | | 127 | |
| FT | 706865 | 3987 | 2063 | A+ | 228 | A- | 679 | A- | 52 | | 94 | | 127 | |
| FT | 706866 | 3987 | 2063 | A- | 228 | A+ | 679 | A+ | 52 | | 94 | | 127 | |
| FT | 706867 | 3987 | 2063 | A+ | 228 | A- | 679 | A- | 52 | | 94 | | 127 | |

| Grade 8 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706743 | 3931 | 1932 | A+ | 253 | A- | 639 | A- | 59 | | 70 | | 112 | |
| FT | 706744 | 3931 | 1932 | A+ | 253 | A- | 639 | A- | 59 | | 70 | | 112 | |
| FT | 706745 | 3931 | 1932 | A- | 253 | A- | 639 | A- | 59 | | 70 | | 112 | |
| FT | 706747 | 3931 | 1932 | A- | 253 | A+ | 639 | A+ | 59 | | 70 | | 112 | |
| FT | 706748 | 3931 | 1932 | A+ | 253 | A+ | 639 | A- | 59 | | 70 | | 112 | |
| FT | 706749 | 3931 | 1932 | A+ | 253 | A+ | 639 | A- | 59 | | 70 | | 112 | |
| FT | 706751 | 3931 | 1932 | A+ | 253 | B- | 639 | B- | 59 | | 70 | | 112 | |
| FT | 706752 | 3931 | 1932 | A+ | 253 | A- | 639 | A- | 59 | | 70 | | 112 | |
| FT | 706753 | 3931 | 1932 | A- | 253 | A+ | 639 | A+ | 59 | | 70 | | 112 | |
| FT | 706754 | 3931 | 1932 | A+ | 253 | A+ | 639 | A+ | 59 | | 70 | | 112 | |
| FT | 706755 | 4226 | 2130 | A- | 259 | B- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706756 | 4226 | 2130 | A- | 259 | C- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706757 | 4226 | 2130 | A- | 259 | A- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706758 | 4226 | 2130 | A- | 259 | A- | 728 | A+ | 58 | | 91 | | 134 | |
| FT | 706759 | 4226 | 2130 | A+ | 259 | C- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706760 | 4226 | 2130 | A+ | 259 | A- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706761 | 4226 | 2130 | A+ | 259 | A- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706762 | 4226 | 2130 | A+ | 259 | A- | 728 | A+ | 58 | | 91 | | 134 | |
| FT | 706764 | 4226 | 2130 | A+ | 259 | A+ | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706766 | 4226 | 2130 | A- | 259 | A- | 728 | A- | 58 | | 91 | | 134 | |
| FT | 706768 | 5528 | 2566 | A+ | 445 | B- | 1037 | B- | 102 | | 153 | | 189 | |
| FT | 706769 | 5528 | 2566 | A+ | 445 | A+ | 1037 | A+ | 102 | | 153 | | 189 | |
| FT | 706771 | 5528 | 2566 | A- | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |
| FT | 706772 | 5528 | 2566 | A+ | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |
| FT | 706773 | 5528 | 2566 | A+ | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |
| FT | 706774 | 5528 | 2566 | A- | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |
| FT | 706775 | 5528 | 2566 | A+ | 445 | A- | 1037 | B- | 102 | | 153 | | 189 | |
| FT | 706776 | 5528 | 2566 | A+ | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |
| FT | 706777 | 5528 | 2566 | A+ | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |

| Grade 8 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706778 | 5528 | 2566 | A+ | 445 | A- | 1037 | A- | 102 | | 153 | | 189 | |
| FT | 706779 | 4168 | 2090 | A+ | 244 | B- | 672 | A- | 56 | | 79 | | 126 | |
| FT | 706780 | 4168 | 2090 | A+ | 244 | A- | 672 | A+ | 56 | | 79 | | 126 | |
| FT | 706781 | 4168 | 2090 | A+ | 244 | B- | 672 | A- | 56 | | 79 | | 126 | |
| FT | 706782 | 4168 | 2090 | A- | 244 | C- | 672 | C- | 56 | | 79 | | 126 | |
| FT | 706783 | 4168 | 2090 | A+ | 244 | A- | 672 | A- | 56 | | 79 | | 126 | |
| FT | 706784 | 4168 | 2090 | B+ | 244 | C- | 672 | A- | 56 | | 79 | | 126 | |
| FT | 706785 | 4168 | 2090 | A+ | 244 | A- | 672 | A+ | 56 | | 79 | | 126 | |
| FT | 706787 | 4168 | 2090 | A+ | 244 | B- | 672 | A- | 56 | | 79 | | 126 | |
| FT | 706788 | 4168 | 2090 | A- | 244 | B- | 672 | A- | 56 | | 79 | | 126 | |
| FT | 706789 | 4168 | 2090 | A+ | 244 | A- | 672 | A+ | 56 | | 79 | | 126 | |
| FT | 706791 | 4049 | 2023 | A- | 252 | A- | 640 | C- | 68 | | 91 | | 106 | |
| FT | 706792 | 4049 | 2023 | A- | 252 | A- | 640 | B- | 68 | | 91 | | 106 | |
| FT | 706793 | 4049 | 2023 | A+ | 252 | A- | 640 | A- | 68 | | 91 | | 106 | |
| FT | 706794 | 4049 | 2023 | A+ | 252 | A- | 640 | A+ | 68 | | 91 | | 106 | |
| FT | 706795 | 4049 | 2023 | A- | 252 | B- | 640 | A- | 68 | | 91 | | 106 | |
| FT | 706796 | 4049 | 2023 | A+ | 252 | A- | 640 | A- | 68 | | 91 | | 106 | |
| FT | 706797 | 4049 | 2023 | A+ | 252 | A- | 640 | A- | 68 | | 91 | | 106 | |
| FT | 706799 | 4049 | 2023 | A+ | 252 | A- | 640 | A- | 68 | | 91 | | 106 | |
| FT | 706800 | 4049 | 2023 | A- | 252 | A+ | 640 | A- | 68 | | 91 | | 106 | |
| FT | 706801 | 4049 | 2023 | A- | 252 | A- | 640 | A- | 68 | | 91 | | 106 | |

| Grade 11 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706802 | 4725 | 2272 | B+ | 316 | A- | 835 | A+ | 49 | | 114 | | 131 | |
| FT | 706803 | 4725 | 2272 | A+ | 316 | A- | 835 | A- | 49 | | 114 | | 131 | |
| FT | 706806 | 4725 | 2272 | A- | 316 | A- | 835 | A+ | 49 | | 114 | | 131 | |
| FT | 706807 | 4725 | 2272 | A+ | 316 | A- | 835 | A- | 49 | | 114 | | 131 | |
| FT | 706808 | 4725 | 2272 | A+ | 316 | A+ | 835 | A+ | 49 | | 114 | | 131 | |
| FT | 706810 | 4725 | 2272 | A+ | 316 | A- | 835 | A- | 49 | | 114 | | 131 | |
| FT | 706811 | 4725 | 2272 | A+ | 316 | A- | 835 | A+ | 49 | | 114 | | 131 | |
| FT | 706812 | 4725 | 2272 | A+ | 316 | A- | 835 | A- | 49 | | 114 | | 131 | |
| FT | 706813 | 4725 | 2272 | A+ | 316 | A- | 835 | B- | 49 | | 114 | | 131 | |
| FT | 706814 | 4166 | 2076 | B- | 248 | A- | 639 | A- | 44 | | 89 | | 107 | |
| FT | 706815 | 4166 | 2076 | A- | 248 | A+ | 639 | A+ | 44 | | 89 | | 107 | |
| FT | 706816 | 4166 | 2076 | A- | 248 | A- | 639 | B- | 44 | | 89 | | 107 | |
| FT | 706817 | 4166 | 2076 | A+ | 248 | A+ | 639 | A+ | 44 | | 89 | | 107 | |
| FT | 706818 | 4166 | 2076 | A+ | 248 | A- | 639 | A- | 44 | | 89 | | 107 | |
| FT | 706819 | 4166 | 2076 | A- | 248 | A- | 639 | A+ | 44 | | 89 | | 107 | |
| FT | 706820 | 4166 | 2076 | A+ | 248 | A- | 639 | A- | 44 | | 89 | | 107 | |
| FT | 706821 | 4166 | 2076 | A+ | 248 | A- | 639 | A- | 44 | | 89 | | 107 | |
| FT | 706823 | 4166 | 2076 | B- | 248 | B- | 639 | B- | 44 | | 89 | | 107 | |
| FT | 706824 | 4166 | 2076 | A- | 248 | A- | 639 | A- | 44 | | 89 | | 107 | |
| FT | 706826 | 4171 | 2060 | A+ | 249 | A- | 640 | A+ | 48 | | 91 | | 119 | |
| FT | 706827 | 4171 | 2060 | A+ | 249 | A- | 640 | B- | 48 | | 91 | | 119 | |
| FT | 706828 | 4171 | 2060 | A- | 249 | C- | 640 | C- | 48 | | 91 | | 119 | |
| FT | 706829 | 4171 | 2060 | A+ | 249 | B- | 640 | A- | 48 | | 91 | | 119 | |
| FT | 706830 | 4171 | 2060 | A- | 249 | A- | 640 | A- | 48 | | 91 | | 119 | |
| FT | 706831 | 4171 | 2060 | A+ | 249 | A- | 640 | A- | 48 | | 91 | | 119 | |
| FT | 706832 | 4171 | 2060 | A- | 249 | A- | 640 | A- | 48 | | 91 | | 119 | |
| FT | 706833 | 4171 | 2060 | A- | 249 | A+ | 640 | A+ | 48 | | 91 | | 119 | |
| FT | 706834 | 4171 | 2060 | B+ | 249 | A- | 640 | B- | 48 | | 91 | | 119 | |
| FT | 706835 | 4171 | 2060 | A+ | 249 | A- | 640 | A+ | 48 | | 91 | | 119 | |

| Grade 11 Reading | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 706837 | 4155 | 1979 | A+ | 244 | A- | 613 | A+ | 49 | | 95 | | 113 | |
| FT | 706838 | 4155 | 1979 | A+ | 244 | A+ | 613 | A+ | 49 | | 95 | | 113 | |
| FT | 706840 | 4155 | 1979 | A+ | 244 | A- | 613 | A+ | 49 | | 95 | | 113 | |
| FT | 706841 | 4155 | 1979 | A+ | 244 | A+ | 613 | A- | 49 | | 95 | | 113 | |
| FT | 706842 | 4155 | 1979 | A+ | 244 | A+ | 613 | A+ | 49 | | 95 | | 113 | |
| FT | 706843 | 4155 | 1979 | A+ | 244 | A+ | 613 | A+ | 49 | | 95 | | 113 | |
| FT | 706844 | 4155 | 1979 | A+ | 244 | A- | 613 | A+ | 49 | | 95 | | 113 | |
| FT | 706845 | 4155 | 1979 | A+ | 244 | A+ | 613 | A- | 49 | | 95 | | 113 | |
| FT | 706846 | 4155 | 1979 | A+ | 244 | A- | 613 | A- | 49 | | 95 | | 113 | |
| FT | 706848 | 4155 | 1979 | A+ | 244 | A- | 613 | A- | 49 | | 95 | | 113 | |
| FT | 706850 | 3904 | 1924 | A+ | 230 | C- | 573 | B- | 53 | | 77 | | 113 | |
| FT | 706851 | 3904 | 1924 | A- | 230 | B- | 573 | A- | 53 | | 77 | | 113 | |
| FT | 706852 | 3904 | 1924 | C- | 230 | A- | 573 | B- | 53 | | 77 | | 113 | |
| FT | 706853 | 3904 | 1924 | A+ | 230 | A- | 573 | A- | 53 | | 77 | | 113 | |
| FT | 706856 | 3904 | 1924 | A+ | 230 | A+ | 573 | A+ | 53 | | 77 | | 113 | |
| FT | 706857 | 3904 | 1924 | A+ | 230 | A+ | 573 | A- | 53 | | 77 | | 113 | |
| FT | 706858 | 3904 | 1924 | A+ | 230 | A- | 573 | A+ | 53 | | 77 | | 113 | |
| FT | 706859 | 3904 | 1924 | A+ | 230 | A+ | 573 | A+ | 53 | | 77 | | 113 | |
| FT | 706860 | 3904 | 1924 | A+ | 230 | A- | 573 | A+ | 53 | | 77 | | 113 | |
| FT | 706861 | 3904 | 1924 | B- | 230 | A- | 573 | A- | 53 | | 77 | | 113 | |
| FT | 706863 | 4725 | 2272 | A+ | 316 | B- | 835 | B- | 49 | | 114 | | 131 | |

# Appendix U: Mathematics Field Test Differential Item Functioning

***M=Male, F=Female, AM=American Indian, AS=Asian, BL=African American/Black, HI= Hispanic, MU=Multiple Ethnicities, WH=White**
**200 student minimum for reporting**

| Grade 3 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 706982 | 4264 | 2170 | A+ | 271 | A- | 712 | A- | 62 | | 106 | | 148 | |
| FT | 706983 | 6007 | 2796 | A- | 484 | A- | 1426 | B- | 91 | | 220 | A+ | 241 | A- |
| FT | 706984 | 4030 | 2012 | A- | 252 | C- | 674 | B- | 69 | | 97 | | 142 | |
| FT | 706985 | 4014 | 2055 | A+ | 278 | A- | 647 | A+ | 50 | | 94 | | 139 | |
| FT | 706987 | 6229 | 2907 | B- | 489 | A- | 1466 | A- | 100 | | 217 | A+ | 212 | A+ |
| FT | 706988 | 4251 | 2165 | A- | 304 | A- | 645 | A- | 64 | | 96 | | 160 | |
| FT | 706989 | 6536 | 2940 | A+ | 511 | A- | 1487 | A+ | 97 | | 221 | B+ | 234 | A+ |
| FT | 706990 | 4253 | 2136 | A- | 285 | A+ | 763 | A+ | 50 | | 97 | | 163 | |
| FT | 706991 | 4203 | 2083 | A+ | 296 | A+ | 707 | A+ | 58 | | 94 | | 161 | |
| FT | 706992 | 4194 | 2084 | A- | 281 | A+ | 704 | A+ | 43 | | 85 | | 146 | |
| FT | 706993 | 4046 | 2020 | A- | 295 | A+ | 693 | A+ | 58 | | 85 | | 147 | |
| FT | 706994 | 4177 | 2047 | A- | 280 | A- | 744 | A- | 43 | | 99 | | 137 | |
| FT | 706995 | 6283 | 2917 | B- | 480 | A- | 1445 | B- | 94 | | 221 | A- | 216 | A+ |
| FT | 706996 | 3893 | 1952 | A- | 233 | A+ | 690 | A- | 65 | | 91 | | 142 | |
| FT | 706997 | 4200 | 2031 | A- | 270 | B- | 687 | A- | 48 | | 87 | | 163 | |
| FT | 706999 | 4369 | 2164 | B- | 283 | B- | 743 | A- | 56 | | 82 | | 164 | |
| FT | 707000 | 4403 | 2189 | A- | 296 | A- | 749 | A- | 53 | | 106 | | 160 | |
| FT | 707001 | 4355 | 2162 | A+ | 309 | A- | 715 | A+ | 59 | | 107 | | 167 | |
| FT | 707002 | 6099 | 2883 | A+ | 491 | A- | 1423 | A- | 105 | | 214 | B- | 192 | |
| FT | 707003 | 4429 | 2148 | A- | 288 | B- | 759 | B- | 58 | | 91 | | 158 | |
| FT | 707004 | 4363 | 2148 | A+ | 275 | A+ | 748 | B+ | 70 | | 111 | | 127 | |
| FT | 707007 | 6118 | 2817 | A+ | 474 | A- | 1456 | A+ | 94 | | 214 | A- | 236 | A- |
| FT | 707008 | 4649 | 2357 | A+ | 323 | A+ | 849 | A+ | 60 | | 106 | | 168 | |
| FT | 707009 | 4418 | 2257 | A+ | 314 | B- | 724 | A- | 56 | | 85 | | 162 | |
| FT | 707010 | 4608 | 2325 | A- | 327 | A+ | 768 | A+ | 54 | | 99 | | 182 | |

