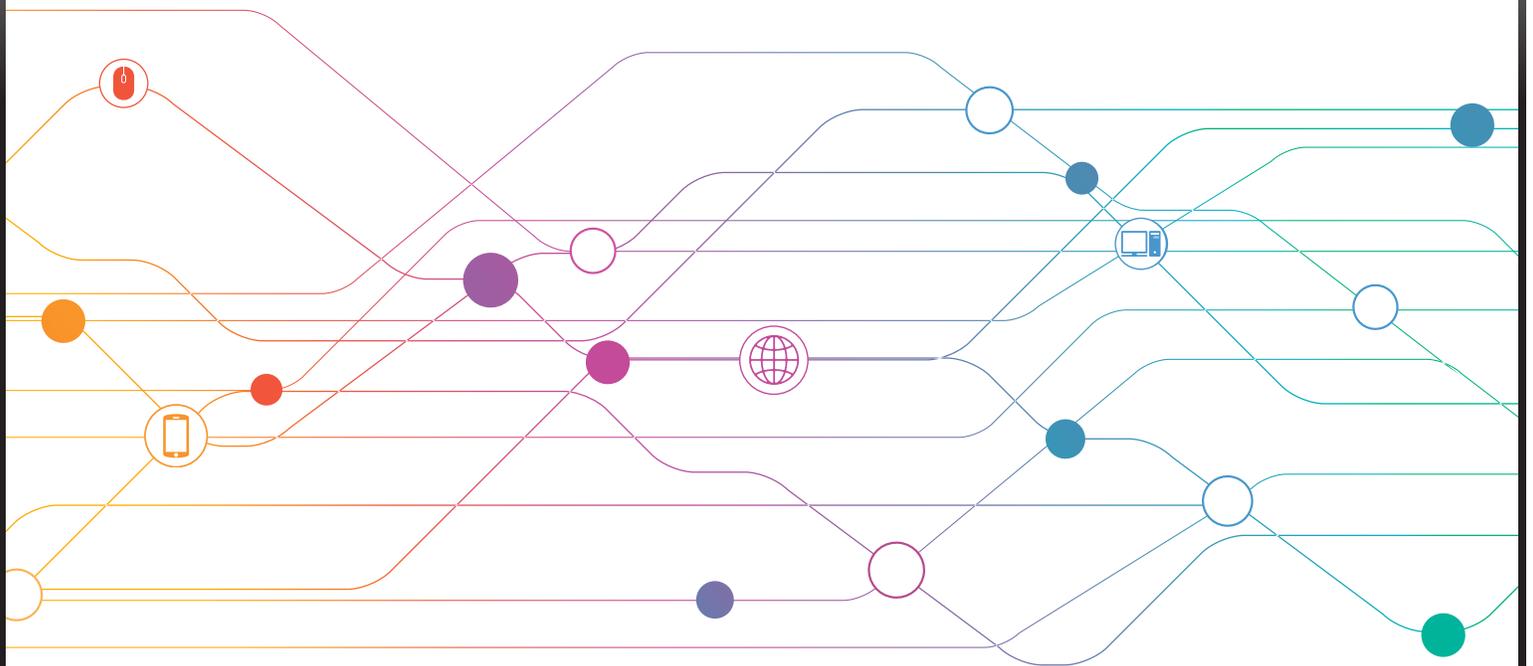


# NEBRASKA

# K-12 TECHNOLOGY

## Scope & Sequence





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Nebraska K-12 Technology Scope and Sequence was developed to provide school districts with a guide for when to teach technology knowledge and skills.

This document is broken up into different areas to make sure students leave high school with basic technology knowledge and skills. These standards do not replace the 7-12 grade technology standards found in the Communication and Information Systems courses.

