

# NGSS NOW

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



1

### Two New Quality Units Posted



#### Seeds, Scat, Habitat

In this Portland Public Schools Grade 2 unit, students begin by observing a phenomenon of a picture of scat containing seeds. Students create a model that is continuously revised throughout the unit to explain multiple relationships between plants and animals, observe plants growing, learn about pollination and seed dispersal, and apply their learning to design a hand pollinator. The unit earned a rating of *High Quality NGSS Design if Improved* by NextGenScience's cadre of expert reviewers.

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

#### Protect Your Body, Filter Your Water

In the TeachEngineering middle school lesson recently identified as a *Quality Work in Progress* by the NextGenScience Peer Review Panel, students apply problem of water contamination caused by various pharmaceuticals and hormones. The lesson concludes by students writing comprehensive summary design reports while reflecting on how engineers can design solutions to help detect and effectively remove these contaminants from drinking water.



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

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## 2

### Blog Post: Brokering Knowledge in Diverse Classrooms

While educators may know that it is beneficial to link instruction to students' backgrounds and cultures, strategies to support them in making those connections are often not well defined or well supported. The latest post from NextGenScience's [On The Same Wavelength](#) blog explores a theoretical framework and corresponding tool that can support educators to adapt science learning experiences to be relevant and authentic for all learners, especially Indigenous learners and students from non-Western cultures.



See the post [here](#).

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## 3

### Teaching Students to Understand the Uncertainties of Science Could Help Build Public Trust



*"When we teach science as a collection of facts, it's easy to think about those facts as fixed," Rosenberg said. "Whereas, if we teach science as a way of figuring out how the world works, then it's much easier for students to see that that generates things that we can count on, but that it's also noting when we learn new things that change what we know."*

See the Education Week article [here](#).

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## 4

### Relating Research to Practice

This NSF-funded project aims to provide access to and awareness of the developing body of knowledge relevant to STEM educators in both formal and informal settings. A new website contains hundreds of short research briefs, each one summarizing a current peer-reviewed research article that can be searched by keyword or theme.

See the resource [here](#).

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## 5

### Characterizing Pedagogical Decision Points in Sense-making Conversations Motivated by Scientific Uncertainty



This research paper analyzes instances where teachers leveraged moments of uncertainty in whole-class student discussions into collective sense-making opportunities. The paper discusses five decision making points for teachers during instruction that can support educators in facilitating deep and meaningful science discussions in their classrooms.

See the research paper [here](#).

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## 6

### Webinar: Learning to See the Resources Students Bring to Sense-Making

This session about sense-making in science instruction will explore ideas from [ACESSE Resource G: Learning to See the Resources Students Bring to Sense-Making](#). It will support educators to identify and foster the strengths students bring to the classroom as they make sense of phenomena and design solutions to problems.

Register for the free (but limited capacity) July 20 STEM Teaching Tools webinar [here](#).



## 7

### Unfinished Agenda: The Future of Standards-Based School Reform

*“After working at school reform for years, we are more convinced than ever that rigorous state standards are needed to achieve the nation’s ambitious aims for public education. But the arc of the standards movement has demonstrated that standards alone aren’t sufficient to overcome many local educators’ lack of capacity and commitment to teach much larger percentages of students to high standards. Instead, standards should be the foundation of instructional systems that combine a shared vision of sound instruction with high quality, tightly intertwined curricula, professional learning, assessments, and accountability systems.”*

See the FutureEd article [here](#).



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**Our mailing address is:**

730 Harrison Street, San Francisco CA 94107