| Grade 3 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707012 | 4216 | 2073 | A- | 286 | B- | 739 | A- | 57 | | 89 | | 162 | |
| FT | 707013 | 3756 | 1854 | A- | 249 | A- | 629 | A- | 42 | | 74 | | 138 | |
| FT | 707014 | 4101 | 2054 | A- | 269 | A- | 707 | A+ | 44 | | 88 | | 166 | |
| FT | 707015 | 4253 | 2118 | A+ | 281 | C- | 716 | B- | 70 | | 86 | | 167 | |
| FT | 707017 | 3841 | 1926 | A+ | 259 | A- | 659 | A- | 53 | | 96 | | 144 | |
| FT | 707019 | 3601 | 1788 | A+ | 251 | B- | 587 | B- | 43 | | 89 | | 155 | |
| FT | 707020 | 3652 | 1814 | A- | 262 | B- | 616 | A- | 53 | | 80 | | 135 | |
| FT | 707021 | 4448 | 2202 | A+ | 321 | B- | 708 | A- | 66 | | 98 | | 181 | |
| FT | 707022 | 4091 | 2088 | A+ | 290 | A- | 653 | A- | 56 | | 83 | | 156 | |
| FT | 707023 | 4480 | 2201 | A+ | 290 | A- | 712 | B- | 62 | | 107 | | 161 | |
| FT | 707024 | 5995 | 2746 | A+ | 481 | A- | 1459 | A- | 98 | | 203 | A- | 218 | A+ |
| FT | 707025 | 6231 | 2960 | A- | 482 | A- | 1465 | B- | 96 | | 214 | A- | 255 | A- |
| FT | 707026 | 4436 | 2116 | A- | 287 | B- | 726 | B- | 73 | | 105 | | 152 | |
| FT | 707027 | 4514 | 2268 | A- | 311 | A- | 750 | A- | 60 | | 122 | | 161 | |
| FT | 707028 | 6075 | 2811 | A- | 448 | C- | 1413 | A- | 85 | | 207 | A- | 222 | A+ |
| FT | 707029 | 6540 | 3118 | A+ | 510 | A- | 1518 | A- | 108 | | 217 | A- | 224 | A- |
| FT | 707031 | 4229 | 2058 | A+ | 298 | A- | 728 | A- | 55 | | 79 | | 157 | |
| FT | 707032 | 4616 | 2335 | A- | 292 | A- | 774 | A- | 62 | | 105 | | 156 | |
| FT | 707033 | 4119 | 1995 | A+ | 268 | B- | 664 | A- | 55 | | 92 | | 154 | |
| FT | 707034 | 4117 | 2076 | A+ | 273 | A- | 676 | A- | 61 | | 104 | | 142 | |
| FT | 707035 | 4196 | 2076 | A- | 278 | A- | 702 | A- | 52 | | 89 | | 149 | |
| FT | 707037 | 4093 | 2027 | B+ | 275 | A- | 661 | A+ | 49 | | 86 | | 149 | |
| FT | 707038 | 4049 | 2050 | A+ | 279 | A- | 708 | A+ | 52 | | 81 | | 147 | |
| FT | 707039 | 4634 | 2302 | A+ | 304 | A- | 801 | A+ | 57 | | 111 | | 188 | |
| FT | 707041 | 4621 | 2314 | A- | 317 | A- | 800 | A- | 64 | | 110 | | 164 | |

| Grade 4 Mathematics | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 707043 | 4365 | 2177 | A+ | 258 | A- | 754 | A- | 56 | | 96 | | 146 | |
| FT | 707044 | 4292 | 2065 | A- | 328 | A- | 730 | A- | 46 | | 108 | | 170 | |
| FT | 707045 | 4387 | 2153 | A- | 305 | A+ | 723 | A+ | 57 | | 98 | | 166 | |
| FT | 707046 | 3957 | 1926 | A- | 246 | A- | 640 | A+ | 45 | | 99 | | 152 | |
| FT | 707047 | 4301 | 2129 | A- | 302 | B- | 726 | A- | 52 | | 106 | | 159 | |
| FT | 707048 | 3998 | 1996 | A- | 280 | A- | 683 | A- | 45 | | 103 | | 138 | |
| FT | 707050 | 4162 | 2065 | A- | 296 | A- | 653 | A- | 49 | | 89 | | 156 | |
| FT | 707051 | 4455 | 2211 | A+ | 282 | A- | 719 | A- | 47 | | 93 | | 173 | |
| FT | 707052 | 3752 | 1863 | A- | 266 | A- | 600 | A- | 44 | | 106 | | 138 | |
| FT | 707055 | 5873 | 2659 | A- | 438 | B- | 1323 | A- | 86 | | 195 | | 221 | A- |
| FT | 707056 | 4315 | 2115 | A+ | 302 | A- | 702 | A+ | 38 | | 88 | | 177 | |
| FT | 707057 | 4252 | 2091 | A- | 301 | B- | 670 | A- | 45 | | 108 | | 160 | |
| FT | 707058 | 4112 | 2107 | A- | 290 | A- | 667 | A- | 44 | | 105 | | 138 | |
| FT | 707059 | 6266 | 2920 | A- | 471 | A- | 1402 | A+ | 96 | | 194 | | 237 | A+ |
| FT | 707061 | 4287 | 2123 | A- | 303 | A- | 746 | A+ | 61 | | 97 | | 150 | |
| FT | 707062 | 6137 | 2815 | A+ | 464 | A+ | 1373 | A+ | 81 | | 206 | A+ | 245 | A+ |
| FT | 707063 | 5591 | 2556 | A+ | 414 | A- | 1321 | A+ | 74 | | 194 | | 227 | A+ |
| FT | 707064 | 4148 | 2084 | A+ | 276 | A- | 673 | A- | 56 | | 85 | | 154 | |
| FT | 707065 | 4236 | 2085 | A+ | 287 | A- | 728 | A+ | 40 | | 95 | | 165 | |
| FT | 707066 | 3813 | 1879 | A+ | 249 | B- | 610 | A- | 33 | | 89 | | 159 | |
| FT | 707067 | 4303 | 2148 | A+ | 291 | A- | 745 | A+ | 43 | | 99 | | 155 | |
| FT | 707068 | 4525 | 2232 | A+ | 316 | A- | 709 | A- | 55 | | 100 | | 158 | |
| FT | 707069 | 4424 | 2190 | A+ | 316 | A- | 744 | A+ | 54 | | 82 | | 151 | |
| FT | 707071 | 3883 | 1937 | A+ | 272 | B- | 615 | A- | 48 | | 92 | | 143 | |
| FT | 707073 | 6183 | 2868 | A- | 459 | B- | 1386 | A- | 77 | | 199 | | 255 | A- |
| FT | 707074 | 4316 | 2165 | A+ | 290 | C- | 704 | A- | 41 | | 104 | | 150 | |
| FT | 707075 | 4127 | 2026 | A- | 279 | B- | 677 | A- | 42 | | 78 | | 154 | |
| FT | 707076 | 3800 | 1854 | C+ | 257 | A- | 647 | A- | 47 | | 94 | | 146 | |

| Grade 4 Mathematics | | | Gender DIF (REF=M, FOC=F) | | Ethnicity DIF (REF=WH, FOC=BL) | | Ethnicity DIF (REF=WH, FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 707077 | 4574 | 2310 | A+ | 315 | A- | 782 | A+ | 57 | | 89 | | 150 | |
| FT | 707078 | 5684 | 2567 | A- | 438 | A- | 1314 | A+ | 69 | | 186 | | 214 | A+ |
| FT | 707079 | 4386 | 2184 | A+ | 274 | A- | 719 | A- | 55 | | 92 | | 152 | |
| FT | 707080 | 3889 | 1965 | A- | 277 | A+ | 605 | A+ | 37 | | 90 | | 129 | |
| FT | 707081 | 4839 | 2418 | A+ | 318 | B- | 806 | C- | 45 | | 109 | | 178 | |
| FT | 707082 | 4287 | 2168 | A- | 321 | A- | 683 | A- | 55 | | 102 | | 157 | |
| FT | 707083 | 6210 | 2867 | A- | 470 | B- | 1379 | A- | 77 | | 200 | A- | 233 | A- |
| FT | 707085 | 6245 | 2858 | A- | 460 | A- | 1403 | A- | 85 | | 199 | | 260 | A- |
| FT | 707086 | 4120 | 2074 | A- | 282 | B- | 678 | A- | 44 | | 86 | | 141 | |
| FT | 707087 | 4188 | 2024 | A- | 301 | C- | 665 | B- | 45 | | 100 | | 133 | |
| FT | 707088 | 4333 | 2150 | A+ | 289 | A- | 698 | A- | 54 | | 98 | | 156 | |
| FT | 707089 | 3705 | 1836 | A- | 212 | A- | 619 | A- | 23 | | 95 | | 140 | |
| FT | 707091 | 4126 | 2064 | A+ | 273 | A+ | 656 | A+ | 46 | | 95 | | 154 | |
| FT | 707092 | 4178 | 2098 | A+ | 271 | A+ | 686 | A+ | 44 | | 81 | | 138 | |
| FT | 707093 | 3933 | 2004 | A- | 260 | A- | 686 | A- | 50 | | 69 | | 134 | |
| FT | 707094 | 3917 | 1870 | A+ | 250 | A+ | 653 | A+ | 43 | | 87 | | 132 | |
| FT | 707096 | 4078 | 2015 | A+ | 277 | B- | 670 | A- | 49 | | 78 | | 141 | |
| FT | 707097 | 3957 | 1944 | A- | 239 | B- | 646 | A- | 51 | | 75 | | 143 | |
| FT | 707098 | 5715 | 2660 | A- | 433 | A- | 1295 | A- | 81 | | 184 | | 228 | A- |
| FT | 707099 | 6277 | 2888 | A+ | 456 | A- | 1402 | A+ | 82 | | 201 | A- | 245 | A+ |
| FT | 707100 | 4216 | 2079 | A- | 281 | A- | 672 | A- | 43 | | 96 | | 136 | |
| FT | 707101 | 3727 | 1843 | A- | 259 | A- | 663 | A+ | 43 | | 86 | | 143 | |

| Grade 5 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
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| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707102 | 4243 | 2085 | A+ | 259 | A+ | 727 | A+ | 47 | | 92 | | 154 | |
| FT | 707103 | 6137 | 2808 | A+ | 461 | A+ | 1291 | A+ | 93 | | 185 | | 226 | A+ |
| FT | 707104 | 4364 | 2122 | A+ | 259 | A- | 762 | A+ | 43 | | 103 | | 150 | |
| FT | 707106 | 4137 | 2057 | A- | 246 | A+ | 729 | A+ | 55 | | 87 | | 149 | |
| FT | 707107 | 4463 | 2241 | A- | 248 | A- | 755 | A- | 62 | | 92 | | 134 | |
| FT | 707109 | 4396 | 2150 | A- | 271 | A- | 754 | A+ | 52 | | 90 | | 146 | |
| FT | 707110 | 6202 | 2892 | A- | 479 | B- | 1276 | C- | 92 | | 207 | B- | 233 | B- |
| FT | 707111 | 4211 | 2116 | A+ | 253 | B+ | 692 | A+ | 66 | | 95 | | 141 | |
| FT | 707112 | 4300 | 2168 | A+ | 262 | B- | 751 | A- | 61 | | 103 | | 153 | |
| FT | 707113 | 4367 | 2163 | A- | 281 | A- | 711 | A- | 71 | | 104 | | 138 | |
| FT | 707114 | 6050 | 2805 | A+ | 448 | A+ | 1306 | A- | 98 | | 195 | | 223 | A- |
| FT | 707115 | 4343 | 2150 | A+ | 250 | A- | 739 | A- | 69 | | 95 | | 161 | |
| FT | 707116 | 3800 | 1917 | A+ | 233 | A+ | 617 | A+ | 56 | | 78 | | 106 | |
| FT | 707117 | 3779 | 1861 | A+ | 237 | A- | 587 | A+ | 39 | | 93 | | 136 | |
| FT | 707118 | 5729 | 2661 | A+ | 437 | B+ | 1220 | A+ | 94 | | 181 | | 247 | A+ |
| FT | 707120 | 4391 | 2170 | A- | 269 | A+ | 756 | A- | 62 | | 110 | | 151 | |
| FT | 707121 | 4724 | 2404 | A- | 288 | B- | 751 | A- | 49 | | 100 | | 172 | |
| FT | 707122 | 4304 | 2114 | A+ | 271 | A+ | 726 | A+ | 58 | | 90 | | 148 | |
| FT | 707123 | 4375 | 2203 | A- | 271 | C- | 754 | A- | 55 | | 80 | | 152 | |
| FT | 707124 | 3935 | 1976 | A- | 228 | A- | 690 | A+ | 57 | | 95 | | 135 | |
| FT | 707125 | 4191 | 2064 | A+ | 265 | A- | 717 | A+ | 59 | | 86 | | 134 | |
| FT | 707127 | 4916 | 2454 | A- | 282 | C- | 825 | A- | 73 | | 102 | | 149 | |
| FT | 707128 | 4300 | 2122 | A- | 260 | A- | 770 | A- | 59 | | 98 | | 141 | |
| FT | 707129 | 4290 | 2138 | A+ | 242 | B- | 734 | A- | 58 | | 95 | | 162 | |
| FT | 707131 | 4068 | 2080 | B- | 238 | A+ | 693 | A+ | 66 | | 119 | | 126 | |
| FT | 707132 | 4173 | 2033 | A+ | 251 | A+ | 672 | A+ | 53 | | 89 | | 138 | |
| FT | 707134 | 5701 | 2615 | A- | 435 | A- | 1176 | A+ | 81 | | 189 | | 210 | A- |
| FT | 707135 | 4172 | 2068 | A+ | 269 | A+ | 718 | A+ | 53 | | 97 | | 133 | |
| FT | 707136 | 4078 | 2033 | A- | 247 | A- | 678 | A- | 59 | | 89 | | 138 | |