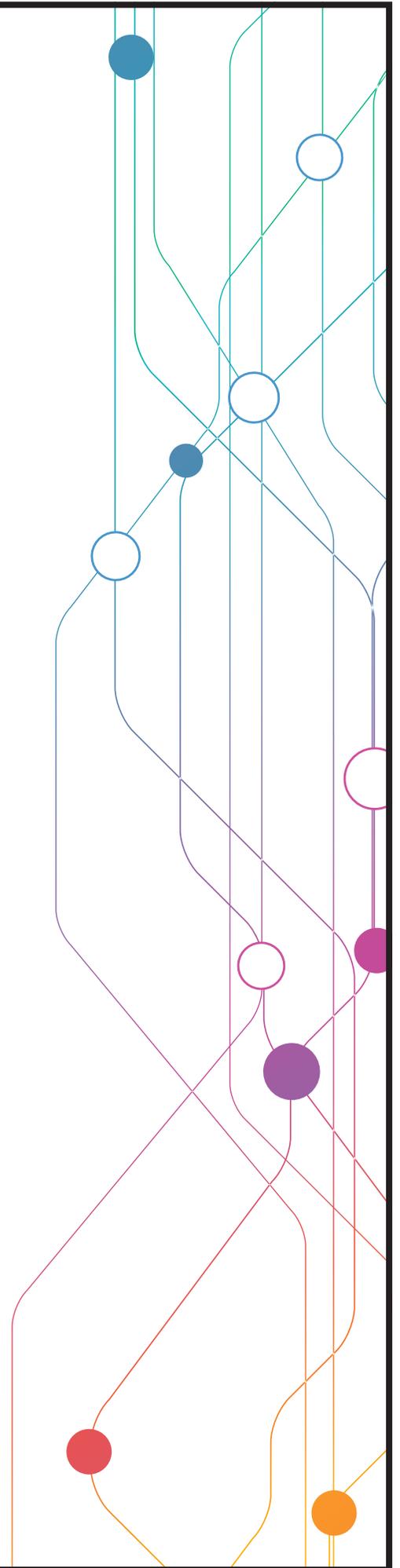
*This guidance document is advisory in nature but is binding on an agency until amended by such agency. A guidance document does not include internal procedural documents that only affect the internal operations of the agency and does not impose additional requirements or penalties on regulated parties or include confidential information or rules and regulations made in accordance with the Administrative Procedure Act. If you believe that this guidance document imposes additional requirements or penalties on regulated parties, you may request a review of the document. For comments regarding this document contact [nde.guidance@nebraska.gov](mailto:nde.guidance@nebraska.gov).*

KEY	
	Not Applicable
	Introduction
	Reinforce
	Master



# BASIC TECHNOLOGY

Operations/Concepts



# KEYBOARDING STANDARDS

Use proper posture and ergonomics.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	R	R	M	M	M	M	M	M

Locate and use letter and number keys with left and right hand placement.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	R	R	M	M	M	M	M	M

Locate and use correct finger/hand for spacebar, enter, and shift key.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	R	R	M	M	M	M	M	M

Gain proficiency and speed in keyboarding. (Type 5 words per grade level beginning at 2nd grade.)

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	R	R	M	M	M	M	M	M

# FILE MANAGEMENT STANDARDS

Organize files and folders.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	R	M	M	M	M	M	M	M

Manage files and save documents.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	R	M	M	M	M	M	M	M

# OPERATE BASIC DEVICE FUNCTIONALITY STANDARDS

Turn on the computer.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Login and logoff the computer.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Use a pointing device to click menus and icons.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Open programs, web apps, and documents.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Use buttons and media players.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

# HARDWARE/SOFTWARE STANDARDS

Demonstrate an understanding of the relationship between hardware and software.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Troubleshoot basic hardware and software problems.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	I	R	R	M	M	M

Identify major computer components.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	R	R	R	M	M	M	M	M

Describe the components and functions of computers and networks.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	R	R	R	M	M	M	M	M

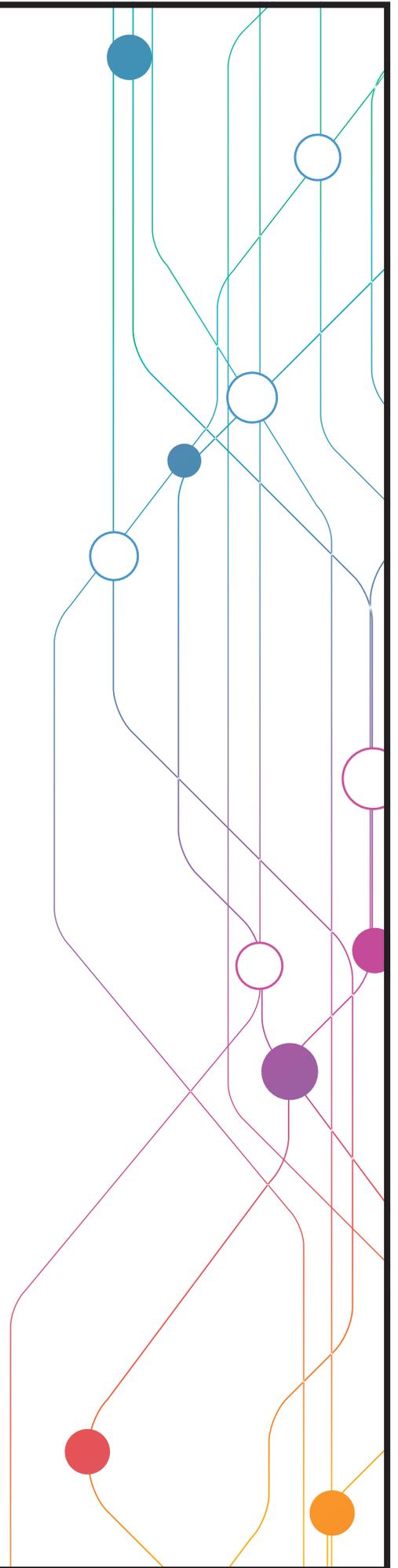
Apply strategies for identifying and solving routine problems that occur during everyday computer use.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	R	R	R	M	M	M	M	M



