

# NGSS NOW

## 8 things to know in October 2022



1

### Blog Post: The Power of a Parking Lot

In the real world, science and engineering aren't practiced in a vacuum. Scientists and engineers use their knowledge of mathematics, literacy, and other disciplines in their work. This is true in K-12 classrooms, too. Integrating mathematics, science, and engineering to reflect real-world practice can lead to increased enthusiasm, increased achievement in each of the disciplines, and an increase in relevant and authentic student experiences. The latest post from NextGenScience's [On The Same Wavelength](#) blog explores a classroom experience with integrating mathematics and engineering, helping to improve learning for all students.



See the blog post [here](#).

2

### Designing Climate Change Learning for Action



This new STEM Teaching Tool provides guidance and resources for educators to design experiences for students to learn about and take action on climate change. The focus is on student actions motivated by civic engagement or an engineering design problem in which students identify and research a real-world problem and work towards outcomes that benefit their communities.

See the STEM Teaching Tool Practice Brief 90 [here](#).

---

### 3 School, District, and State Implementation of the Next Generation Science Standards

The newest edition of the Next Gen Navigator features four reflections on the implementation of today's science standards from leaders at different levels of the science education system. The writers share successes and challenges of transitioning to rigorous learning goals and what remains to be done in order to provide high quality equitable science education for all students.

See the Next Gen Navigator Edition [here](#).

---

### 4 Teachers' Jobs Are Changing in Real Time

*“Instead of thinking of standards as a starting point for developing their own lessons, imagine if teachers worked like learning engineers to understand the underlying structures and internal logic in high-quality curriculum materials. Rather than professional learning that focuses on content or teaching techniques in isolation, curriculum-based professional learning uses lessons directly from the curriculum to deepen teachers’ content and pedagogical content knowledge.”*



See the *Corwin Connect* article and book chapter excerpt [here](#).

---

## 5 Engagement in High-Leverage Science Teaching Practices Among Novice Elementary Teachers

This recently published research article describes a study of how new teachers learn to engage in new science teaching practices. The findings identified several challenges along with teacher learning experiences and resources to mitigate them, such as an emphasis on practice-based teacher education and the use of concrete planning tools and classroom routines.

See the *Science Education* journal article [here](#).

---

## 6 Three Ways to Advance Science Education: Well-Trained Teachers, Hands-on Lessons, Quality Tests



*“While there is tremendous demand for a skilled science workforce, the benefits of science education go far beyond the job market. A scientific mindset is essential for solving tomorrow’s problems; the country must commit resources to create high-quality learning opportunities that will enable science to be taught as a foundational subject for future generations.”*

See *The 74* article to learn more about these three key ways to advance science education [here](#).

---

## 7 Systems of Assessments for Measuring Multidimensional Science Standards

This WestEd post shares key features of Delaware’s system of assessments for science and their theory of action in order to successfully implement it. Different components of the assessment systems are discussed along with strategies to ensure coherence within the system.

See the post [here](#).

---

8

## Science Teachers Experience Argumentation in Research Laboratories

This research article shares findings from a study on a program where science educators worked with scientists in research laboratories in order to experience argumentation in a scientific setting. Researchers found that after participating, teachers' classroom practices shifted, such as providing students with more agency and cultivating a culture of collaboration in the classrooms.

See the *Journal of Research in Science Teaching* article [here](#).



Copyright © 2022 NextGenScience, All rights reserved.