

NGSS NOW

6 things to know about quality K-12 science education in **December 2019**



1 WEBINAR RECORDING: A Framework for Evaluating Cognitive Complexity in Science Assessments

Achieve recently released three new frameworks - one each for [mathematics](#), [reading](#), and [science](#) - for the educator community working on high-quality student assessments. The [science framework](#) can be used to assess the degree to which an assessment task asks students to intellectually engage in and make use of disciplinary core ideas, science and engineering practices, and cross-cutting concepts in service of sense-making. To learn more about the framework and how to use it, you can view [a recording of the recent webinar](#) introducing the tool in greater detail.



A FRAMEWORK TO EVALUATE
**COGNITIVE COMPLEXITY IN
SCIENCE ASSESSMENTS**

2 New STEM Teaching Tool: How to Integrate the Argumentation from Evidence Practice into Engineering Design Projects



As teachers focus instruction on the science and engineering practices (SEPs), students need support to use argumentation in the context of engineering design investigations. Argumentation is sometimes exclusively considered a scientific practice, rather than also being fundamental to the engineering design process. Engineers use argumentation to weigh the merits of possible designs and to evaluate their success. Students should learn how to support engineering claims with specific evidence throughout the design process. Check out a new STEM Teaching Tool on this topic [here](#). Achieve is particularly excited to share this resource as Kimberly Weaver, a member of the [Science Peer Review Panel](#), was one of the lead authors on this tool.

Visit us at NSTA! Taking on Big Science Challenges Across

3

Districts: How a District Science Network Can Build Capacity and Advance Equity

In 2019, Achieve launched a network of districts in Tennessee with the goal of building their collective capacity to move toward their vision for science education for all students. [Join us](#) at NSTA's conference in Seattle on Thursday, December 12 at 8:00 a.m. to find out how the network used a collective need for better assessments as a key lever for change to simultaneously improve assessments, increase teacher capacity, and advance equity in science.



National
Science
Teaching
Association

4

Blog Post: Intentional and Explicit Use of the Crosscutting Concepts

A [recent blog post](#) by Science Peer Review Panel (PRP) member Cari Williams reflects on a deep dive into Crosscutting Concepts at a recent Science PRP meeting.

"What is very clear is that as a science and engineering education community, we are all growing in our knowledge and understanding and how to leverage the CCCs as tools or lenses to help students organize and explain their thinking while making sense of phenomena or solving problems. I imagine this understanding will continue to grow for some time as we continue to stretch our thinking."

5

From the Chico Enterprise-Record: Environmental education for kids: It's only natural

"The Next Generation Science Standards (NGSS) advocate that American science education explore and reveal the interconnected nature of science, technology and engineering, and encourage kids to experience those connections in the real world. These standards promote learning about and interacting with nature so that students can be prepared 'to address major world challenges such as generating sufficient clean energy, preventing and treating diseases, maintaining supplies of food and clean water, and solving the problems of global environmental change that confront society today.'"



Read the full article [here](#).

6

From the University of Wyoming: UW Education Students Support 'Out of This World' Experience for Wyoming Pupils

"K-12 teachers and students in the partner schools benefit from the program by developing a real-life engineering design challenge and by having the curriculum available to use in subsequent years. The activities and near-peer mentors can help stoke an interest in the K-12 participants to pursue STEM fields. The preservice educators gain experience developing lesson plans, leading a classroom of K-12 students

and increasing their scientific literacy."

Read the full article [here](#).