# PRODUCTIVITY

APPLICATIONS/TOOLS



# WORD PROCESSING STANDARDS

Write, edit, save, and print document in a sitting.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	R	R	M	M	M	M	M	M	M	M	M	M

Use menu/tool bar functions, such as font size, font style, line spacing to format a document.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	R	R	M	M	M	M	M	M	M	M	M

Highlight, copy, and paste text.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	M	M	M	M	M	M	M	M	M

Copy, paste, insert, and resize images within the documents and from outside sources.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	R	R	M	M	M	M	M	M	M	M	M

Proofread and edit writing using appropriate resources (spell checker, grammar checker, thesaurus).

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	M	M	M	M	M	M	M	M	M

# WORD PROCESSING STANDARDS

Demonstrate the use of intermediate features in word processing applications (i.e. tabs, indents, bullets, numbers, tables, headers, footers).

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Apply advanced formatting and page layout features when appropriate (i.e. columns, templates, styles) to improve the appearance of documents and projects.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Use the comment function in review for peer editing.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Use the track changes feature in review for peer editing of documents.

K	1	2	3	4	5	6	7	8	9	10	11	12
								I	I	R	M	M

# SPREADSHEETS

## STANDARDS

Enter and edit data and perform calculations using formulas.

K	1	2	3	4	5	6	7	8	9	10	11	12
			I	R	M	M	M	M	M	M	M	M

Demonstrate and understanding of recording, organizing, and graphing information.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	I	R	M	M	M	M	M	M	M	M

Identify and explain terms and concepts related to spreadsheets. (i.e. cells, columns, rows, values, charts, graphs).

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	I	R	M	M	M	M	M	M	M	M

Use mathematical symbols appropriately.

K	1	2	3	4	5	6	7	8	9	10	11	12
			I	R	M	M	M	M	M	M	M	M

Use to make predictions, solve problems, and draw conclusions.

K	1	2	3	4	5	6	7	8	9	10	11	12
			I	R	M	M	M	M	M	M	M	M

# SPREADSHEETS

## STANDARDS

Use spreadsheets to calculate, graph, organize, and present data in a variety of real world settings.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Enter formulas and functions in spreadsheet applications.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Use and modify spreadsheets to analyze data and propose solutions.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Use the functions and tools of a spreadsheet application (auto-fill, sort, filter, find).

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

# PRESENTATION TOOLS STANDARDS

Create, edit, format text.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	R	R	M	M	M	M	M	M	M	M	M

Create a series of slides and organize them to present research or convey data.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	R	R	M	M	M	M	M	M	M	M

