

Supporting Implementation of Nebraska's College and Career Ready Standards for Science



What is the issue?

As educators throughout the state work toward implementing the <u>tremendous shifts in science</u> education represented in Nebraska's College and Career Ready Standards for Science, they face the challenge of new learning goals, limited resources to leverage, and a host of initiatives competing for time and attention within the K-12 system.

A considerable amount of research has been dedicated to understanding how people learn science and approaches for teaching, but there is much work to be done moving these approaches into widespread practice.

The NCCRS-S video-embedded STEM Teaching Tools aim to bridge that gap by offering science educators tools that leverage the best knowledge from both research and practice tied to Nebraska context.

★ The NCCRS-S video-embedded STEM Teaching Tools are bite-size tools designed to help practitioners understand a specific problem of educational practice, reflect on it, and access resources and instructional tools that will enable them to teach science more effectively.

Implementation

The NCCRS-S video-embedded STEM Teaching Tools are designed to be broadly used with PK-12 science teachers (inservice and preservice) and professional development providers. These tools highlight features of high quality instruction and high quality instructional materials and can be explored on-your-own, in a PLC setting, or within a professional learning setting. The changes called for in the Framework for K-12 Science Education and NCCRS-S require significant learning for teachers of K-12 science. Teacher learning will take time and professional learning needs will be varied so the tools are designed to allow for flexible exploration.

Key Features

Each tool contains key features to guide understanding of the topic:

- A Nebraska video
- What is the Issue
- Things to Consider
- Why it Matters to You
- Recommended Actions you can Take
- Attending to equity
- Reflection Questions
- Additional STEM Teaching Tools
- Embedded links

Strategic Tips

- → Watch the video and jot down notes. What do you notice, what do you wonder? What connections did you make to the video content?
- → Identify the issue and think about Why it Matters to You. Explore embedded links for more information.
- → Watch the video again framed through the issue. What do you notice, what do you wonder? What other issues does this raise?
- → Read "Why it Matters to You" exploring embedded links. Does this resonate with your thinking? What else does this make you think about?
- → Read "Things to Consider" exploring embedded links. What additional considerations can you identify? How are these considerations related to equity and opportunities for all students?
- → Read "Attending to Equity" exploring embedded links. How does this connect with students in your classroom/school? Why is this important?
- → Reflect, responding to the Reflection Questions.
 What new questions have been generated?
- → Make an action plan. What can you do to address this issue in your classroom?
- Explore the additional resources.

NCCRS-S Video Embedded Tools:

NCCRS-S:

New standards, new instructional shifts

District Support:

Essential for Implementing NCCRS-S

Evaluating Curriculum:

Materials Matter

Science Talk:

A classroom essential for equitable instruction

Science and Engineering Practices:

<u>Deeper, connected</u> learning

Integrating Engineering:

An Elementary Example

Rethinking High School Science:

O'Neill's story

Integrated Science:

O'Neill High School