| Grade 5 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 707137 | 5635 | 2549 | A- | 419 | A- | 1179 | A+ | 91 | | 185 | | 206 | A- |
| FT | 707138 | 4460 | 2286 | A+ | 272 | A- | 756 | A+ | 56 | | 94 | | 128 | |
| FT | 707140 | 4501 | 2253 | A+ | 271 | A- | 762 | A- | 59 | | 84 | | 141 | |
| FT | 707141 | 4128 | 2126 | A- | 277 | B- | 697 | C- | 62 | | 79 | | 138 | |
| FT | 707142 | 3849 | 1897 | A- | 213 | B- | 616 | A- | 42 | | 104 | | 127 | |
| FT | 707143 | 6340 | 3006 | A- | 464 | A- | 1340 | B- | 100 | | 200 | A- | 247 | A- |
| FT | 707144 | 4355 | 2151 | B- | 256 | B- | 717 | A- | 56 | | 101 | | 124 | |
| FT | 707145 | 4474 | 2267 | A- | 300 | C- | 770 | A- | 52 | | 88 | | 144 | |
| FT | 707146 | 6082 | 2872 | A+ | 442 | A- | 1276 | A+ | 93 | | 194 | | 224 | A- |
| FT | 707147 | 3879 | 1970 | A- | 213 | A- | 621 | A- | 65 | | 78 | | 115 | |
| FT | 707149 | 4475 | 2174 | A- | 290 | A- | 739 | B- | 68 | | 97 | | 156 | |
| FT | 707151 | 3869 | 1948 | A+ | 257 | A- | 653 | A- | 44 | | 83 | | 136 | |
| FT | 707152 | 4370 | 2151 | A+ | 270 | A- | 746 | A- | 55 | | 105 | | 186 | |
| FT | 707153 | 4201 | 2071 | A+ | 251 | B- | 681 | A- | 57 | | 96 | | 145 | |
| FT | 707154 | 4495 | 2251 | A- | 253 | A- | 792 | A- | 49 | | 100 | | 154 | |
| FT | 707155 | 6202 | 2897 | A+ | 465 | A- | 1279 | A+ | 87 | | 189 | | 233 | A- |
| FT | 707156 | 4172 | 2048 | A- | 236 | A- | 688 | A- | 52 | | 91 | | 143 | |
| FT | 707157 | 4337 | 2178 | B- | 273 | A- | 716 | A- | 52 | | 78 | | 126 | |
| FT | 707158 | 5653 | 2633 | A+ | 404 | A- | 1185 | A- | 89 | | 194 | | 243 | A- |
| FT | 707159 | 3878 | 1958 | A- | 264 | B- | 663 | B- | 52 | | 91 | | 122 | |
| FT | 707160 | 3936 | 1944 | A- | 245 | C- | 622 | C- | 54 | | 90 | | 136 | |

| Grade 6 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707162 | 3673 | 1831 | A- | 223 | A- | 624 | A- | 43 | | 85 | | 132 | |
| FT | 707163 | 4487 | 2211 | A+ | 277 | A- | 731 | A+ | 50 | | 111 | | 153 | |
| FT | 707164 | 3977 | 1896 | A- | 250 | A- | 693 | A- | 48 | | 83 | | 124 | |
| FT | 707165 | 5619 | 2652 | B- | 452 | B- | 1170 | B- | 89 | | 160 | | 202 | A+ |
| FT | 707166 | 4348 | 2160 | B- | 269 | C- | 715 | B- | 60 | | 93 | | 163 | |
| FT | 707167 | 5794 | 2688 | A- | 415 | A- | 1217 | A- | 89 | | 179 | | 203 | A+ |
| FT | 707168 | 4364 | 2129 | A+ | 266 | A+ | 765 | A+ | 44 | | 114 | | 161 | |
| FT | 707169 | 4348 | 2125 | A- | 246 | A+ | 783 | A+ | 64 | | 91 | | 145 | |
| FT | 707170 | 3670 | 1784 | A+ | 233 | A+ | 603 | A+ | 41 | | 86 | | 129 | |
| FT | 707171 | 3651 | 1856 | A+ | 230 | B- | 603 | A- | 48 | | 75 | | 129 | |
| FT | 707172 | 3831 | 1874 | A+ | 264 | A- | 658 | A- | 39 | | 89 | | 134 | |
| FT | 707173 | 3811 | 1877 | A+ | 231 | A- | 660 | A+ | 41 | | 81 | | 155 | |
| FT | 707174 | 4461 | 2178 | A+ | 267 | B- | 766 | A- | 63 | | 116 | | 146 | |
| FT | 707175 | 4460 | 2135 | A- | 274 | A- | 758 | A- | 48 | | 114 | | 155 | |
| FT | 707176 | 5931 | 2816 | A- | 465 | A- | 1207 | A+ | 91 | | 165 | | 198 | |
| FT | 707178 | 5739 | 2632 | A+ | 439 | C- | 1170 | A- | 86 | | 177 | | 197 | |
| FT | 707179 | 4384 | 2150 | A+ | 254 | A- | 746 | A- | 51 | | 106 | | 154 | |
| FT | 707180 | 4155 | 2032 | A- | 250 | B- | 675 | B- | 45 | | 95 | | 147 | |
| FT | 707181 | 4347 | 2167 | A- | 269 | A+ | 731 | A- | 45 | | 93 | | 156 | |
| FT | 707182 | 4176 | 2021 | A+ | 250 | B- | 656 | A- | 55 | | 106 | | 139 | |
| FT | 707183 | 4163 | 2067 | A+ | 247 | A+ | 696 | A+ | 59 | | 93 | | 159 | |
| FT | 707184 | 4395 | 2159 | A- | 278 | A+ | 741 | A- | 53 | | 111 | | 158 | |
| FT | 707185 | 3739 | 1783 | A- | 250 | B- | 644 | A- | 45 | | 82 | | 130 | |
| FT | 707186 | 3922 | 1897 | A+ | 233 | A- | 685 | A+ | 53 | | 101 | | 131 | |
| FT | 707189 | 4532 | 2293 | A+ | 257 | B- | 774 | A- | 45 | | 102 | | 164 | |
| FT | 707191 | 4387 | 2178 | A- | 262 | A- | 763 | A- | 59 | | 94 | | 160 | |
| FT | 707192 | 5522 | 2611 | A- | 473 | A- | 1129 | A- | 96 | | 154 | | 205 | A- |
| FT | 707193 | 6092 | 2841 | A+ | 466 | A+ | 1262 | A- | 96 | | 179 | | 230 | A+ |
| FT | 707194 | 6012 | 2792 | A+ | 487 | A- | 1236 | A- | 90 | | 176 | | 197 | |

| Grade 6 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 707197 | 4481 | 2178 | A- | 276 | A- | 746 | A- | 55 | | 98 | | 159 | |
| FT | 707199 | 3986 | 1944 | A+ | 237 | A- | 677 | A+ | 40 | | 92 | | 131 | |
| FT | 707200 | 4111 | 2005 | A+ | 263 | A- | 682 | A+ | 50 | | 94 | | 121 | |
| FT | 707201 | 4768 | 2317 | A+ | 298 | B- | 837 | A- | 62 | | 102 | | 174 | |
| FT | 707202 | 6086 | 2873 | A+ | 480 | A- | 1253 | A- | 88 | | 188 | | 196 | |
| FT | 707203 | 4307 | 2110 | A+ | 255 | A- | 723 | A+ | 56 | | 91 | | 155 | |
| FT | 707204 | 3760 | 1894 | A- | 237 | A- | 645 | A+ | 52 | | 88 | | 130 | |
| FT | 707205 | 3953 | 1942 | A- | 237 | C- | 669 | B- | 42 | | 98 | | 151 | |
| FT | 707207 | 4178 | 2005 | A+ | 250 | B- | 677 | B- | 39 | | 86 | | 150 | |
| FT | 707208 | 3989 | 1928 | A+ | 211 | A+ | 683 | A+ | 56 | | 78 | | 132 | |
| FT | 707209 | 4552 | 2217 | A+ | 280 | A+ | 768 | A- | 72 | | 88 | | 157 | |
| FT | 707210 | 3793 | 1866 | A+ | 225 | A+ | 658 | A+ | 39 | | 83 | | 124 | |
| FT | 707211 | 4468 | 2217 | A+ | 284 | A- | 807 | A+ | 54 | | 97 | | 153 | |
| FT | 707212 | 4128 | 2048 | A- | 226 | A+ | 694 | A- | 45 | | 87 | | 174 | |
| FT | 707214 | 4051 | 2048 | A+ | 260 | A- | 646 | A- | 43 | | 98 | | 153 | |
| FT | 707215 | 3711 | 1851 | A- | 236 | B- | 613 | B- | 55 | | 86 | | 122 | |
| FT | 707216 | 4721 | 2326 | A- | 300 | A+ | 794 | A- | 63 | | 97 | | 174 | |
| FT | 707218 | 3984 | 1892 | A- | 238 | B- | 690 | B- | 61 | | 87 | | 140 | |
| FT | 707219 | 5678 | 2696 | A+ | 448 | C- | 1130 | A- | 87 | | 170 | | 205 | A- |
| FT | 707220 | 3707 | 1793 | A+ | 229 | A- | 619 | A- | 49 | | 91 | | 157 | |
| FT | 707221 | 6033 | 2840 | A+ | 463 | A- | 1218 | A- | 96 | | 190 | | 231 | A- |

| Grade 7 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
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| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707222 | 4415 | 2254 | A- | 243 | B- | 736 | A- | 62 | | 109 | | 135 | |
| FT | 707223 | 5641 | 2635 | A+ | 404 | A- | 1105 | A- | 83 | | 185 | | 180 | |
| FT | 707224 | 3691 | 1859 | C- | 204 | B- | 652 | A- | 56 | | 76 | | 106 | |
| FT | 707225 | 4448 | 2238 | A- | 257 | A- | 723 | A- | 62 | | 83 | | 159 | |
| FT | 707226 | 3719 | 1889 | A- | 222 | B- | 657 | A- | 52 | | 76 | | 116 | |
| FT | 707228 | 3715 | 1790 | A- | 214 | A- | 653 | A- | 47 | | 63 | | 132 | |
| FT | 707230 | 3951 | 1957 | A+ | 249 | B- | 670 | A- | 55 | | 76 | | 126 | |
| FT | 707232 | 3900 | 1942 | A- | 239 | A- | 701 | A- | 52 | | 80 | | 139 | |
| FT | 707233 | 3657 | 1797 | A- | 220 | A- | 594 | A- | 38 | | 83 | | 108 | |
| FT | 707234 | 4098 | 2102 | A- | 235 | A- | 691 | A- | 51 | | 81 | | 136 | |
| FT | 707235 | 3962 | 2025 | A+ | 216 | A- | 680 | A- | 43 | | 98 | | 126 | |
| FT | 707236 | 4441 | 2214 | A- | 288 | A- | 744 | A- | 47 | | 97 | | 154 | |
| FT | 707237 | 4418 | 2270 | A+ | 266 | A- | 768 | A- | 58 | | 89 | | 155 | |
| FT | 707239 | 3690 | 1799 | A- | 200 | A- | 621 | A- | 47 | | 88 | | 116 | |
| FT | 707240 | 5676 | 2632 | A+ | 409 | A- | 1147 | A- | 91 | | 181 | | 181 | |
| FT | 707241 | 3801 | 1909 | A- | 223 | A- | 679 | A+ | 52 | | 81 | | 114 | |
| FT | 707242 | 3711 | 1841 | A- | 212 | A- | 626 | A- | 48 | | 91 | | 144 | |
| FT | 707243 | 4070 | 2012 | A- | 235 | A- | 668 | A- | 51 | | 90 | | 141 | |
| FT | 707244 | 5457 | 2560 | A+ | 373 | A- | 1106 | A- | 84 | | 185 | | 177 | |
| FT | 707245 | 4240 | 2165 | A+ | 237 | A- | 732 | A- | 58 | | 85 | | 139 | |
| FT | 707247 | 4232 | 2104 | A- | 247 | C- | 757 | A- | 61 | | 108 | | 138 | |
| FT | 707248 | 4380 | 2153 | A- | 271 | A+ | 754 | A- | 50 | | 90 | | 154 | |
| FT | 707249 | 4508 | 2265 | A- | 260 | A- | 785 | A- | 63 | | 96 | | 148 | |
| FT | 707251 | 5606 | 2600 | A- | 393 | A- | 1103 | A- | 74 | | 173 | | 171 | |
| FT | 707253 | 4003 | 1928 | A+ | 254 | A+ | 703 | A+ | 57 | | 76 | | 134 | |
| FT | 707254 | 3741 | 1896 | A- | 247 | A- | 660 | A- | 47 | | 82 | | 110 | |
| FT | 707256 | 3811 | 1848 | A+ | 218 | A+ | 658 | A+ | 45 | | 88 | | 119 | |
| FT | 707257 | 4491 | 2219 | A- | 267 | A- | 754 | A- | 52 | | 99 | | 150 | |
| FT | 707259 | 5929 | 2808 | A- | 401 | A- | 1174 | A- | 86 | | 180 | | 204 | A+ |

| Grade 7 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 707260 | 3938 | 1922 | A+ | 230 | A+ | 730 | A+ | 35 | | 76 | | 114 | |
| FT | 707261 | 5414 | 2557 | A- | 385 | A- | 1050 | A- | 85 | | 173 | | 214 | A- |
| FT | 707262 | 3755 | 1852 | A+ | 234 | B- | 665 | A- | 54 | | 81 | | 129 | |
| FT | 707263 | 4370 | 2172 | A+ | 228 | A- | 760 | A- | 51 | | 103 | | 143 | |
| FT | 707264 | 5876 | 2783 | A- | 404 | A+ | 1147 | A- | 77 | | 180 | | 207 | A+ |
| FT | 707265 | 4459 | 2266 | A+ | 261 | A- | 820 | A+ | 57 | | 88 | | 141 | |
| FT | 707266 | 4449 | 2263 | A+ | 243 | A- | 815 | A- | 47 | | 102 | | 156 | |
| FT | 707267 | 4442 | 2211 | A- | 266 | B- | 776 | A- | 49 | | 83 | | 138 | |
| FT | 707268 | 4262 | 2123 | A+ | 264 | B- | 730 | A- | 51 | | 83 | | 139 | |
| FT | 707269 | 4185 | 2056 | A- | 233 | B- | 734 | A- | 48 | | 90 | | 135 | |
| FT | 707270 | 3982 | 2013 | A- | 216 | A- | 687 | B- | 46 | | 92 | | 131 | |
| FT | 707271 | 3989 | 1978 | A- | 223 | A- | 674 | B- | 59 | | 78 | | 124 | |
| FT | 707272 | 4441 | 2231 | A- | 282 | A- | 765 | A- | 54 | | 106 | | 133 | |
| FT | 707273 | 5914 | 2782 | A+ | 405 | A+ | 1133 | A+ | 90 | | 182 | | 213 | A+ |
| FT | 707274 | 4155 | 2074 | A+ | 221 | A+ | 694 | A- | 39 | | 82 | | 130 | |
| FT | 707275 | 4761 | 2329 | A+ | 262 | A- | 814 | A- | 68 | | 99 | | 164 | |
| FT | 707276 | 4668 | 2339 | A+ | 288 | A- | 803 | A- | 52 | | 105 | | 159 | |
| FT | 707278 | 4502 | 2241 | B+ | 257 | A- | 775 | A+ | 59 | | 81 | | 142 | |
| FT | 707279 | 5877 | 2797 | A+ | 406 | A+ | 1155 | A+ | 81 | | 193 | | 213 | A+ |
| FT | 707280 | 4406 | 2163 | A- | 283 | A- | 748 | A- | 65 | | 101 | | 128 | |
| FT | 707281 | 5508 | 2577 | A- | 380 | A- | 1099 | A- | 66 | | 173 | | 185 | |