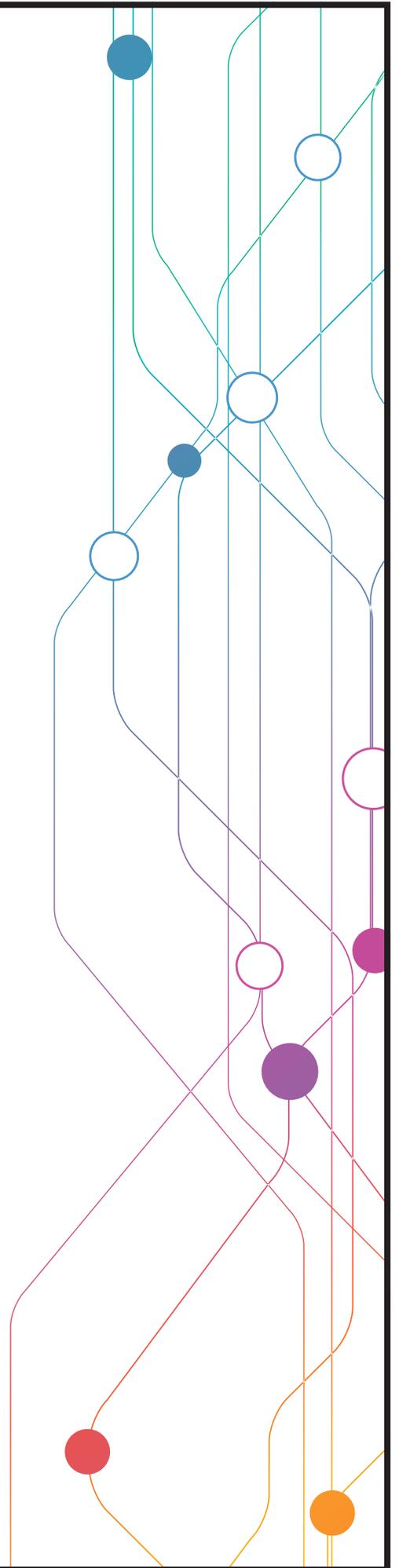
Copy, paste, insert, and resize images within the slides and from outside sources.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	I	R	M	M	M	M	M	M	M	M

Create presentations for a variety of audiences and purposes with the use of appropriate transitions and animations to add interest.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	R	M	M	M	M

# DIGITAL MEDIA



# DIGITAL MEDIA STANDARDS

Watch videos and use play, pause, rewind, and forward buttons.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	R	M	M	M	M	M	M	M	M	M

Watch videos and use play, pause, rewind, and forward buttons while taking notes.

K	1	2	3	4	5	6	7	8	9	10	11	12
						R	R	M	M	M	M	M

Use painting/drawing tools and other applications to create and edit work.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	R	M	M	M	M	M	M	M	M	M

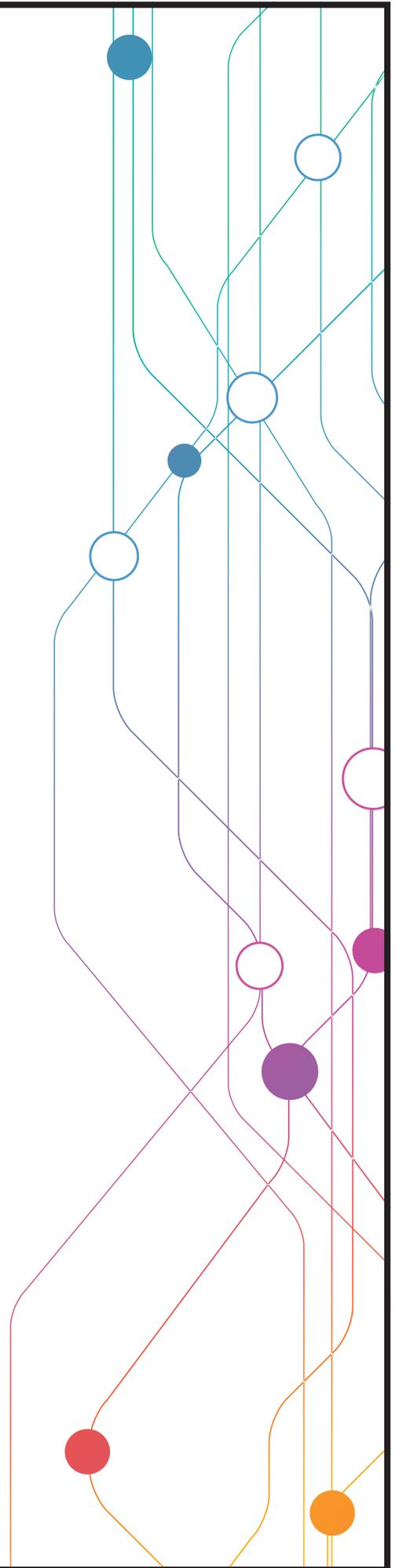
Create media for a variety of audiences and purposes with the use of appropriate transitions and animations to add interest.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	I	R	R	R	M	M	M	M	M	M

Independently use appropriate technology tools (graphic organizers, audio and video) to define problems and propose hypotheses.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

# DIGITAL CITIZENSHIP



# RESPONSIBLE USE STANDARDS

Demonstrate compliance of Responsible Use Policy and classroom rules regarding technology use and networks.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	R	R	M	M	M	M	M	M

Explain responsible uses of technology and digital information and describe potential consequences of inappropriate use.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	R	R	R	R	M	M	M	M	M	M

Identify and explain the strategies for the safe and efficient use of computers (passwords, virus protection software, etc.).

