

NGSS NOW

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



The NextGenScience project at WestEd is excited to announce the launch of its new website: ngs.wested.org!

Visit our new page to learn about what we do, check out our resources, and [sign up](#) to receive updates about our work.

Note: We will continue to maintain our original page www.nextgenscience.org as the home of the Next Generation Science Standards.

1 Five Key Takeaways to Transform Science Education

Seven years after the release of the standards, what lessons have we learned? What guidance can we offer each other about providing equitable access to high-quality science instruction? Leading researchers, materials developers, evaluators, school and system leaders, and science teachers share their essential lessons learned about what it takes to develop and deliver high-quality, equitable learning experiences for all students in this new NextGenScience resource.



Read the Key Takeaways [here](#).

2 Start Young, Start Now: Key Actions to Improve Scientific Literacy



"Building scientific literacy begins in preschool and elementary school, yet fewer than 20% of U.S. children in kindergarten through grade 3 have science as a reliable and regular part of their schooling. When our elementary schools do not treat science as a valued core subject, it may help explain why only 38% of grade 4 students scored at or above proficient in science on the National Assessment of Educational Progress. To change this, we must increase elementary science

instruction and close opportunity gaps for low-income communities - and we must do so now."

Read the blog from EDC [here](#).

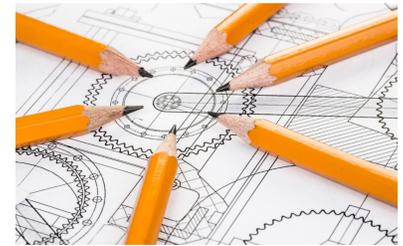
3 The Elements: Transforming Teaching through Curriculum-Based Professional Learning

A newly released report by the Carnegie Corporation of New York highlights ten core elements and three essentials of curriculum-based professional learning and explores how this approach can lead to better experiences for teachers and their students.

See the report from Carnegie Corporation of New York [here](#).

4 Framework for P-12 Engineering Learning

Jointly developed by the Advancing Excellence in P-12 Engineering Education (AE³) Research Collaborative and the American Society for Engineering Education (ASEE), the Framework for P-12 Engineering Learning identifies P-12 engineering learning goals to support the design of experiences that build engineering knowledge, practices, and habits of mind.



Read more about Framework [here](#).

5 High School Climate Life Science Virtual Adaptations for Chemistry, Physics, and Biology



Three high school learning sequences originally developed for the 2018 Climate Summit were recently adapted for virtual learning and to emphasize equity and climate justice components. The K-12 Alliance, in partnership with the California Environmental Literacy Initiative, Ten Strands, and José González (founder of Latino Outdoors, and STEM4Real), worked with teams of educators and scientists to make these adaptations.

See the revised virtual learning sequences [here](#).

6 Indigenous Ways of Knowing and Science Teaching

STEM Teaching Tools hosts a growing collection of resources to help educators honor and elevate Indigenous ways of knowing in science education. To learn more about implementing meaningful STEM education with Indigenous students and families, see [STEM Teaching Tool Practice Brief #11](#).

See the entire collection of Indigenous Ways of Knowing and Science Teaching resources on Pinterest [here](#).

7 #NGSSchat Tonight: Who are the experts here?



The topic for the #NGSSchat Twitter conversation tonight is itself: a twice-monthly Twitter chat network organized by the National Science Teaching Association that supports science educators by helping to share ideas and host discussions. Tonight's conversation, *Who are the experts here?*, is hosted by [Elizabeth Dyer](#) and [TJ McKenna](#) and will discuss how educators make sense of education reform efforts during these Twitter chats and who is positioned as the "experts" in these discussions.

Join the December 3, 2020 at 9:00pm ET conversation by clicking the [#NGSSchat](#) hashtag on Twitter.

8 Social Justice Mathematics and Science Curricular Resources for K-12 Teachers

This list features social justice resources for K-12 STEM educators and was compiled by Dr. Kari Kokka, an Assistant Professor of Mathematics Education at the University of Pittsburgh. Dr. Kokka recently presented at Stanford University's [Race, Inequality and Language in Education \(RILE\) 2020 conference](#).

See the curricular resources [here](#).



A NextGenScience Publication
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