

NGSS NOW

7 things to know about quality K-12 science education in April 2022



1

New Middle School High Quality Unit Posted

An OpenSciEd middle school unit recently identified as high-quality supports students to investigate how rising temperatures could cause droughts and floods, leading students to wonder what could cause rising temperatures. Students gather evidence for how changes in temperature affect evaporation, precipitation, and other parts of Earth's water system. After figuring out that rising temperatures cause a variety of problems in different communities, students evaluate solutions to these problems. The unit was awarded the [NGSS Design Badge](#) by the NextGenScience Peer Review Panel.

See the unit and the corresponding EQUiP Rubric for Science evaluation report [here](#).



2

Blog Post: Student Work is Gold — Forming Professional Learning Communities Around Student Work Analysis



Careful examination of student work can lead to new insights about student thinking, teaching, and the purpose of assessment. The newest post from NextGenScience's [On The Same Wavelength](#) blog explores ways that professional learning communities focused on assessment for learning can support educators with facilitating equitable three-dimensional learning in their classrooms.

See the post [here](#).

3

New Research Shows Value of Elementary Science Professional Learning

A paper in the April issue of Teaching and Teacher Education by Karen Mutch-Jones, Jennifer Hicks, and Brandon Sorge supports the argument that evidence-based professional learning for elementary educators can improve student outcomes across science, English Language Arts, and mathematics. The study illustrates the importance of teacher learning experiences that are recent, job embedded, of sufficient duration (at least 3 years), and in a supportive cohort (e.g., teachers from the same district or school attend).

Read the STEMx Network interview with one of the study's co-authors [here](#).



4

Research Article: Elementary Teachers' Verbal Supports of Science and Engineering Practices in an NGSS-aligned Science, Engineering, and Computational Thinking Unit



This study investigates how elementary teachers can best support students to engage in Science and Engineering Practices within integrated science, engineering, and computational thinking curricula. The authors, Sarah Lilly, Anne McAlister, Sarah Fick, Jennifer Chiu, and Kevin McElhaney, explore how educative features of teacher materials, including guidance on both the frequency and type of verbal support given to students, can provide more equitable experiences for students.

See the JRST research article [here](#).

5

Three Common Misconceptions About High-Quality Instructional Materials

As availability and purchasing of high-quality science instructional materials increases, it's important to involve educators in the decision making process. EdReports' Janna Chan shares three common misconceptions about high-quality materials that leaders should consider in their conversations with educators to help build awareness of the benefits of materials and increase buy-in for their use.

See the EdReports resource [here](#).





Register Now: Days 4–5 of Taking Stock of Science Standards Implementation: A Summit

Later this month, the Board on Science Education is hosting days four and five of its summit to take stock of the implementation of today’s science standards, including successes, challenges, and where additional work is needed. The session will build on the first three days held October 14,15, and December 8, 2021.

Register for the April 26–27 virtual or in-person event [here](#).



Equity in PreK-12 STEM Education: Public Information Gathering



Education held an information-gathering session to explore strategies that support equity in STEM education at the state and district levels. Panelists identified trends in state policies related to equity and STEM education and shared examples of how different states are working toward their respective equity goals.

See the April 11 recording from the National Academies [here](#).



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