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	R	R	M	M	M	M	M	M	M	M	M

Demonstrate save e-mail practices and appropriate e-mail etiquette.

K	1	2	3	4	5	6	7	8	9	10	11	12
			I	R	R	R	M	M	M	M	M	M

Identify cyberbullying and describe strategies to deal with such a situation.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

# RESPONSIBLE USE STANDARDS

Explore social and ethical impacts of technology.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Recognize and describe the potential risks and dangers associated with online communication.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Give examples of hardware and software that enable people with disabilities to use technology.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Analyze and explain how media and data can be used to distort, exaggerate, and misinterpret information.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Explain the potential risks associated with the use of networked digital environments (internet, cell phones, wireless networks) and sharing personal information.

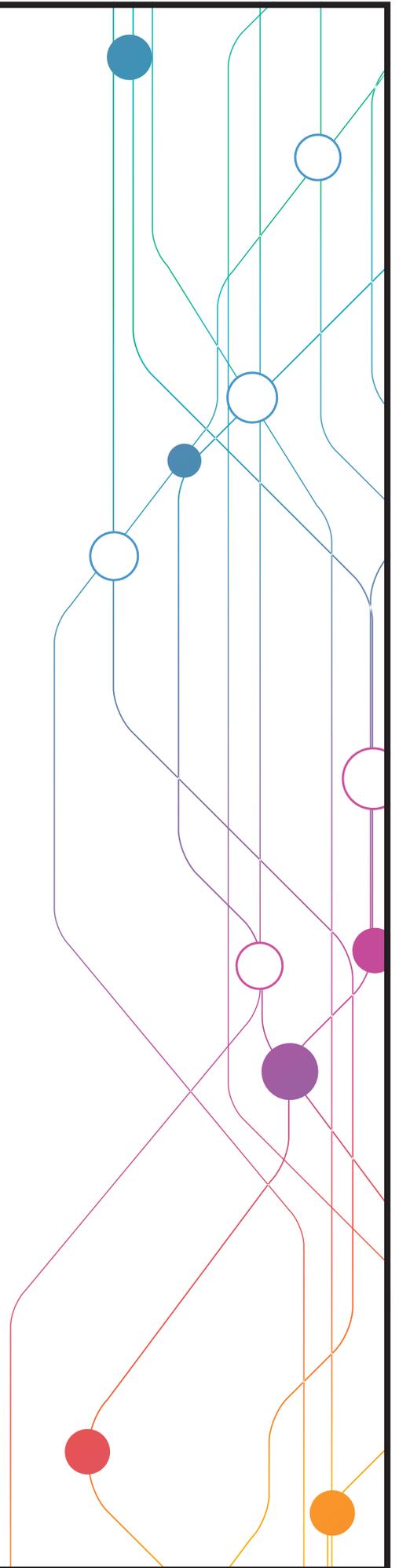
K	1	2	3	4	5	6	7	8	9	10	11	12
					I	R	R	M	M	M	M	M

# COPYRIGHT STANDARDS

Explain fair use guidelines for copyrighted material (images, music, videos, etc.).

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	R	R	M	M	M	M	M	M

RESEARCH



# RESEARCH STANDARDS

Use internet browser and search engines and online directories, compare the differences, and explain how the disseminate information.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Identify careers and industry opportunities.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	I	R	R	M	M	M	M	M	M	M	M

Perform basic searches on a database (i.e. library card catalogue) to locate information.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	M	M	M	M	M	M	M	M	M	M

Use content specific technology tools to gather and analyze data.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	M	M	M	M	M	M	M	M	M	M

Identify and analyze the purpose of a media message (inform, persuade, entertain).

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	M	M	M	M	M	M	M	M	M	M

# RESEARCH STANDARDS

Identify and explain current hardware and software trends.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	M	M	M	M	M	M	M	M	M	M

Use internet browser and search engines and online directories, compare the differences, and explain how they rank results.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Write correct in-text citations and reference lists for text and images gathered from electronic sources.