| Grade 8 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
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| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707283 | 4147 | 2067 | A- | 251 | A- | 704 | A- | 54 | | 92 | | 117 | |
| FT | 707284 | 4053 | 2025 | A- | 259 | B- | 649 | A- | 64 | | 78 | | 129 | |
| FT | 707285 | 4547 | 2284 | A+ | 300 | A- | 779 | A+ | 64 | | 88 | | 123 | |
| FT | 707286 | 4555 | 2280 | A+ | 300 | A- | 765 | A- | 64 | | 100 | | 138 | |
| FT | 707288 | 4008 | 1966 | A+ | 242 | A- | 626 | A- | 60 | | 100 | | 129 | |
| FT | 707289 | 4107 | 2135 | A- | 241 | A+ | 680 | A- | 60 | | 88 | | 121 | |
| FT | 707290 | 4092 | 2072 | A- | 237 | A- | 669 | A- | 67 | | 81 | | 119 | |
| FT | 707291 | 5428 | 2522 | A+ | 415 | A- | 1024 | A+ | 88 | | 165 | | 172 | |
| FT | 707292 | 4393 | 2199 | A- | 289 | A- | 714 | A+ | 62 | | 100 | | 111 | |
| FT | 707293 | 4042 | 2030 | A- | 242 | B- | 663 | B- | 76 | | 101 | | 129 | |
| FT | 707294 | 4512 | 2197 | A- | 285 | B- | 764 | B- | 64 | | 93 | | 140 | |
| FT | 707295 | 4112 | 2083 | A+ | 254 | A- | 685 | A+ | 50 | | 73 | | 131 | |
| FT | 707297 | 4032 | 2022 | A+ | 272 | A+ | 626 | A- | 66 | | 99 | | 122 | |
| FT | 707298 | 4730 | 2318 | A+ | 306 | A- | 763 | A- | 72 | | 102 | | 137 | |
| FT | 707299 | 4389 | 2186 | A+ | 269 | A- | 714 | A- | 59 | | 80 | | 143 | |
| FT | 707300 | 4650 | 2338 | A+ | 293 | B- | 778 | A- | 75 | | 103 | | 153 | |
| FT | 707301 | 4431 | 2200 | A+ | 279 | A- | 778 | A- | 63 | | 100 | | 139 | |
| FT | 707302 | 4120 | 2031 | A- | 251 | C- | 674 | A- | 52 | | 83 | | 137 | |
| FT | 707304 | 4171 | 2077 | A- | 264 | A+ | 694 | A- | 53 | | 70 | | 113 | |
| FT | 707305 | 5365 | 2466 | A- | 444 | A- | 1039 | A- | 92 | | 154 | | 182 | |
| FT | 707306 | 4013 | 2021 | A- | 236 | A- | 670 | A- | 71 | | 75 | | 110 | |
| FT | 707307 | 3844 | 1949 | A- | 239 | A- | 602 | A- | 52 | | 82 | | 122 | |
| FT | 707308 | 3862 | 1917 | A+ | 243 | A- | 651 | A- | 56 | | 86 | | 101 | |
| FT | 707310 | 5439 | 2463 | A+ | 397 | A- | 1050 | A- | 92 | | 151 | | 169 | |
| FT | 707312 | 4001 | 1990 | A+ | 267 | A+ | 626 | A+ | 63 | | 80 | | 134 | |
| FT | 707313 | 4175 | 2128 | A+ | 277 | A+ | 673 | A- | 61 | | 80 | | 138 | |
| FT | 707314 | 5546 | 2596 | A- | 428 | A+ | 1085 | A- | 100 | | 170 | | 173 | |
| FT | 707315 | 4031 | 2055 | A- | 239 | C- | 662 | A- | 62 | | 70 | | 104 | |
| FT | 707316 | 5406 | 2510 | A+ | 394 | A- | 1037 | A- | 94 | | 168 | | 179 | |

| Grade 8 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 707317 | 3828 | 1916 | A+ | 258 | A- | 644 | A- | 62 | | 79 | | 107 | |
| FT | 707320 | 4085 | 2017 | A+ | 256 | A+ | 683 | A+ | 60 | | 88 | | 105 | |
| FT | 707321 | 5493 | 2516 | A- | 435 | A+ | 1068 | A- | 95 | | 145 | | 181 | |
| FT | 707322 | 4087 | 2019 | A+ | 273 | A+ | 689 | A- | 54 | | 70 | | 118 | |
| FT | 707323 | 3991 | 1977 | A+ | 254 | A+ | 655 | A+ | 47 | | 88 | | 103 | |
| FT | 707324 | 3566 | 1759 | A+ | 237 | A- | 601 | A+ | 53 | | 96 | | 96 | |
| FT | 707325 | 3501 | 1729 | A+ | 197 | | 589 | A- | 59 | | 66 | | 106 | |
| FT | 707326 | 5550 | 2578 | A+ | 407 | A+ | 1104 | A+ | 94 | | 168 | | 176 | |
| FT | 707327 | 4652 | 2320 | A- | 312 | A- | 727 | A- | 83 | | 93 | | 141 | |
| FT | 707329 | 3944 | 1993 | A- | 251 | A- | 676 | A- | 57 | | 80 | | 125 | |
| FT | 707330 | 4782 | 2359 | A- | 284 | A- | 762 | A- | 79 | | 87 | | 141 | |
| FT | 707331 | 4030 | 2008 | A+ | 288 | A- | 627 | A+ | 58 | | 81 | | 138 | |
| FT | 707332 | 3857 | 1904 | A- | 235 | A- | 614 | A- | 63 | | 102 | | 119 | |
| FT | 707333 | 3767 | 1849 | A+ | 226 | A- | 597 | A- | 60 | | 68 | | 107 | |
| FT | 707334 | 4047 | 1993 | A- | 245 | B- | 664 | A- | 49 | | 92 | | 116 | |
| FT | 707335 | 5476 | 2565 | A- | 423 | A- | 1056 | A+ | 105 | | 169 | | 170 | |
| FT | 707336 | 5708 | 2634 | A+ | 425 | A- | 1116 | A+ | 112 | | 162 | | 205 | A+ |
| FT | 707337 | 4134 | 2039 | A- | 236 | A- | 719 | A- | 64 | | 82 | | 103 | |
| FT | 707338 | 5423 | 2493 | A- | 418 | A+ | 1040 | A+ | 88 | | 157 | | 174 | |
| FT | 707339 | 3902 | 1925 | A- | 245 | A- | 635 | A- | 65 | | 80 | | 114 | |
| FT | 707342 | 3781 | 1890 | A- | 247 | A- | 620 | A- | 57 | | 75 | | 100 | |

| Grade 11 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707345 | 4024 | 1961 | A- | 239 | A- | 604 | A- | 36 | | 104 | | 109 | |
| FT | 707346 | 4044 | 2018 | A- | 249 | A- | 619 | A- | 48 | | 85 | | 113 | |
| FT | 707347 | 4831 | 2334 | A+ | 313 | A- | 890 | A- | 57 | | 112 | | 123 | |
| FT | 707348 | 4149 | 2018 | A+ | 250 | A- | 621 | A- | 43 | | 83 | | 113 | |
| FT | 707349 | 4094 | 2029 | A+ | 245 | A+ | 617 | A- | 38 | | 88 | | 130 | |
| FT | 707350 | 4058 | 1947 | A+ | 239 | A+ | 639 | A- | 60 | | 81 | | 116 | |
| FT | 707351 | 4110 | 2024 | A- | 258 | A- | 611 | A- | 38 | | 75 | | 124 | |
| FT | 707352 | 3923 | 1935 | A- | 229 | A- | 584 | A- | 44 | | 77 | | 110 | |
| FT | 707354 | 4054 | 1937 | A- | 242 | A- | 618 | A+ | 47 | | 76 | | 118 | |
| FT | 707355 | 4759 | 2337 | A- | 284 | A- | 868 | A+ | 57 | | 123 | | 124 | |
| FT | 707356 | 4829 | 2312 | A- | 294 | A- | 871 | A- | 64 | | 108 | | 126 | |
| FT | 707358 | 3698 | 1845 | A- | 223 | A- | 559 | A- | 58 | | 72 | | 99 | |
| FT | 707359 | 3763 | 1906 | A+ | 247 | A- | 527 | A+ | 48 | | 71 | | 115 | |
| FT | 707360 | 4356 | 2180 | A+ | 249 | B- | 638 | A- | 41 | | 98 | | 110 | |
| FT | 707361 | 4217 | 2070 | A+ | 271 | A+ | 601 | A- | 54 | | 91 | | 123 | |
| FT | 707363 | 4399 | 2187 | A+ | 265 | A- | 661 | A+ | 58 | | 100 | | 122 | |
| FT | 707364 | 4401 | 2128 | A+ | 270 | A- | 635 | A- | 49 | | 93 | | 96 | |
| FT | 707367 | 4768 | 2309 | A+ | 292 | A- | 849 | A+ | 60 | | 113 | | 121 | |
| FT | 707369 | 4808 | 2317 | A+ | 298 | A- | 877 | A+ | 50 | | 131 | | 127 | |
| FT | 707370 | 4018 | 1908 | A- | 251 | B- | 617 | A- | 59 | | 73 | | 121 | |
| FT | 707371 | 3910 | 1922 | A- | 235 | A- | 605 | A- | 44 | | 83 | | 117 | |
| FT | 707373 | 4678 | 2305 | A- | 307 | A- | 687 | A- | 51 | | 109 | | 117 | |
| FT | 707374 | 4589 | 2231 | A- | 287 | A- | 695 | A- | 55 | | 98 | | 125 | |
| FT | 707375 | 3795 | 1881 | A- | 216 | A- | 562 | A+ | 51 | | 80 | | 97 | |
| FT | 707376 | 3843 | 1874 | A- | 222 | B- | 569 | A- | 35 | | 103 | | 114 | |
| FT | 707378 | 4071 | 1967 | A- | 232 | A- | 610 | A- | 35 | | 99 | | 107 | |
| FT | 707379 | 3992 | 1951 | A+ | 236 | A+ | 587 | A- | 44 | | 85 | | 111 | |
| FT | 707380 | 3792 | 1825 | A- | 251 | A- | 567 | A+ | 37 | | 88 | | 106 | |
| FT | 707381 | 4031 | 1986 | A- | 231 | A+ | 640 | A- | 43 | | 89 | | 120 | |

| Grade 11 Mathematics | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH,FOC=AM) | | Ethnicity DIF (REF=WH,FOC=AS) | | Ethnicity DIF (REF=WH,FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 707382 | 3956 | 1927 | B+ | 227 | A- | 561 | A- | 40 | | 88 | | 131 | |
| FT | 707383 | 4013 | 2038 | A+ | 247 | A- | 604 | A- | 44 | | 86 | | 101 | |
| FT | 707384 | 3749 | 1820 | A- | 228 | A- | 592 | A- | 50 | | 76 | | 104 | |
| FT | 707385 | 3800 | 1901 | A- | 230 | A- | 601 | A- | 35 | | 79 | | 105 | |
| FT | 707386 | 4858 | 2350 | A+ | 313 | A+ | 833 | A- | 53 | | 117 | | 127 | |
| FT | 707387 | 4910 | 2327 | A+ | 329 | A- | 861 | A- | 59 | | 109 | | 132 | |
| FT | 707388 | 4518 | 2197 | A+ | 269 | A+ | 652 | A- | 44 | | 101 | | 132 | |
| FT | 707389 | 4393 | 2159 | A+ | 260 | A- | 675 | A- | 45 | | 88 | | 120 | |
| FT | 707390 | 4095 | 2047 | A+ | 270 | A- | 584 | A- | 40 | | 93 | | 116 | |
| FT | 707391 | 4193 | 2000 | A+ | 250 | B- | 619 | A- | 41 | | 86 | | 115 | |
| FT | 707392 | 4411 | 2170 | A- | 269 | A- | 688 | A- | 41 | | 79 | | 121 | |
| FT | 707393 | 4467 | 2252 | A- | 257 | A- | 661 | A- | 59 | | 97 | | 114 | |
| FT | 707394 | 4034 | 1907 | A- | 260 | A+ | 613 | A- | 42 | | 72 | | 88 | |
| FT | 707396 | 3996 | 1933 | A- | 248 | A- | 588 | B- | 45 | | 89 | | 119 | |
| FT | 707397 | 4747 | 2313 | A- | 287 | A+ | 859 | A- | 57 | | 107 | | 126 | |
| FT | 707398 | 4817 | 2327 | A- | 305 | A- | 850 | A- | 59 | | 126 | | 137 | |
| FT | 707399 | 3542 | 1781 | A+ | 184 | | 545 | A- | 33 | | 80 | | 103 | |
| FT | 707400 | 3601 | 1765 | A- | 220 | A+ | 534 | A- | 38 | | 86 | | 101 | |
| FT | 707402 | 4955 | 2322 | A- | 321 | A- | 875 | A- | 57 | | 127 | | 139 | |
| FT | 707403 | 3875 | 1880 | A- | 237 | A+ | 569 | A- | 49 | | 86 | | 107 | |
| FT | 707404 | 4016 | 1955 | A+ | 254 | A- | 623 | A+ | 55 | | 95 | | 98 | |

