NGSS NOW

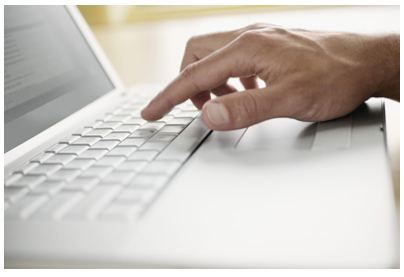
8 things to know about quality K-12 science education in **August 2020**

1 New High-Quality Middle School Unit Earns the NGSS Design Badge

In this OpenSciEd unit on chemical reactions and matter transformations, students engage in investigations and develop models to explain what happens to a bath bomb when it is placed in water and what causes the gas bubbles to appear. The unit supports students' questions around the broader question of "how can we make something new that was not there before?" The unit has earned the NGSS Design Badge.

See the unit and the corresponding EQuIP Rubric for Science reporthere.

2 Academic Guidance for Science During the COVID-19 Pandemic



"In science, priority instructional content is not defined as specific topics or ideas but rather the approach of integrating three dimensions: disciplinary core ideas, science and engineering practices, and cross-cutting concepts. Rigorous science standards are intended to prepare students to make sense of real-world phenomena and problems in ways that combine both science knowledge and practice and are backed by rigorous research that says students learn science by doing science."

CCSSO's *Restart and Recovery: Considerations for Teaching and Learning* addresses the critical set of challenges that states and school systems will face as they plan for teaching and learning in the 2020-21 school year, including in science. Learn more here.

It's About TIME: A Rigorous New Process for Selecting

3 Instructional Materials for Science

In a new report, WestEd evaluators describe components of the California NGSS Toolkit for Instructional Materials Evaluation (CA NGSS TIME) process, the California statewide rollout of TIME, and perceived benefits and challenges to implementing the approach. CA NGSS TIME is a suite of tools and processes for evaluating and selecting instructional materials aligned with the CA NGSS. The toolkit was adapted from the national NextGen TIME suite of tools and includes California's focus on environmental literacy.

Read the report here and other reports from the series here.

4 Science Back-to-School Guidance 2020: Planning for Effective Science Curriculum, Assessment, Instruction, and Well-Being

The Council of State Science Supervisors has partnered with the National Science Teaching Association (NSTA) and the National Science Education Leadership Association (NSELA) to develop a series of one-pagers for teachers of science, science specialists, and administrators to address four areas: (1) Curriculum, (2) Instruction, (3) Assessment, and (4) Safety and Well-Being. The resources are designed to empower planning and support decision-making in ways that center students in science teaching and learning. The three organizations are hosting a web seminar about these documents and other science resources on Thursday, August 20, 2020, at 7:00 pm ET.

See the guidance documents from CSSS here.

5 Outdoor Learning Spaces as a Solution for Schools Safely Returning to Face-to-Face Instruction

Schools across the country are grappling with the prospect of bringing students, teachers, and staff back to campus in a safe way. As public health officials have noted that outdoor activities pose less risk of COVID-19 transmission than indoor activities, renewed conversation has been sparked around the benefits of outdoor instruction. The COVID-19 Outdoor Learning Project, a national initiative launched by a collaboration between Green Schoolyards America, Lawrence Hall of Science, the Environmental Literacy and Sustainability Initiative, and Ten Strands are assembling working groups and will be creating frameworks, strategies, and guidance for outdoor learning over the coming weeks.

Access resources and find out more here.

NextGenScience Peer Review Panel Launches for 2020-21

6

The NextGenScience project at WestEd today announced the selection of its 2020-21 NextGenScience Peer Review Panel (PRP) to continue its work evaluating lesson sequences and units designed for the NGSS and sharing high-quality examples online. Since its launch in 2016, the PRP has reviewed over 325 units, providing valuable feedback to over 140 materials developers. If you have developed free and publicly available middle school materials you'd like reviewed with the EQuIP Rubric for Science, submit them here.

7 Recruitment and Retention: Policy Strategies for Teacher Pipelines

Recruiting and retaining qualified STEM teachers is critical to improving the quality of K-12 STEM education. Research findings highlight numerous benefits for students who are taught by STEM educators from similar experiences and backgrounds. A new infographic by the Education Commission of the States highlights challenges and opportunities for improving teacher pipelines.

See the infographic from ECS here.

8 Reframing Organizational Contexts from Barriers to Levers for Teacher Learning in Science Education Reform

A recent research article by Carrie Allen and Sara Heredia explores how the organizational and instructional contexts of teachers - such as their evaluation criteria (e.g., posted list of standards addressed, assessment of the day), schoolwide requirements (e.g., every class must have a word wall), and districtwide priorities (e.g., common assessments) - can have a large impact on teacher learning and implementation of science education reform, such as standards based on *A Framework for K-12 Science Education* like the NGSS. These pieces can create conflicting messages about what is expected in the science classroom, which can be difficult for teachers to navigate. However, these contexts can also be levers for teacher learning and effectively inform implementation strategies.

Read the article from the *Journal of Science Teacher Education* here.

A NextGenScience Publication
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