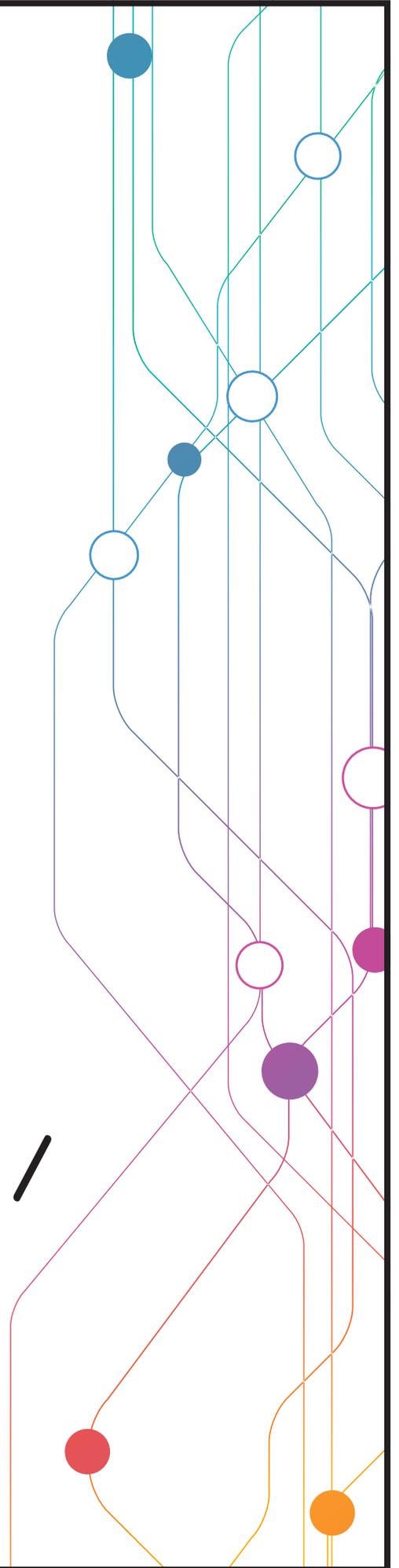
K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

Use Web browser to access information (enter a URL, access links, create bookmarks, print webpages).

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M



COMMUNICATIONS/  
COLLABORATION



# COMMUNICATIONS/ COLLABORATION STANDARDS

Collaborate using technology.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	R	M	M	M	M	M	M	M	M	M

Use a variety of age-appropriate technologies to communicate and exchange ideas.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	M	M	M	M	M	M	M	M	M

Create projects that use text, graphics, audio and video to communicate ideas.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	R	M	M	M	M	M	M	M	M	M

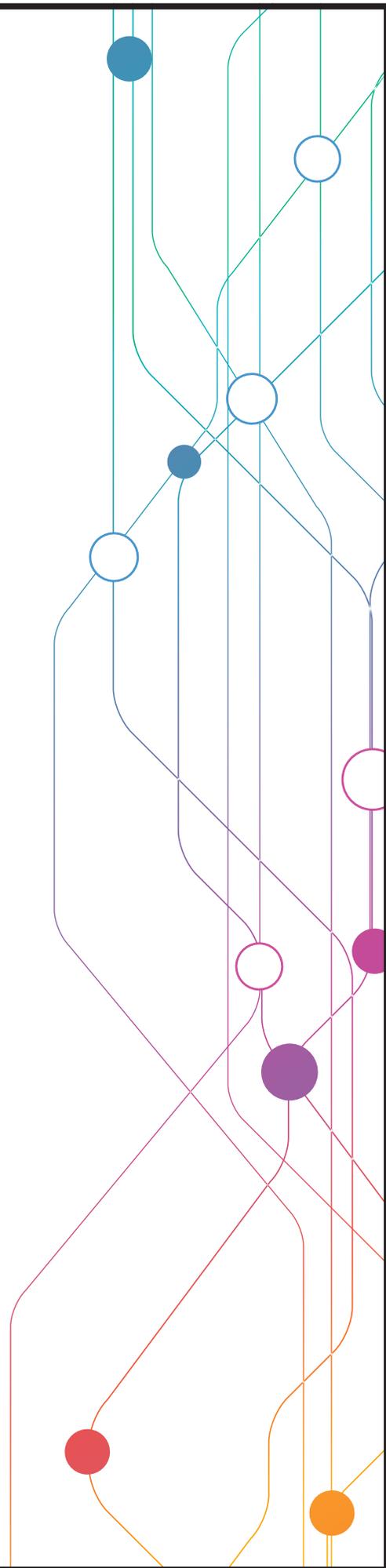
Evaluate presentations for organization, content, design, and appropriateness of citation.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	I	R	R	R	M	M	M	M	M	M

Plan and implement a collaborative project with other students using technology tools (email, discussion forums, video conference).

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	R	M	M	M	M	M

# COMPUTER SCIENCE/PROGRAMMING



# COMPUTATIONAL THINKING STANDARDS

Create algorithms, or series of ordered steps, to solve problems.