# Appendix V: Science Field Test Differential Item Functioning

***M=Male, F=Female, AM=American Indian, AS=Asian, BL=African American/Black, HI= Hispanic, MU=Multiple Ethnicities, WH=White**
**200 student minimum for reporting**

| Grade 5 Science | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 705706 | 5857 | 2704 | A+ | 438 | A- | 1271 | A- | 86 | | 167 | | 222 | A+ |
| FT | 705707 | 4152 | 2073 | A- | 263 | A- | 716 | A+ | 49 | | 83 | | 141 | |
| FT | 705709 | 4288 | 2101 | A- | 237 | C- | 781 | A- | 60 | | 101 | | 139 | |
| FT | 705710 | 4361 | 2133 | A- | 264 | A- | 758 | A- | 48 | | 115 | | 137 | |
| FT | 705711 | 4551 | 2247 | A+ | 291 | B- | 769 | A- | 66 | | 102 | | 170 | |
| FT | 705712 | 4135 | 2060 | A+ | 248 | B- | 706 | A- | 45 | | 79 | | 139 | |
| FT | 705713 | 4415 | 2259 | A+ | 253 | C- | 705 | C- | 50 | | 102 | | 145 | |
| FT | 705714 | 4208 | 2045 | A- | 260 | A- | 698 | A- | 66 | | 91 | | 136 | |
| FT | 705715 | 3962 | 2025 | A- | 231 | A- | 701 | A+ | 48 | | 90 | | 133 | |
| FT | 705716 | 4004 | 1995 | A+ | 229 | A- | 684 | A- | 57 | | 93 | | 118 | |
| FT | 705718 | 4557 | 2262 | A- | 291 | B- | 786 | A- | 63 | | 111 | | 157 | |
| FT | 705720 | 3958 | 1947 | A- | 253 | A+ | 626 | A+ | 56 | | 91 | | 128 | |
| FT | 705721 | 4593 | 2340 | A- | 296 | A- | 798 | A- | 65 | | 71 | | 166 | |
| FT | 705722 | 3936 | 1932 | A- | 241 | A- | 673 | A- | 48 | | 91 | | 131 | |
| FT | 705723 | 4188 | 2068 | A+ | 287 | A+ | 721 | A+ | 43 | | 94 | | 132 | |
| FT | 705724 | 6389 | 2941 | A- | 471 | B- | 1323 | A- | 93 | | 207 | B- | 230 | A+ |
| FT | 705725 | 4394 | 2171 | A- | 259 | B- | 733 | B- | 66 | | 92 | | 159 | |
| FT | 705726 | 4187 | 2089 | B- | 280 | A- | 728 | A- | 67 | | 95 | | 121 | |
| FT | 705727 | 5917 | 2752 | A+ | 430 | A+ | 1286 | A+ | 94 | | 177 | | 219 | A+ |
| FT | 705728 | 4628 | 2342 | A+ | 257 | A+ | 762 | A+ | 63 | | 101 | | 150 | |
| FT | 705729 | 4607 | 2315 | A+ | 270 | A- | 812 | A+ | 62 | | 111 | | 156 | |
| FT | 705730 | 4029 | 2013 | A- | 229 | A- | 696 | A- | 57 | | 90 | | 114 | |
| FT | 705732 | 6305 | 2998 | A- | 479 | B- | 1304 | A- | 97 | | 195 | | 244 | A- |
| FT | 705733 | 4225 | 2122 | B+ | 273 | A- | 690 | A- | 54 | | 111 | | 132 | |
| FT | 705734 | 4238 | 2131 | A+ | 260 | B- | 690 | A- | 69 | | 98 | | 140 | |
| FT | 705735 | 6390 | 3018 | B+ | 461 | A- | 1333 | A- | 84 | | 173 | | 252 | A- |

| Grade 5 Science | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 705736 | 4167 | 2069 | A- | 242 | A- | 725 | A+ | 55 | | 109 | | 131 | |
| FT | 705737 | 3984 | 1997 | A- | 259 | A+ | 648 | A+ | 60 | | 80 | | 131 | |
| FT | 705738 | 4195 | 2075 | A- | 230 | A- | 657 | A+ | 51 | | 100 | | 160 | |
| FT | 705739 | 4129 | 2027 | A+ | 238 | B- | 678 | A- | 55 | | 105 | | 142 | |
| FT | 705740 | 4426 | 2233 | A+ | 289 | B- | 709 | A- | 69 | | 93 | | 157 | |
| FT | 705741 | 6126 | 2874 | A- | 477 | A+ | 1256 | A- | 83 | | 207 | B- | 226 | A- |
| FT | 705742 | 4129 | 2057 | A- | 246 | A+ | 686 | A- | 49 | | 99 | | 121 | |
| FT | 705743 | 4252 | 2147 | A+ | 257 | A- | 694 | A+ | 62 | | 103 | | 153 | |
| FT | 705744 | 5408 | 2508 | A- | 419 | A- | 1152 | A+ | 78 | | 170 | | 197 | |
| FT | 705745 | 5405 | 2496 | A- | 423 | A- | 1116 | A- | 87 | | 169 | | 190 | |
| FT | 705746 | 3789 | 1899 | A- | 232 | A+ | 650 | A- | 54 | | 85 | | 133 | |
| FT | 705747 | 3783 | 1859 | A- | 211 | A- | 633 | A- | 50 | | 97 | | 136 | |
| FT | 705748 | 4335 | 2160 | A- | 231 | A+ | 740 | A- | 58 | | 88 | | 160 | |
| FT | 705749 | 4253 | 2149 | A+ | 262 | B- | 699 | A- | 69 | | 101 | | 151 | |
| FT | 705750 | 4376 | 2138 | A- | 266 | B- | 750 | A- | 58 | | 94 | | 165 | |
| FT | 705751 | 4356 | 2156 | A- | 263 | B- | 725 | A- | 52 | | 104 | | 148 | |
| FT | 705752 | 4402 | 2158 | A- | 276 | B- | 774 | B- | 63 | | 94 | | 147 | |
| FT | 705753 | 4370 | 2193 | A- | 268 | A- | 726 | A- | 64 | | 86 | | 147 | |
| FT | 705754 | 4312 | 2122 | A- | 277 | A- | 740 | A- | 60 | | 96 | | 145 | |
| FT | 705755 | 4340 | 2129 | A- | 258 | C- | 717 | A- | 54 | | 103 | | 145 | |
| FT | 705756 | 5882 | 2697 | A+ | 424 | A- | 1206 | A- | 94 | | 177 | | 203 | B- |
| FT | 705757 | 4290 | 2142 | A- | 260 | A- | 703 | B- | 55 | | 91 | | 146 | |
| FT | 705758 | 6016 | 2794 | A- | 430 | A- | 1253 | A- | 84 | | 198 | | 229 | A- |
| FT | 705760 | 4281 | 2208 | A- | 271 | A+ | 708 | A- | 60 | | 90 | | 156 | |

| Grade 8 Science | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 705761 | 4686 | 2328 | B+ | 294 | A- | 763 | A- | 75 | | 94 | | 139 | |
| FT | 705765 | 4004 | 2004 | A+ | 263 | A- | 655 | A- | 51 | | 77 | | 112 | |
| FT | 705767 | 4018 | 2034 | A+ | 218 | A- | 657 | A- | 48 | | 79 | | 114 | |
| FT | 705768 | 4907 | 2261 | A- | 371 | B- | 969 | A- | 92 | | 146 | | 172 | |
| FT | 705769 | 4555 | 2229 | A- | 299 | A- | 765 | A- | 72 | | 89 | | 151 | |
| FT | 705770 | 4156 | 2058 | A- | 241 | A+ | 687 | A- | 65 | | 98 | | 137 | |
| FT | 705771 | 4112 | 2052 | A- | 259 | A- | 657 | A- | 45 | | 94 | | 134 | |
| FT | 705772 | 4260 | 2057 | A+ | 257 | A+ | 699 | A+ | 64 | | 88 | | 139 | |
| FT | 705773 | 5534 | 2592 | A- | 389 | A- | 1131 | A- | 82 | | 152 | | 181 | |
| FT | 705774 | 4052 | 2019 | A+ | 281 | A- | 645 | A- | 77 | | 84 | | 102 | |
| FT | 705775 | 4412 | 2141 | A+ | 294 | A- | 703 | A- | 62 | | 95 | | 125 | |
| FT | 705776 | 5567 | 2565 | A+ | 418 | A- | 1038 | A- | 92 | | 163 | | 188 | |
| FT | 705777 | 4072 | 2038 | A- | 246 | C- | 679 | B- | 55 | | 78 | | 103 | |
| FT | 705778 | 5708 | 2665 | B- | 419 | A- | 1098 | A- | 122 | | 156 | | 189 | |
| FT | 705779 | 4634 | 2278 | A- | 272 | A+ | 753 | A- | 72 | | 82 | | 137 | |
| FT | 705780 | 4213 | 2076 | A- | 265 | A- | 699 | A- | 61 | | 95 | | 106 | |
| FT | 705781 | 5419 | 2532 | A+ | 423 | A- | 1049 | A+ | 90 | | 164 | | 180 | |
| FT | 705782 | 5283 | 2435 | A- | 403 | A+ | 1019 | A+ | 95 | | 151 | | 194 | |
| FT | 705784 | 3785 | 1880 | A- | 266 | A+ | 635 | A- | 67 | | 74 | | 84 | |
| FT | 705785 | 5392 | 2537 | A- | 391 | A- | 1053 | A- | 87 | | 148 | | 170 | |
| FT | 705786 | 4454 | 2195 | A- | 262 | A- | 726 | A- | 60 | | 85 | | 135 | |
| FT | 705787 | 3870 | 1962 | A+ | 235 | B- | 649 | A- | 55 | | 77 | | 103 | |
| FT | 705788 | 5886 | 2717 | A- | 458 | A- | 1134 | A- | 89 | | 174 | | 184 | |
| FT | 705789 | 4164 | 2051 | A- | 265 | B- | 664 | A- | 60 | | 86 | | 137 | |
| FT | 705790 | 3998 | 2009 | B- | 275 | A- | 634 | B- | 68 | | 80 | | 102 | |
| FT | 705791 | 4586 | 2324 | A+ | 314 | A+ | 743 | A- | 75 | | 95 | | 136 | |
| FT | 705792 | 4108 | 2086 | B+ | 229 | A+ | 697 | A- | 54 | | 91 | | 146 | |
| FT | 705793 | 5260 | 2444 | A- | 407 | A+ | 1036 | A- | 93 | | 154 | | 173 | |
| FT | 705794 | 4095 | 2071 | A- | 258 | A- | 681 | A- | 59 | | 85 | | 117 | |

| Grade 8 Science | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 705795 | 4232 | 2111 | A- | 275 | A- | 708 | A+ | 57 | | 99 | | 115 | |
| FT | 705796 | 3540 | 1754 | A- | 231 | A- | 623 | A- | 55 | | 78 | | 107 | |
| FT | 705797 | 4160 | 2064 | A- | 238 | A- | 697 | A+ | 69 | | 80 | | 121 | |
| FT | 705798 | 4085 | 2058 | A- | 247 | A+ | 668 | A+ | 68 | | 91 | | 116 | |
| FT | 705799 | 3772 | 1883 | A+ | 248 | A- | 634 | A- | 75 | | 82 | | 113 | |
| FT | 705800 | 4074 | 2063 | A+ | 249 | B- | 668 | A- | 71 | | 83 | | 127 | |
| FT | 705801 | 4124 | 2013 | B+ | 259 | C- | 656 | C- | 76 | | 74 | | 109 | |
| FT | 705803 | 4210 | 2106 | A+ | 263 | B- | 749 | A- | 59 | | 105 | | 148 | |
| FT | 705804 | 4022 | 2006 | A- | 257 | B- | 667 | A- | 56 | | 74 | | 129 | |
| FT | 705805 | 5376 | 2482 | A+ | 392 | A- | 1045 | A- | 89 | | 168 | | 196 | |
| FT | 705806 | 4560 | 2300 | A- | 313 | A+ | 752 | A- | 68 | | 98 | | 151 | |
| FT | 705807 | 3825 | 1913 | A+ | 258 | A+ | 625 | A+ | 46 | | 91 | | 116 | |
| FT | 705808 | 4528 | 2258 | A+ | 282 | B- | 726 | A- | 66 | | 100 | | 142 | |
| FT | 705809 | 4095 | 2029 | A- | 271 | A- | 673 | A- | 57 | | 71 | | 123 | |
| FT | 705810 | 4062 | 1966 | A- | 253 | A- | 652 | A+ | 64 | | 85 | | 101 | |
| FT | 705812 | 3937 | 1979 | B- | 256 | A- | 647 | A- | 48 | | 94 | | 106 | |
| FT | 705813 | 4130 | 2096 | A- | 255 | A- | 660 | A+ | 62 | | 89 | | 116 | |
| FT | 705814 | 4089 | 2002 | A+ | 259 | B- | 650 | A- | 73 | | 93 | | 114 | |
| FT | 705815 | 4039 | 2006 | A- | 268 | A- | 654 | A- | 56 | | 80 | | 108 | |
| FT | 705816 | 3772 | 1825 | A- | 262 | A- | 602 | A- | 56 | | 78 | | 108 | |
| FT | 705817 | 4038 | 2021 | A+ | 232 | A- | 651 | A- | 62 | | 93 | | 114 | |

| Grade 11 Science | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Item ID | *N* | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code | NFoc | Code |
| FT | 705818 | 4789 | 2307 | A- | 297 | B- | 840 | B- | 71 | | 117 | | 110 | |
| FT | 705819 | 5024 | 2430 | A+ | 335 | A- | 935 | A+ | 59 | | 108 | | 134 | |
| FT | 705820 | 3874 | 1874 | A- | 234 | A+ | 585 | A+ | 36 | | 83 | | 113 | |
| FT | 705821 | 4024 | 1986 | A+ | 248 | B- | 585 | B- | 47 | | 88 | | 117 | |
| FT | 705822 | 4326 | 2098 | A- | 259 | B- | 644 | B- | 52 | | 102 | | 115 | |
| FT | 705823 | 4081 | 1981 | A- | 250 | A- | 593 | A+ | 42 | | 99 | | 127 | |
| FT | 705824 | 4732 | 2287 | A- | 290 | A- | 865 | A+ | 56 | | 109 | | 117 | |
| FT | 705825 | 5256 | 2508 | A- | 328 | A+ | 950 | A- | 56 | | 124 | | 158 | |
| FT | 705826 | 3439 | 1697 | A+ | 221 | B- | 513 | A- | 31 | | 68 | | 87 | |
| FT | 705827 | 4568 | 2210 | A+ | 282 | A+ | 674 | A- | 55 | | 96 | | 121 | |
| FT | 705828 | 4163 | 2047 | A+ | 233 | A- | 592 | A- | 39 | | 85 | | 122 | |
| FT | 705829 | 4013 | 1954 | A+ | 243 | A- | 566 | A- | 44 | | 71 | | 111 | |
| FT | 705831 | 4103 | 2010 | A+ | 240 | A+ | 647 | A+ | 45 | | 92 | | 118 | |
| FT | 705832 | 4909 | 2387 | A- | 308 | A- | 873 | A+ | 55 | | 119 | | 131 | |
| FT | 705833 | 4041 | 1982 | A- | 232 | A+ | 601 | A- | 46 | | 88 | | 140 | |
| FT | 705834 | 4135 | 2039 | A- | 231 | A- | 621 | A- | 53 | | 67 | | 125 | |
| FT | 705837 | 4011 | 1995 | A+ | 231 | A- | 588 | A- | 44 | | 76 | | 119 | |
| FT | 705838 | 5334 | 2613 | A+ | 352 | A+ | 950 | A- | 65 | | 120 | | 143 | |
| FT | 705839 | 4812 | 2313 | A+ | 287 | A+ | 856 | A+ | 47 | | 118 | | 118 | |
| FT | 705840 | 3988 | 1948 | A- | 254 | A- | 587 | A+ | 52 | | 81 | | 99 | |
| FT | 705841 | 4477 | 2131 | B- | 282 | A- | 842 | A- | 61 | | 125 | | 130 | |
| FT | 705842 | 3981 | 1968 | A- | 238 | A- | 624 | A- | 44 | | 90 | | 96 | |
| FT | 705843 | 4402 | 2150 | A+ | 261 | B- | 669 | A- | 45 | | 86 | | 119 | |
| FT | 705844 | 4538 | 2249 | A- | 284 | A+ | 692 | A+ | 40 | | 107 | | 115 | |
| FT | 705845 | 4015 | 1954 | B- | 235 | B- | 617 | A- | 41 | | 101 | | 116 | |
| FT | 705846 | 4524 | 2206 | A+ | 281 | A- | 686 | A- | 56 | | 109 | | 125 | |
| FT | 705847 | 3748 | 1874 | A+ | 228 | A- | 571 | A- | 41 | | 69 | | 109 | |

