7 things to know about quality K–12 science education in April 2021

1. **Problems with Problems: Improving the Design of Problem-Driven Science and Engineering Instruction**

   A key shift in learning designed for today’s science standards is supporting students to explain phenomena and to design solutions to problems. To complement existing guidance on phenomena-driven instruction, a new resource from NextGenScience provides quick examples and guidance on designing learning driven by engineering design problems.

   See the resource here.

2. **A Call to Action for Science Education**

   The National Academies of Sciences, Engineering, and Medicine has appointed an expert panel to author a national call to action to advance science education programs and instruction in K–12 and post-secondary institutions in ways that will prepare students to tackle future global challenges both as engaged citizens and as future scientists. Drawing on the National Academies’ existing body of science education work, this project seeks to identify major challenges for implementing coherent science education, identify best practices and future areas of research, and provide policy recommendations for strengthening science teaching and learning.

   Share your perspective with the expert panel here or register to participate in today's (April 8th) public stakeholder event here.

3. **Designing Tasks that Measure Young Learners’ Developing Proficiencies in Integrated Science and Literacy**

   This research brief provides guidance on designing developmentally appropriate, NGSS-aligned assessment for elementary level students. The Next Generation Science Assessments for Young Scientists (NGSA-YS) approach...
Generation Science Assessments for Young Scientists (NGSA-YS) approach integrates “science and literacy in ways that fit the needs of early elementary classrooms, thereby increasing the likelihood that they will be usable and instructionally beneficial to teachers and students.”

See the brief here.

**Toxic Past, Green Futures: Environmental Justice and Justice-Centered Phenomena in STEM Grades 6–12**

“Why do some communities bear a higher pollution burden than others? Which communities will be most heavily hit by our rapidly warming climate? How can we work with students to research, investigate, and fight for environmental justice?” Join educators from public radio’s Science Friday to explore environmental justice work in the classroom, share some clear strategies for moving students from research to action, and examine justice-centered phenomenon as an aspect of antiracist STEM practice.

See the virtual conference here.

**Science Professional Learning Standards for Online Learning**

In this newly released resource, the Council of State Science Supervisors (CSSS) provides strategies and resources for delivering professional learning through online platforms in ways to meet the Science Professional Learning Standards (SPLS). These standards can be used to support the design of effective educator professional learning, even in an online setting.

See the resource here.

**The Promise and Pitfalls of Citizen Science**

In honor of Global Citizen Science month (April), a symposium by the American Philosophical Society’s Library and Museum explores citizen science over time. The virtual event will focus on the work of citizens “who lacked formal training and whose work sometimes went unacknowledged but whose contributions significantly added to the advancement of knowledge.”

Register for the symposium here and access the recordings here.
States, districts, or other organizations developing free and publicly available middle school lessons or units for the Next Generation Science Standards (NGSS) are encouraged to submit them to NextGenScience’s Peer Review Panel (PRP) for a free review. The PRP is a group of expert educators who use the EQuIP Rubric for Science to evaluate the alignment of lessons and units to the NGSS and provide detailed, criterion-based feedback and suggestions for improvement. Units earning top EQuIP ratings are posted publicly as high-quality examples and all other units receive confidential feedback.

Learn more about the review process here.