K	1	2	3	4	5	6	7	8	9	10	11	12
I	I	R	R	R	M	M	M	M	M	M	M	M

Decompose a problem into smaller more manageable parts.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	M	M	M	M	M	M	M	M

Collect, analyze, and represent data effectively.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	R	R	M	M	M	M	M	M	M

Demonstrate and understanding of how information is represented, stored, and processed by a computer.

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	I	R	R	M	M	M	M	M	M	M

Optimize an algorithm for execution by a computer.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	I	R	R	R	M	M	M			

# COMPUTATIONAL THINKING STANDARDS

Create simulations/models to understand natural phenomena and test hypotheses.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	I	R	R	R	M	M

Evaluate algorithms by their efficiency, correctness, and clarity.

K	1	2	3	4	5	6	7	8	9	10	11	12
								I	I	R	R	M

# PROGRAMMING STANDARDS

Write programs using visual (block-based) programming languages (scratch, code.org).

K	1	2	3	4	5	6	7	8	9	10	11	12
	I	I	R	M	M	M	M	M	M	M	M	M

Create and modify animations, and present work to others.

K	1	2	3	4	5	6	7	8	9	10	11	12
		I	R	M	M	M	M	M	M	M	M	M

Write programs using text-based programming languages.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	I	R	R	R	M	M

Create web pages with a practical, personal, and/or societal purpose.

K	1	2	3	4	5	6	7	8	9	10	11	12
						I	I	R	R	M	M	M

# CAREER EDUCATION STANDARDS WEBSITE

<http://cestandards.education.ne.gov>

Nebraska career education standards have been revised to better prepare students for their careers and to help students better meet the needs of employers. The Nebraska Department of Education in cooperation with business and industry as well as Nebraska postsecondary institutions revised the course standards for Career Technical Education (CTE) courses offered in the state's public schools.



A recent update to the **CAREER EDUCATION STANDARDS WEBSITE** reflects the sequence of career and technical education courses that form the 2017-18 Programs of Study. Programs of Study for previous years have been archived by school year.

The model standards will help school districts organize curriculum into sequences for courses in each of the following career fields:

- Agriculture, Food and Natural Resources
- Business, Marketing and Management
- \* Communication and Information Systems
- \* Health Sciences
- \* Human Sciences and Education
- Skilled and Technical Sciences

\* Updated Career Education Standards

The revised standards also were aligned to courses offered in the state's two- and four-year colleges to create a more seamless education experience for students. Students begin with high school introductory courses that teach broad concepts and skills, progressing to college courses that offer more specific information and develop higher skill levels. Some Nebraska students will have an opportunity to earn college credits while in high school.

Career education courses provide an opportunity for students to gain the knowledge and skills they need for employment and entrepreneurship. The standards define what students should know and be able to do to enter college or their chosen career.

# NEBRASKA CAREER EDUCATION RESOURCES

Teaching and Learning Team

[www.education.ne.gov/TL/index.html](http://www.education.ne.gov/TL/index.html)

Career Readiness Modules

[nelearn.mylearning.org](http://nelearn.mylearning.org)

Developing a Local Advisory Committee

[www.education.ne.gov/NCE/documents/Advisorybrochure.pdf](http://www.education.ne.gov/NCE/documents/Advisorybrochure.pdf)

H3 Website

(High Wage, High Demand, High Skill)

[h3.ne.gov](http://h3.ne.gov)

Middle School Curriculum for Careers: Engage!

[www.education.ne.gov/CARED/Engage.html](http://www.education.ne.gov/CARED/Engage.html)

Nebraska Career Connections

[www.nebraskacareerconnections.org](http://www.nebraskacareerconnections.org)

Nebraska Career Education

[www.education.ne.gov/nce](http://www.education.ne.gov/nce)

Nebraska Career Tours

[necareertours.com](http://necareertours.com)

Nebraska Career Education Model

[www.education.ne.gov/nce/CareerClustersResources.html](http://www.education.ne.gov/nce/CareerClustersResources.html)

Nebraska Career Education Programs of Study

[www.education.ne.gov/nce/ProgramsofStudy.html](http://www.education.ne.gov/nce/ProgramsofStudy.html)

Nebraska Career Education Standards Website

[cestandards.education.ne.gov](http://cestandards.education.ne.gov)

Nebraska Career Technical Student Organizations (CTSOs)

[www.education.ne.gov/nce/CSOs.html](http://www.education.ne.gov/nce/CSOs.html)