| Grade 11 Science | | | Gender DIF (REF=M,FOC=F) | | Ethnicity DIF (REF=WH,FOC=BL) | | Ethnicity DIF (REF=WH,FOC=HI) | | Ethnicity DIF (REF=WH, FOC=AM) | | Ethnicity DIF (REF=WH, FOC=AS) | | Ethnicity DIF (REF=WH, FOC=MU) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Type** | **Item ID** | ***N*** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** | **NFoc** | **Code** |
| FT | 705848 | 3822 | 1886 | A- | 225 | A- | 581 | A- | 54 | | 78 | | 106 | |
| FT | 705849 | 3988 | 1954 | A+ | 232 | A+ | 599 | A- | 48 | | 86 | | 113 | |
| FT | 705850 | 4059 | 1978 | A- | 269 | A+ | 640 | A- | 50 | | 89 | | 119 | |
| FT | 705851 | 4753 | 2273 | A+ | 306 | A- | 845 | A+ | 52 | | 111 | | 121 | |
| FT | 705854 | 4391 | 2102 | A+ | 244 | A- | 606 | A+ | 52 | | 105 | | 112 | |
| FT | 705855 | 4771 | 2309 | A+ | 285 | A- | 881 | A- | 56 | | 114 | | 122 | |
| FT | 705856 | 3655 | 1793 | A- | 230 | A- | 567 | B- | 37 | | 81 | | 94 | |
| FT | 705857 | 3386 | 1653 | A+ | 201 | A- | 513 | A- | 37 | | 70 | | 95 | |
| FT | 705858 | 3878 | 1902 | A- | 251 | A- | 532 | A- | 42 | | 96 | | 114 | |
| FT | 705859 | 3839 | 1875 | A+ | 217 | A- | 571 | A- | 51 | | 82 | | 101 | |
| FT | 705860 | 3865 | 1894 | A+ | 255 | A- | 597 | A+ | 48 | | 72 | | 111 | |
| FT | 705861 | 4047 | 1951 | A- | 225 | A+ | 618 | A- | 42 | | 82 | | 117 | |
| FT | 705863 | 4599 | 2246 | A+ | 266 | A- | 719 | A+ | 53 | | 97 | | 121 | |
| FT | 705864 | 3938 | 1955 | A+ | 249 | A+ | 592 | A+ | 36 | | 84 | | 114 | |
| FT | 705865 | 3983 | 1945 | A- | 251 | B- | 589 | B- | 42 | | 84 | | 119 | |
| FT | 705868 | 4435 | 2159 | A- | 310 | A- | 664 | A- | 63 | | 99 | | 124 | |
| FT | 705870 | 4054 | 2002 | B- | 233 | A+ | 575 | A+ | 46 | | 96 | | 95 | |
| FT | 705871 | 4067 | 1976 | A- | 264 | A- | 601 | A+ | 36 | | 100 | | 105 | |
| FT | 705872 | 4069 | 2016 | A- | 245 | A- | 603 | A- | 49 | | 76 | | 126 | |
| FT | 705873 | 4084 | 1998 | A- | 262 | A+ | 618 | A+ | 51 | | 84 | | 106 | |
| FT | 705874 | 3824 | 1908 | A- | 240 | B+ | 558 | A- | 44 | | 73 | | 110 | |
| FT | 705875 | 4055 | 1985 | A- | 244 | A- | 567 | A- | 53 | | 89 | | 120 | |
| FT | 705876 | 4061 | 1997 | A+ | 242 | C- | 588 | A- | 45 | | 94 | | 110 | |

# Appendix W: Reading, Mathematics, and Science Analysis and Demographic Summary Sheets

## Reading : Grade 3

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 23013 | 30.5 | 9.3 | 118.6 | 35.6 | 17.7 | 49.4 | 32.9 |
| | | | | | | | | | |
| Gender | Male | 11755 | 30.0 | 9.3 | 116.4 | 35.3 | 19.1 | 50.3 | 30.6 |
| | Female | 11258 | 31.1 | 9.2 | 120.9 | 35.7 | 16.2 | 48.5 | 35.3 |
| | | | | | | | | | |
| Ethnicity* | AM | 324 | 23.3 | 9.4 | 93.1 | 31.4 | 44.1 | 43.5 | 12.3 |
| | AS | 567 | 31.4 | 9.8 | 123.0 | 38.7 | 17.5 | 43.9 | 38.6 |
| | BL | 1619 | 25.0 | 9.5 | 98.7 | 32.2 | 37.2 | 47.9 | 14.9 |
| | PI | 34 | 28.2 | 8.3 | 108.2 | 29.2 | 11.8 | 73.5 | 14.7 |
| | WH | 15384 | 32.2 | 8.8 | 125.0 | 35.2 | 12.6 | 47.7 | 39.6 |
| | HI | 4237 | 27.0 | 8.8 | 104.8 | 30.2 | 26.5 | 56.7 | 16.9 |
| | MU | 848 | 30.2 | 9.0 | 116.8 | 34.2 | 17.9 | 50.7 | 31.4 |
| | | | | | | | | | |
| Special Ed | No | 19325 | 31.5 | 8.9 | 122.2 | 35.0 | 14.3 | 49.5 | 36.3 |
| | Yes | 3688 | 25.3 | 9.4 | 99.9 | 32.7 | 35.6 | 48.9 | 15.6 |
| | | | | | | | | | |
| ELL | No | 20814 | 31.2 | 9.2 | 121.0 | 35.7 | 16.0 | 48.5 | 35.5 |
| | Yes | 2199 | 24.7 | 8.1 | 96.5 | 25.8 | 33.7 | 58.1 | 8.3 |
| | | | | | | | | | |
| FLS | No | 11926 | 33.6 | 8.3 | 130.4 | 34.7 | 9.3 | 44.8 | 45.9 |
| | Yes | 11087 | 27.3 | 9.1 | 106.0 | 32.0 | 26.7 | 54.4 | 19.0 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 4

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 22590 | 30.6 | 8.4 | 121.0 | 39.2 | 18.9 | 43.4 | 37.7 |
| Gender | Male | 11598 | 30.0 | 8.5 | 118.0 | 39.1 | 21.1 | 43.7 | 35.1 |
| | Female | 10992 | 31.3 | 8.2 | 124.1 | 39.0 | 16.5 | 43.1 | 40.4 |
| Ethnicity* | AM | 268 | 24.0 | 8.5 | 91.9 | 35.5 | 43.7 | 44.0 | 12.3 |
| | AS | 551 | 32.2 | 8.8 | 130.1 | 43.0 | 16.0 | 35.6 | 48.5 |
| | BL | 1567 | 26.2 | 9.0 | 101.3 | 39.0 | 35.5 | 42.8 | 21.7 |
| | PI | 29 | 29.5 | 8.2 | 116.2 | 38.6 | 24.1 | 44.8 | 31.0 |
| | WH | 15284 | 32.0 | 7.9 | 127.5 | 38.2 | 14.2 | 41.7 | 44.2 |
| | HI | 4050 | 27.4 | 8.0 | 105.7 | 34.4 | 28.4 | 50.9 | 20.8 |
| | MU | 841 | 29.5 | 8.5 | 115.9 | 38.9 | 22.0 | 45.3 | 32.7 |
| Special Ed | No | 18910 | 31.8 | 7.8 | 126.4 | 37.6 | 13.9 | 43.6 | 42.5 |
| | Yes | 3680 | 24.2 | 8.3 | 92.9 | 35.1 | 44.5 | 42.6 | 12.9 |
| ELL | No | 20971 | 31.1 | 8.3 | 123.3 | 39.0 | 17.1 | 42.8 | 40.1 |
| | Yes | 1619 | 24.0 | 7.1 | 91.0 | 28.0 | 41.8 | 51.6 | 6.6 |
| FLS | No | 12066 | 33.3 | 7.4 | 133.9 | 37.3 | 9.9 | 39.4 | 50.7 |
| | Yes | 10524 | 27.4 | 8.3 | 106.1 | 35.9 | 29.2 | 48.0 | 22.8 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 5

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 22878 | 33.9 | 9.0 | 129.0 | 43.3 | 17.2 | 36.6 | 46.3 |
| Gender | Male | 11671 | 33.1 | 9.2 | 125.3 | 43.7 | 19.6 | 37.4 | 43.0 |
| | Female | 11207 | 34.7 | 8.7 | 132.8 | 42.5 | 14.6 | 35.7 | 49.7 |
| Ethnicity* | AM | 318 | 26.4 | 9.5 | 94.8 | 41.9 | 45.6 | 38.4 | 16.0 |
| | AS | 550 | 34.0 | 10.2 | 131.2 | 49.5 | 18.2 | 31.6 | 50.2 |
| | BL | 1476 | 28.6 | 9.4 | 104.3 | 42.0 | 34.3 | 42.1 | 23.6 |
| | PI | 29 | 33.5 | 9.7 | 127.0 | 46.7 | 17.2 | 37.9 | 44.8 |
| | WH | 15648 | 35.4 | 8.3 | 136.1 | 41.5 | 12.5 | 34.3 | 53.2 |
| | HI | 4061 | 30.6 | 8.9 | 112.8 | 40.5 | 26.4 | 43.6 | 30.0 |
| | MU | 796 | 33.7 | 9.0 | 128.1 | 43.4 | 17.7 | 37.3 | 45.0 |
| Special Ed | No | 19206 | 35.4 | 8.1 | 135.9 | 40.4 | 11.6 | 36.2 | 52.2 |
| | Yes | 3672 | 26.0 | 9.1 | 92.6 | 39.6 | 46.4 | 38.6 | 15.0 |
| ELL | No | 21745 | 34.4 | 8.8 | 131.2 | 42.6 | 15.5 | 36.1 | 48.4 |
| | Yes | 1133 | 24.5 | 7.5 | 85.6 | 30.9 | 49.7 | 45.0 | 5.3 |
| FLS | No | 12301 | 36.8 | 7.8 | 143.1 | 39.9 | 8.8 | 30.8 | 60.4 |
| | Yes | 10577 | 30.5 | 9.1 | 112.6 | 41.2 | 26.9 | 43.3 | 29.9 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 6

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 22377 | 33.7 | 8.9 | 121.7 | 41.6 | 19.1 | 44.5 | 36.5 |
| Gender | Male | 11518 | 33.3 | 9.1 | 120.0 | 42.2 | 20.8 | 44.0 | 35.3 |
| | Female | 10859 | 34.2 | 8.7 | 123.5 | 40.9 | 17.2 | 45.0 | 37.7 |
| Ethnicity* | AM | 294 | 25.6 | 9.3 | 86.5 | 38.8 | 51.4 | 37.4 | 11.2 |
| | AS | 536 | 35.3 | 9.9 | 130.6 | 46.6 | 17.4 | 32.5 | 50.2 |
| | BL | 1466 | 29.0 | 9.4 | 100.3 | 40.2 | 35.9 | 46.0 | 18.1 |
| | PI | 22 | 28.0 | 9.1 | 95.8 | 37.4 | 40.9 | 45.5 | 13.6 |
| | WH | 15299 | 35.2 | 8.3 | 128.2 | 39.9 | 14.0 | 44.0 | 42.0 |
| | HI | 3966 | 30.4 | 9.2 | 106.3 | 39.9 | 30.0 | 48.2 | 21.8 |
| | MU | 794 | 33.6 | 9.1 | 121.0 | 42.0 | 19.8 | 43.2 | 37.0 |
| Special Ed | No | 18975 | 35.3 | 8.0 | 128.3 | 38.6 | 13.0 | 45.7 | 41.3 |
| | Yes | 3402 | 25.2 | 9.3 | 84.7 | 38.3 | 52.8 | 37.4 | 9.8 |
| ELL | No | 21683 | 34.1 | 8.7 | 123.2 | 41.0 | 17.5 | 44.9 | 37.6 |
| | Yes | 694 | 22.5 | 7.6 | 73.3 | 29.1 | 66.0 | 32.3 | 1.7 |
| FLS | No | 12330 | 36.4 | 7.8 | 134.1 | 38.6 | 10.4 | 41.7 | 47.9 |
| | Yes | 10047 | 30.5 | 9.2 | 106.4 | 40.0 | 29.6 | 47.9 | 22.5 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 7

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 22212 | 33.3 | 9.5 | 128.0 | 44.3 | 17.8 | 37.7 | 44.5 |
| Gender | Male | 11289 | 32.5 | 9.7 | 124.5 | 44.9 | 20.4 | 37.9 | 41.7 |
| | Female | 10923 | 34.1 | 9.2 | 131.5 | 43.4 | 15.0 | 37.5 | 47.5 |
| Ethnicity* | AM | 294 | 25.8 | 9.8 | 94.8 | 42.3 | 43.5 | 39.1 | 17.3 |
| | AS | 516 | 32.5 | 11.7 | 126.4 | 54.2 | 26.4 | 24.2 | 49.4 |
| | BL | 1369 | 27.0 | 10.0 | 99.6 | 42.9 | 38.7 | 41.0 | 20.3 |
| | PI | 26 | 28.5 | 9.3 | 105.9 | 41.0 | 34.6 | 46.2 | 19.2 |
| | WH | 15343 | 35.2 | 8.6 | 136.6 | 41.6 | 11.8 | 36.1 | 52.1 |
| | HI | 3927 | 28.8 | 9.5 | 107.2 | 41.4 | 30.5 | 44.3 | 25.2 |
| | MU | 737 | 32.9 | 9.6 | 125.9 | 44.5 | 18.0 | 38.4 | 43.6 |
| Special Ed | No | 19075 | 34.9 | 8.5 | 135.1 | 40.9 | 11.6 | 38.4 | 50.0 |
| | Yes | 3137 | 23.4 | 9.4 | 84.8 | 39.6 | 55.1 | 33.6 | 11.3 |
| ELL | No | 21603 | 33.7 | 9.3 | 129.7 | 43.5 | 16.2 | 38.1 | 45.7 |
| | Yes | 609 | 19.2 | 7.1 | 67.2 | 28.6 | 73.4 | 24.5 | 2.1 |
| FLS | No | 12230 | 36.5 | 8.1 | 142.8 | 40.0 | 8.4 | 33.1 | 58.5 |
| | Yes | 9982 | 29.4 | 9.7 | 109.8 | 42.5 | 29.3 | 43.3 | 27.4 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 8

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 21904 | 34.4 | 9.3 | 117.4 | 39.5 | 20.9 | 43.1 | 36.0 |
| Gender | Male | 11161 | 33.5 | 9.6 | 113.7 | 40.2 | 24.3 | 42.5 | 33.2 |
| | Female | 10743 | 35.3 | 8.9 | 121.3 | 38.5 | 17.4 | 43.7 | 38.9 |
| Ethnicity* | AM | 343 | 27.2 | 9.8 | 88.6 | 37.9 | 46.9 | 41.7 | 11.4 |
| | AS | 484 | 34.3 | 11.1 | 118.9 | 47.3 | 25.4 | 32.4 | 42.1 |
| | BL | 1453 | 28.1 | 9.7 | 91.9 | 37.2 | 45.1 | 41.2 | 13.8 |
| | PI | 24 | 33.0 | 8.0 | 110.7 | 34.3 | 25.0 | 50.0 | 25.0 |
| | WH | 15216 | 36.1 | 8.5 | 124.6 | 37.5 | 14.6 | 42.8 | 42.6 |
| | HI | 3717 | 30.5 | 9.4 | 100.9 | 37.2 | 33.7 | 46.7 | 19.7 |
| | MU | 667 | 33.5 | 9.6 | 113.8 | 40.1 | 24.3 | 42.1 | 33.6 |
| Special Ed | No | 18969 | 35.9 | 8.3 | 123.6 | 36.6 | 14.6 | 44.9 | 40.5 |
| | Yes | 2935 | 24.3 | 9.2 | 77.7 | 34.3 | 61.5 | 31.6 | 7.0 |
| ELL | No | 21419 | 34.7 | 9.1 | 118.7 | 38.8 | 19.5 | 43.7 | 36.8 |
| | Yes | 485 | 19.5 | 7.2 | 60.0 | 25.8 | 82.7 | 16.5 | 0.8 |
| FLS | No | 12427 | 37.4 | 7.9 | 130.2 | 35.9 | 10.5 | 41.3 | 48.2 |
| | Yes | 9477 | 30.4 | 9.6 | 100.6 | 37.7 | 34.6 | 45.5 | 19.9 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 11

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 21125 | 34.7 | 9.6 | 109.7 | 45.8 | 30.0 | 41.4 | 28.6 |
| | | | | | | | | | |
| Gender | Male | 10813 | 33.9 | 10.0 | 106.0 | 46.7 | 32.8 | 41.0 | 26.2 |
| | Female | 10312 | 35.5 | 9.2 | 113.6 | 44.5 | 27.2 | 41.8 | 31.1 |
| | | | | | | | | | |
| Ethnicity* | AM | 243 | 29.5 | 9.7 | 85.4 | 42.3 | 53.1 | 35.8 | 11.1 |
| | AS | 466 | 33.1 | 11.8 | 105.3 | 56.2 | 37.8 | 30.3 | 32.0 |
| | BL | 1289 | 27.5 | 9.9 | 76.9 | 41.5 | 60.5 | 30.0 | 9.5 |
| | PI | 31 | 31.2 | 9.3 | 92.1 | 40.2 | 48.4 | 35.5 | 16.1 |
| | WH | 15213 | 36.5 | 8.8 | 118.2 | 43.4 | 22.5 | 43.3 | 34.2 |
| | HI | 3300 | 29.8 | 9.6 | 86.5 | 41.4 | 49.3 | 39.3 | 11.4 |
| | MU | 583 | 33.6 | 10.1 | 105.5 | 47.8 | 34.5 | 39.8 | 25.7 |
| | | | | | | | | | |
| Special Ed | No | 18756 | 36.0 | 8.9 | 115.4 | 43.4 | 24.5 | 43.9 | 31.5 |
| | Yes | 2369 | 24.5 | 9.2 | 64.7 | 38.2 | 73.8 | 21.0 | 5.2 |
| | | | | | | | | | |
| ELL | No | 20751 | 35.0 | 9.4 | 110.9 | 45.1 | 28.9 | 42.0 | 29.1 |
| | Yes | 374 | 19.0 | 6.7 | 42.5 | 26.9 | 92.5 | 7.2 | 0.3 |
| | | | | | | | | | |
| FLS | No | 13132 | 37.3 | 8.5 | 122.1 | 42.8 | 19.7 | 43.1 | 37.2 |
| | Yes | 7993 | 30.4 | 9.9 | 89.3 | 43.1 | 47.1 | 38.5 | 14.4 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Mathematics

## Grade 3

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 23130 | 33.8 | 9.9 | 113.1 | 36.0 | 22.3 | 51.1 | 26.6 |
| | | | | | | | | | |
| Gender | Male | 11816 | 34.6 | 9.9 | 116.0 | 36.9 | 20.5 | 49.6 | 29.8 |
| | Female | 11314 | 33.0 | 9.8 | 110.0 | 34.9 | 24.2 | 52.6 | 23.2 |
| | | | | | | | | | |
| Ethnicity* | AM | 323 | 26.4 | 10.1 | 87.7 | 31.9 | 48.0 | 43.7 | 8.4 |
| | AS | 594 | 34.8 | 10.7 | 118.1 | 40.0 | 21.0 | 43.8 | 35.2 |
| | BL | 1625 | 27.2 | 10.2 | 90.7 | 32.6 | 46.6 | 43.1 | 10.3 |
| | PI | 34 | 29.6 | 10.2 | 98.6 | 34.1 | 41.2 | 38.2 | 20.6 |
| | WH | 15407 | 35.8 | 9.2 | 120.0 | 35.3 | 15.8 | 51.5 | 32.6 |
| | HI | 4300 | 29.9 | 9.5 | 98.5 | 30.9 | 33.8 | 54.2 | 12.0 |
| | MU | 847 | 33.0 | 9.8 | 109.7 | 34.6 | 25.5 | 51.2 | 23.3 |
| | | | | | | | | | |
| Special Ed | No | 19433 | 34.9 | 9.4 | 116.7 | 35.1 | 18.2 | 52.7 | 29.2 |
| | Yes | 3697 | 28.1 | 10.5 | 94.1 | 35.0 | 44.0 | 43.0 | 13.0 |
| | | | | | | | | | |
| ELL | No | 20820 | 34.5 | 9.7 | 115.5 | 35.9 | 20.0 | 51.3 | 28.8 |
| | Yes | 2310 | 27.5 | 9.2 | 90.8 | 28.6 | 43.2 | 49.7 | 7.0 |
| | | | | | | | | | |
| FLS | No | 11955 | 37.1 | 8.8 | 124.9 | 35.1 | 12.2 | 50.0 | 37.7 |
| | Yes | 11175 | 30.3 | 9.8 | 100.4 | 32.5 | 33.1 | 52.2 | 14.7 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 4

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 22685 | 37.2 | 10.9 | 112.0 | 33.9 | 22.8 | 53.6 | 23.6 |
| Gender | Male | 11652 | 37.4 | 11.0 | 112.7 | 34.6 | 22.7 | 52.4 | 24.9 |
| | Female | 11033 | 37.1 | 10.7 | 111.2 | 33.2 | 22.9 | 54.9 | 22.2 |
| Ethnicity* | AM | 268 | 29.6 | 11.3 | 89.6 | 30.8 | 47.8 | 45.1 | 7.1 |
| | AS | 570 | 39.5 | 11.7 | 120.8 | 39.0 | 18.9 | 45.1 | 36.0 |
| | BL | 1579 | 29.6 | 11.0 | 89.6 | 30.0 | 49.1 | 43.4 | 7.5 |
| | PI | 29 | 37.1 | 10.2 | 112.4 | 35.0 | 20.7 | 62.1 | 17.2 |
| | WH | 15296 | 39.4 | 10.0 | 118.5 | 32.9 | 15.8 | 55.4 | 28.8 |
| | HI | 4105 | 32.6 | 10.6 | 97.8 | 29.7 | 36.7 | 52.3 | 11.0 |
| | MU | 838 | 35.2 | 10.8 | 105.6 | 32.5 | 27.6 | 55.4 | 17.1 |
| Special Ed | No | 19004 | 38.7 | 10.2 | 116.3 | 32.8 | 17.6 | 55.8 | 26.7 |
| | Yes | 3681 | 29.5 | 11.0 | 89.7 | 30.6 | 49.9 | 42.4 | 7.7 |
| ELL | No | 20959 | 38.0 | 10.6 | 114.1 | 33.7 | 20.5 | 54.2 | 25.2 |
| | Yes | 1726 | 28.5 | 9.9 | 86.2 | 25.8 | 50.7 | 45.8 | 3.5 |
| FLS | No | 12085 | 40.8 | 9.6 | 123.1 | 32.8 | 12.1 | 54.2 | 33.7 |
| | Yes | 10600 | 33.2 | 10.8 | 99.3 | 30.6 | 34.9 | 53.0 | 12.1 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 5

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 22946 | 38.0 | 10.8 | 113.4 | 36.2 | 23.8 | 49.4 | 26.8 |
| | | | | | | | | | |
| Gender | Male | 11715 | 38.1 | 11.1 | 114.2 | 37.4 | 24.2 | 47.5 | 28.3 |
| | Female | 11231 | 37.8 | 10.5 | 112.4 | 35.0 | 23.4 | 51.4 | 25.3 |
| | | | | | | | | | |
| Ethnicity* | AM | 318 | 29.4 | 10.8 | 87.6 | 31.1 | 53.8 | 37.7 | 8.5 |
| | AS | 566 | 39.1 | 11.9 | 119.7 | 42.7 | 23.1 | 42.2 | 34.6 |
| | BL | 1479 | 30.3 | 10.6 | 89.5 | 30.3 | 49.9 | 42.4 | 7.7 |
| | PI | 29 | 36.9 | 10.4 | 107.6 | 31.0 | 24.1 | 55.2 | 20.7 |
| | WH | 15650 | 40.0 | 10.1 | 119.9 | 35.6 | 17.2 | 50.2 | 32.5 |
| | HI | 4108 | 33.6 | 10.5 | 99.0 | 31.4 | 37.2 | 49.4 | 13.3 |
| | MU | 796 | 37.0 | 10.4 | 109.4 | 34.1 | 24.5 | 54.0 | 21.5 |
| | | | | | | | | | |
| Special Ed | No | 19279 | 39.6 | 10.0 | 118.3 | 35.2 | 18.1 | 51.5 | 30.5 |
| | Yes | 3667 | 29.4 | 10.6 | 87.2 | 30.1 | 54.1 | 38.2 | 7.7 |
| | | | | | | | | | |
| ELL | No | 21736 | 38.5 | 10.6 | 115.1 | 36.1 | 21.8 | 50.0 | 28.2 |
| | Yes | 1210 | 28.0 | 9.1 | 82.7 | 23.9 | 59.6 | 37.4 | 3.0 |
| | | | | | | | | | |
| FLS | No | 12316 | 41.5 | 9.6 | 125.0 | 35.5 | 13.2 | 49.0 | 37.8 |
| | Yes | 10630 | 33.9 | 10.7 | 99.8 | 32.1 | 36.1 | 49.8 | 14.1 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 6

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 22445 | 39.0 | 11.8 | 110.0 | 37.3 | 27.6 | 45.4 | 27.0 |
| | | | | | | | | | |
| Gender | Male | 11562 | 38.9 | 12.1 | 109.7 | 38.0 | 28.7 | 43.9 | 27.4 |
| | Female | 10883 | 39.2 | 11.6 | 110.3 | 36.6 | 26.5 | 47.1 | 26.4 |
| | | | | | | | | | |
| Ethnicity* | AM | 294 | 28.5 | 11.3 | 79.4 | 30.1 | 64.3 | 29.6 | 6.1 |
| | AS | 550 | 42.6 | 13.0 | 124.7 | 44.9 | 21.6 | 32.2 | 46.2 |
| | BL | 1471 | 31.3 | 11.7 | 87.1 | 32.8 | 53.5 | 36.2 | 10.3 |
| | PI | 22 | 34.5 | 10.0 | 94.8 | 27.6 | 40.9 | 50.0 | 9.1 |
| | WH | 15304 | 41.0 | 11.2 | 115.9 | 36.4 | 21.4 | 47.0 | 31.6 |
| | HI | 4009 | 35.0 | 11.6 | 97.2 | 33.5 | 39.2 | 46.0 | 14.9 |
| | MU | 795 | 37.9 | 12.0 | 106.5 | 37.1 | 32.7 | 43.3 | 24.0 |
| | | | | | | | | | |
| Special Ed | No | 19052 | 40.9 | 11.0 | 115.4 | 35.8 | 21.3 | 48.1 | 30.6 |
| | Yes | 3393 | 28.7 | 11.2 | 80.0 | 30.7 | 63.2 | 30.4 | 6.5 |
| | | | | | | | | | |
| ELL | No | 21671 | 39.5 | 11.6 | 111.4 | 37.0 | 26.0 | 46.1 | 27.9 |
| | Yes | 774 | 26.1 | 9.9 | 72.8 | 25.3 | 72.5 | 26.1 | 1.4 |
| | | | | | | | | | |
| FLS | No | 12336 | 42.7 | 10.6 | 121.4 | 35.9 | 16.6 | 46.4 | 37.0 |
| | Yes | 10109 | 34.6 | 11.8 | 96.1 | 34.1 | 41.1 | 44.2 | 14.7 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 7

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| Overall | | 22285 | 38.7 | 12.5 | 110.0 | 38.8 | 27.1 | 45.6 | 27.3 |
| Gender | Male | 11336 | 38.2 | 12.9 | 109.1 | 40.1 | 29.4 | 43.0 | 27.5 |
| | Female | 10949 | 39.1 | 12.0 | 111.0 | 37.4 | 24.7 | 48.3 | 27.0 |
| Ethnicity* | AM | 291 | 28.5 | 12.4 | 80.9 | 33.1 | 57.7 | 34.7 | 7.6 |
| | AS | 534 | 39.6 | 15.0 | 117.3 | 49.6 | 30.3 | 30.5 | 39.1 |
| | BL | 1369 | 29.0 | 11.9 | 82.1 | 31.6 | 57.4 | 35.6 | 7.0 |
| | PI | 26 | 32.1 | 11.5 | 91.7 | 35.2 | 50.0 | 38.5 | 11.5 |
| | WH | 15339 | 41.3 | 11.4 | 117.8 | 37.4 | 19.0 | 47.8 | 33.3 |
| | HI | 3989 | 32.7 | 12.0 | 92.0 | 33.2 | 44.4 | 43.6 | 12.0 |
| | MU | 737 | 37.1 | 12.7 | 105.2 | 38.2 | 31.2 | 46.3 | 22.5 |
| Special Ed | No | 19150 | 40.6 | 11.6 | 115.5 | 37.4 | 20.8 | 48.3 | 30.9 |
| | Yes | 3135 | 26.9 | 11.3 | 76.8 | 30.1 | 65.6 | 29.4 | 5.0 |
| ELL | No | 21589 | 39.2 | 12.2 | 111.4 | 38.4 | 25.4 | 46.5 | 28.1 |
| | Yes | 696 | 23.2 | 9.5 | 67.2 | 24.2 | 79.5 | 19.5 | 1.0 |
| FLS | No | 12236 | 43.1 | 10.8 | 123.6 | 37.2 | 14.4 | 46.7 | 38.9 |
| | Yes | 10049 | 33.3 | 12.2 | 93.6 | 34.1 | 42.5 | 44.3 | 13.2 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 8