Nebraska Department of Economic Development

[www.neded.org](http://www.neded.org)

Nebraska Department of Labor

[dol.nebraska.gov](http://dol.nebraska.gov)

Nebraska Entrepreneurship Education

[www.education.ne.gov/entreped](http://www.education.ne.gov/entreped)

Nebraska School Counseling

[www.education.ne.gov/CARED/index.html](http://www.education.ne.gov/CARED/index.html)

Nebraska Career Readiness Standards

[www.education.ne.gov/nce/Standards.html](http://www.education.ne.gov/nce/Standards.html)

Partnerships for Innovation

[partnershipsforinnovation.org](http://partnershipsforinnovation.org)

Professional Development Modules

[nelearn.mylearning.org](http://nelearn.mylearning.org)

Nebraska Department of Education Strategic Plan

[nebraskaeducationvision.com](http://nebraskaeducationvision.com)

reVISION

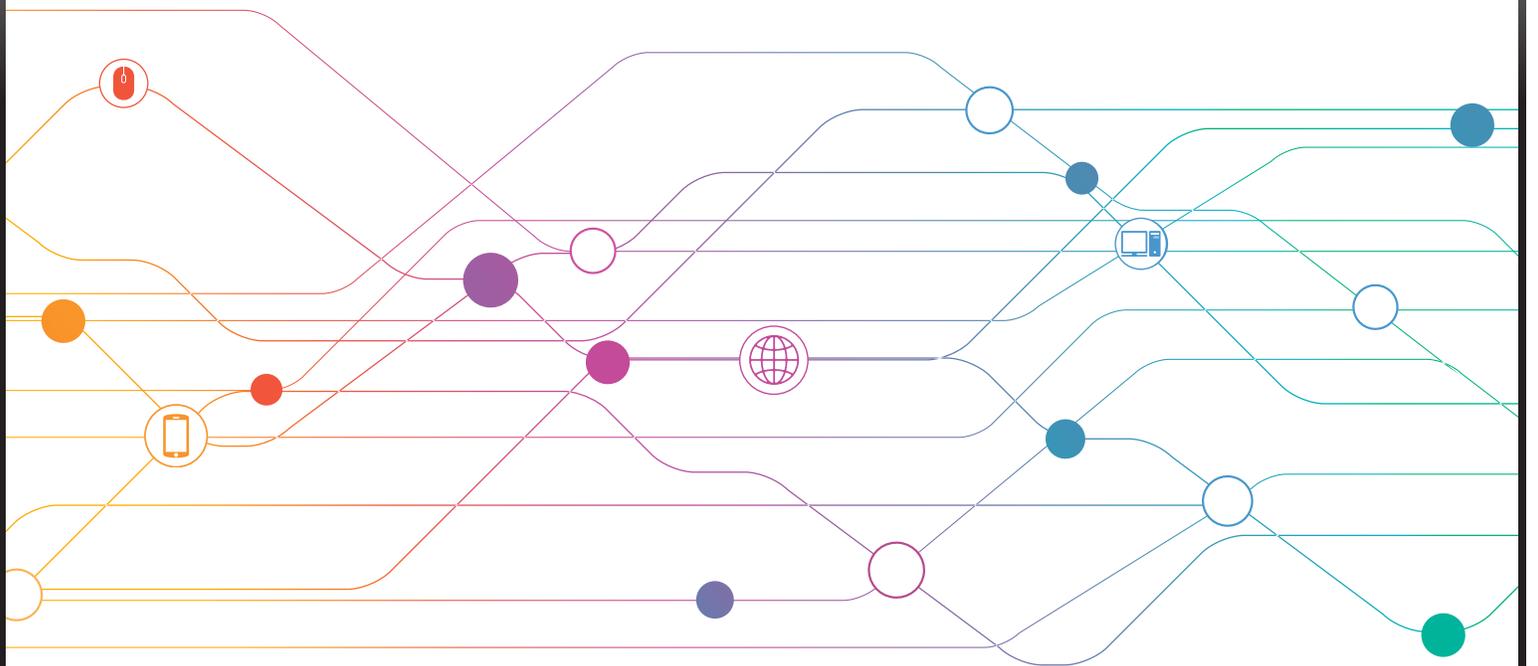
[www.education.ne.gov/nce/revision.html](http://www.education.ne.gov/nce/revision.html)

Workplace Experiences for Nebraska

[nebraskaworkplaceexperiences.com](http://nebraskaworkplaceexperiences.com)







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