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 21985 | 39.6 | 12.8 | 105.0 | 38.9 | 32.0 | 46.2 | 21.8 |
| | | | | | | | | | |
| Gender | Male | 11222 | 38.9 | 13.1 | 103.1 | 39.7 | 35.0 | 43.3 | 21.6 |
| | Female | 10763 | 40.4 | 12.3 | 106.9 | 38.0 | 28.8 | 49.3 | 22.0 |
| | | | | | | | | | |
| Ethnicity* | AM | 342 | 28.8 | 12.5 | 75.1 | 33.4 | 67.5 | 26.0 | 6.4 |
| | AS | 504 | 40.8 | 15.2 | 111.7 | 48.6 | 30.4 | 35.5 | 34.1 |
| | BL | 1458 | 29.0 | 11.7 | 75.2 | 30.8 | 66.4 | 29.2 | 4.4 |
| | PI | 24 | 37.4 | 10.9 | 97.6 | 33.7 | 33.3 | 54.2 | 12.5 |
| | WH | 15216 | 42.4 | 11.6 | 112.6 | 37.4 | 23.4 | 50.1 | 26.5 |
| | HI | 3775 | 34.1 | 12.6 | 88.7 | 34.9 | 49.3 | 40.3 | 10.3 |
| | MU | 666 | 37.4 | 12.6 | 98.1 | 37.3 | 38.4 | 45.6 | 15.9 |
| | | | | | | | | | |
| Special Ed | No | 19060 | 41.5 | 11.9 | 110.1 | 37.7 | 25.8 | 49.5 | 24.6 |
| | Yes | 2925 | 27.6 | 11.3 | 71.6 | 29.0 | 72.0 | 24.7 | 3.3 |
| | | | | | | | | | |
| ELL | No | 21399 | 40.1 | 12.5 | 106.3 | 38.5 | 30.6 | 47.1 | 22.4 |
| | Yes | 586 | 22.5 | 9.7 | 58.9 | 23.9 | 84.1 | 14.8 | 1.0 |
| | | | | | | | | | |
| FLS | No | 12453 | 44.0 | 11.1 | 117.7 | 37.3 | 18.9 | 50.2 | 30.9 |
| | Yes | 9532 | 34.0 | 12.6 | 88.4 | 34.5 | 49.1 | 41.1 | 9.8 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 11

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 21107 | 38.6 | 13.1 | 102.5 | 46.0 | 38.3 | 36.1 | 25.7 |
| | | | | | | | | | |
| Gender | Male | 10799 | 38.2 | 13.4 | 102.0 | 47.5 | 39.9 | 33.9 | 26.2 |
| | Female | 10308 | 38.9 | 12.7 | 103.0 | 44.3 | 36.6 | 38.3 | 25.1 |
| | | | | | | | | | |
| Ethnicity* | AM | 239 | 29.7 | 12.2 | 73.1 | 38.2 | 65.3 | 26.4 | 8.4 |
| | AS | 466 | 40.0 | 14.5 | 110.7 | 53.9 | 36.9 | 27.7 | 35.4 |
| | BL | 1292 | 27.6 | 11.5 | 66.5 | 35.4 | 72.8 | 22.0 | 5.3 |
| | PI | 31 | 33.1 | 13.3 | 84.1 | 44.2 | 64.5 | 22.6 | 12.9 |
| | WH | 15196 | 41.2 | 12.2 | 111.2 | 44.7 | 29.7 | 39.2 | 31.1 |
| | HI | 3303 | 31.8 | 12.1 | 79.3 | 38.0 | 59.9 | 30.4 | 9.7 |
| | MU | 580 | 35.5 | 13.5 | 92.7 | 46.6 | 50.7 | 28.8 | 20.5 |
| | | | | | | | | | |
| Special Ed | No | 18754 | 40.2 | 12.5 | 107.6 | 44.8 | 32.9 | 38.8 | 28.3 |
| | Yes | 2353 | 25.8 | 10.5 | 61.2 | 32.2 | 81.2 | 14.5 | 4.2 |
| | | | | | | | | | |
| ELL | No | 20719 | 38.8 | 13.0 | 103.4 | 45.8 | 37.3 | 36.6 | 26.1 |
| | Yes | 388 | 23.5 | 8.7 | 54.2 | 25.7 | 89.7 | 8.2 | 2.1 |
| | | | | | | | | | |
| FLS | No | 13110 | 42.3 | 11.9 | 115.3 | 44.5 | 26.1 | 39.8 | 34.1 |
| | Yes | 7997 | 32.4 | 12.5 | 81.4 | 40.3 | 58.2 | 30.0 | 11.9 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Science
## Grade 5

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 22949 | 33.9 | 8.7 | 107.1 | 33.3 | 26.7 | 55.2 | 18.0 |
| | | | | | | | | | |
| Gender | Male | 11711 | 34.3 | 8.8 | 108.6 | 33.8 | 25.3 | 55.1 | 19.5 |
| | Female | 11238 | 33.6 | 8.6 | 105.5 | 32.6 | 28.2 | 55.3 | 16.5 |
| | | | | | | | | | |
| Ethnicity* | AM | 318 | 26.9 | 8.9 | 81.9 | 29.6 | 59.7 | 37.1 | 3.1 |
| | AS | 567 | 32.8 | 10.3 | 104.9 | 40.0 | 34.6 | 43.9 | 21.5 |
| | BL | 1476 | 27.4 | 8.5 | 83.6 | 28.1 | 55.0 | 41.5 | 3.5 |
| | PI | 30 | 32.8 | 9.2 | 102.8 | 33.2 | 30.0 | 56.7 | 13.3 |
| | WH | 15655 | 36.0 | 7.9 | 114.5 | 31.7 | 18.0 | 59.3 | 22.7 |
| | HI | 4110 | 29.4 | 8.4 | 90.3 | 28.9 | 45.9 | 47.8 | 6.4 |
| | MU | 793 | 33.2 | 8.4 | 104.2 | 31.8 | 29.1 | 54.5 | 16.4 |
| | | | | | | | | | |
| Special Ed | No | 19277 | 35.2 | 8.1 | 111.4 | 31.9 | 21.2 | 58.4 | 20.4 |
| | Yes | 3672 | 27.5 | 9.0 | 84.3 | 30.6 | 55.8 | 38.6 | 5.6 |
| | | | | | | | | | |
| ELL | No | 21738 | 34.5 | 8.4 | 109.1 | 32.6 | 24.0 | 57.0 | 19.0 |
| | Yes | 1211 | 23.6 | 7.1 | 71.0 | 22.6 | 76.1 | 22.9 | 1.1 |
| | | | | | | | | | |
| FLS | No | 12322 | 36.9 | 7.6 | 118.2 | 31.4 | 14.3 | 59.7 | 26.0 |
| | Yes | 10627 | 30.5 | 8.7 | 94.2 | 30.6 | 41.2 | 50.0 | 8.8 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 8

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 21993 | 39.7 | 11.2 | 106.1 | 36.3 | 29.8 | 47.6 | 22.6 |
| | | | | | | | | | |
| Gender | Male | 11231 | 40.0 | 11.5 | 107.5 | 37.5 | 29.1 | 46.8 | 24.1 |
| | Female | 10762 | 39.3 | 11.0 | 104.8 | 34.9 | 30.5 | 48.5 | 21.1 |
| | | | | | | | | | |
| Ethnicity* | AM | 342 | 30.6 | 11.0 | 79.0 | 32.2 | 63.2 | 30.4 | 6.4 |
| | AS | 504 | 38.7 | 13.5 | 105.0 | 43.7 | 34.3 | 37.5 | 28.2 |
| | BL | 1456 | 30.5 | 10.8 | 78.7 | 31.1 | 62.8 | 32.2 | 5.0 |
| | PI | 24 | 37.2 | 9.3 | 97.7 | 30.3 | 33.3 | 62.5 | 4.2 |
| | WH | 15225 | 42.2 | 10.2 | 114.0 | 34.6 | 20.7 | 51.3 | 28.1 |
| | HI | 3774 | 34.1 | 10.6 | 88.5 | 31.1 | 49.1 | 42.0 | 8.9 |
| | MU | 668 | 38.0 | 11.4 | 100.8 | 35.4 | 36.2 | 44.8 | 19.0 |
| | | | | | | | | | |
| Special Ed | No | 19060 | 41.2 | 10.5 | 110.7 | 35.0 | 24.0 | 50.7 | 25.3 |
| | Yes | 2933 | 29.7 | 10.4 | 76.4 | 29.9 | 67.3 | 27.8 | 4.9 |
| | | | | | | | | | |
| ELL | No | 21405 | 40.1 | 10.9 | 107.5 | 35.7 | 28.1 | 48.7 | 23.2 |
| | Yes | 588 | 22.6 | 7.0 | 56.6 | 19.1 | 91.8 | 8.0 | 0.2 |
| | | | | | | | | | |
| FLS | No | 12451 | 43.5 | 9.8 | 118.1 | 34.3 | 16.6 | 51.5 | 31.8 |
| | Yes | 9542 | 34.7 | 11.0 | 90.5 | 32.6 | 46.9 | 42.5 | 10.5 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Grade 11

| Group | Subgroup | Valid *N* | Raw Scores | | Scale Scores | | Percent in Performance Level | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Mean | *SD* | Mean | *SD* | Below | Meets | Exceeds |
| | | | | | | | | | |
| Overall | | 21102 | 39.9 | 11.3 | 104.7 | 29.3 | 26.0 | 57.5 | 16.5 |
| | | | | | | | | | |
| Gender | Male | 10803 | 40.6 | 11.6 | 106.8 | 30.9 | 24.9 | 55.5 | 19.6 |
| | Female | 10299 | 39.3 | 10.9 | 102.4 | 27.3 | 27.1 | 59.7 | 13.3 |
| | | | | | | | | | |
| Ethnicity* | AM | 241 | 33.3 | 11.2 | 88.3 | 25.9 | 49.8 | 44.0 | 6.2 |
| | AS | 464 | 37.5 | 13.9 | 100.1 | 35.6 | 35.8 | 44.0 | 20.3 |
| | BL | 1293 | 30.2 | 10.9 | 81.3 | 24.8 | 60.1 | 36.6 | 3.3 |
| | PI | 31 | 35.1 | 11.4 | 91.8 | 26.1 | 38.7 | 54.8 | 6.5 |
| | WH | 15190 | 42.5 | 10.1 | 110.8 | 27.8 | 17.4 | 62.4 | 20.3 |
| | HI | 3301 | 33.5 | 10.8 | 88.4 | 24.9 | 47.3 | 47.6 | 5.1 |
| | MU | 582 | 37.9 | 11.6 | 99.8 | 29.4 | 34.5 | 51.0 | 14.4 |
| | | | | | | | | | |
| Special Ed | No | 18738 | 41.3 | 10.6 | 107.9 | 28.3 | 20.9 | 60.9 | 18.3 |
| | Yes | 2364 | 29.1 | 10.4 | 78.8 | 23.5 | 66.2 | 31.2 | 2.6 |
| | | | | | | | | | |
| ELL | No | 20713 | 40.3 | 11.0 | 105.4 | 28.9 | 24.7 | 58.4 | 16.8 |
| | Yes | 389 | 22.4 | 7.5 | 64.1 | 16.4 | 90.0 | 9.8 | 0.3 |
| | | | | | | | | | |
| FLS | No | 13114 | 43.2 | 9.9 | 112.7 | 27.7 | 15.5 | 62.4 | 22.1 |
| | Yes | 7988 | 34.7 | 11.3 | 91.4 | 26.9 | 43.1 | 49.6 | 7.3 |

* AM=American Indian, AS=Asian, BL=African American/Black, PI=Native Hawaiian or other Pacific Islander, WH=White, HI= Hispanic, MU=Multiple Ethnicities

# Appendix X: Reading, Mathematics, and Science Strand Reliability and SEM

***L*=Total Number of Items per Strand, Reliability=Coefficient Alpha, *SEM*= Standard Error of Measurement in raw score metric**

| Content | Code | Strand |
|---|---|---|
| **Reading** | R.1 | Vocabulary |
| | R.2 | Comprehension |
| **Mathematics** | M.1 | Number Sense |
| | M.2 | Geometric/Measurement |
| | M.3 | Algebraic |
| | M.4 | Data Analysis/Probability |
| **Science** | S.1 | Inquiry, the Nature of Science, and Technology |
| | S.2 | Physical Science |
| | S.3 | Life Science |
| | S.4 | Earth and Space Science |

## Grade 3:

| Grade 3 | *L* | Reliability | *SEM* |
|---|---|---|---|
| R.1 | 13 | 0.74 | 1.5 |
| R.2 | 32 | 0.88 | 2.3 |
| M.1 | 21 | 0.83 | 1.8 |
| M.2 | 14 | 0.74 | 1.5 |
| M.3 | 9 | 0.67 | 1.2 |
| M.4 | 6 | 0.64 | 1.0 |

## Grade 4:

| Grade 4 | *L* | Reliability | *SEM* |
|---|---|---|---|
| **R.1** | 13 | 0.67 | 1.5 |
| **R.2** | 32 | 0.86 | 2.3 |
| **M.1** | 21 | 0.85 | 1.8 |
| **M.2** | 17 | 0.79 | 1.7 |
| **M.3** | 10 | 0.66 | 1.3 |
| **M.4** | 7 | 0.58 | 1.1 |

## Grade 5:

| Grade 5 | *L* | Reliability | *SEM* |
|---|---|---|---|
| R.1 | 11 | 0.69 | 1.4 |
| R.2 | 37 | 0.88 | 2.4 |
| M.1 | 26 | 0.86 | 2.0 |
| M.2 | 11 | 0.69 | 1.4 |
| M.3 | 9 | 0.61 | 1.3 |
| M.4 | 9 | 0.71 | 1.2 |
| S.1 | 10 | 0.66 | 1.3 |
| S.2 | 15 | 0.68 | 1.6 |
| S.3 | 12 | 0.71 | 1.4 |
| S.4 | 13 | 0.64 | 1.6 |

## Grade 6:

| Grade 6 | *L* | Reliability | *SEM* |
|---|---|---|---|
| R.1 | 12 | 0.66 | 1.4 |
| R.2 | 36 | 0.88 | 2.5 |
| M.1 | 20 | 0.84 | 1.8 |
| M.2 | 11 | 0.73 | 1.4 |
| M.3 | 16 | 0.78 | 1.6 |
| M.4 | 11 | 0.73 | 1.4 |

## Grade 7:

| Grade 7 | *L* | Reliability | *SEM* |
|---|---|---|---|
| R.1 | 13 | 0.74 | 1.4 |
| R.2 | 35 | 0.89 | 2.4 |
| M.1 | 19 | 0.86 | 1.7 |
| M.2 | 10 | 0.74 | 1.3 |
| M.3 | 19 | 0.84 | 1.8 |
| M.4 | 10 | 0.67 | 1.4 |

## Grade 8:

| Grade 8 | *L* | Reliability | *SEM* |
|---|---|---|---|
| R.1 | 13 | 0.70 | 1.5 |
| R.2 | 37 | 0.88 | 2.5 |
| M.1 | 17 | 0.82 | 1.7 |
| M.2 | 12 | 0.74 | 1.5 |
| M.3 | 18 | 0.82 | 1.7 |
| M.4 | 13 | 0.79 | 1.5 |
| S.1 | 11 | 0.71 | 1.4 |
| S.2 | 17 | 0.74 | 1.8 |
| S.3 | 16 | 0.77 | 1.6 |
| S.4 | 16 | 0.73 | 1.6 |

## Grade 11:

| Grade 11 | *L* | Reliability | *SEM* |
|---|---|---|---|
| R.1 | 12 | 0.72 | 1.4 |
| R.2 | 38 | 0.89 | 2.5 |
| M.1 | 7 | 0.61 | 1.1 |
| M.2 | 20 | 0.84 | 1.9 |
| M.3 | 26 | 0.88 | 2.1 |
| M.4 | 7 | 0.65 | 1.1 |
| S.1 | 10 | 0.70 | 1.3 |
| S.2 | 19 | 0.77 | 1.9 |
| S.3 | 16 | 0.76 | 1.6 |
| S.4 | 15 | 0.72 | 1.6 |