

NGSS NOW

9 things you need to know about the NGSS this month



December 2016

1

Call For Submissions of Lessons & Units! *EQuIP for Science*

Submit Materials for Review

In an effort to identify and shine a spotlight on emerging high quality lesson and unit plans designed for the NGSS, Achieve launched and is facilitating an **EQuIP Peer Review Panel for Science**, a group of expert reviewers who will evaluate the quality and alignment of lessons and units to the standards.

The Objective

The objective of the EQuIP Peer Review Panel for Science is not to endorse a particular curriculum, product, or template, rather to identify lessons and units that best illustrate the cognitive demands of the NGSS as introduced in [A Framework for K-12 Science Education](#).

If you or your state, district, school, or organization has designed lessons or units for the NGSS, please consider submitting these instructional materials. Your submissions can help provide educators across the country with various models and templates of high-quality and NGSS-aligned lesson and unit plans.

Learn how to [submit your lessons and units today!](#)

2

Featured Resource: The NGSS Lesson Screener

There is wide recognition among classroom teachers that instruction must shift as schools and districts make strides to successfully implement the NGSS. But it is currently difficult to find lessons and units that are truly designed for the NGSS.

To help educators more quickly assess (1) whether a lesson being developed or revised is on the right track for NGSS alignment, (2) whether a lesson warrants further review using the [EQuIP Rubric for Lessons & Units](#), and (3) the degree to which a team of reviewers have a common understanding of the standards, Achieve, NSTA, and members of the NGSS Network have developed and released a new tool, the **NGSS Lesson Screener**.

This tool will enable classroom teachers and state and local curriculum adoption committees to more quickly screen lessons for indications of NGSS design. Additionally, educators will be able to build deeper understandings of what lessons designed for the NGSS should look like. **While it is possible for an individual educator to use this tool, the quality review process works best as a collaborative process.** Educators who are familiar with the *EQuIP Rubric* will recognize some familiar criteria in the NGSS Lesson Screener.

The power of this new tool is in the productive conversations that teachers and curriculum adoption committees can have while evaluating materials for NGSS design (i.e., the review process). Through a shared understanding of the standards and performance expectations (PEs), educators can identify quality materials and use their professional judgement in selecting and shaping lessons for their students.

To learn more, [download the NGSS Lesson Screener](#).

3 Curated Resources for the NGSS

Classroom resources *designed for the NGSS* should meet the rigorous criteria of the [EQuIP Rubric for Science](#) developed by Achieve, NSTA, and other members of the NGSS Network. Designing for the NGSS means that the classroom experience is driven by students using the three dimensions of the standards to explain the world around them and design solutions to problems.

In lessons designed for the NGSS, teachers should be supported to connect students' real-world experiences coherently across lessons and units and to monitor student learning across the three dimensions of the standards. Work is currently underway to identify high quality example lessons and resources that meet this vision.

In the meantime, to support teachers and provide them with guidance on making the shifts called for in the NGSS, [NSTA has recruited a group of curators](#) to find and vet existing classroom resources that *could be modified* to be more in line with the vision of the NGSS. With modifications recommended by the curators, these resources (including book chapters, videos, lesson plans, simulations, and more) show how science teachers can adapt the lessons to better build toward the standards.

While not considered to be "designed for the NGSS", the resources and expert recommendations provide teachers with concrete examples and expert guidance for adapting existing resources based on the *EQuIP Rubric for Science*.

Find these resources and more on the NSTA Hub: <http://ngss.nsta.org/Classroom-Resources.aspx>

4 Featured Standards

This issue of NGSS Now features an example of how certain PEs* could be bundled in order to develop an instructional unit that engages students in science phenomena.

K-ESS2-1: Use and share observations of

5 Science Phenomenon

This phenomenon offers teachers a potential way to connect our "Featured Standards" (see #4) to a real-world phenomenon:

Upon hearing a weather forecast in late fall, the owner of this house puts out poles along the driveway.

local weather conditions to describe patterns over time.

K-ESS3-2: Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*

*The performance expectation (PE) marked with an asterisk integrates traditional science content with engineering through a Practice or Disciplinary Core Idea.

=====

For a more in-depth look at these NGSS PEs and to search for others, read [this](#). Need more context? See where these ideas are introduced in [A Framework for K-12 Science Education](#) (pages [179](#) and [192](#)).



Below are some high-level lines of student inquiry that could help students facilitate their understanding of DCIs related to the featured science phenomenon:

- Why do we make weather forecasts?
- What do we know about the weather in late fall? How will it change?
- Why did the home owner erect these reflective markers along the driveway?

Tip for Teachers

Consider what types of lessons or discussions you might develop that connect to your students' lives outside of school, in order to help them build toward this bundle of PEs.

learning about engineering design?

A: According to [A Framework for K-12 Science Education](#), "Engineering and technology are featured alongside the natural sciences (physical sciences, life sciences, and earth and space sciences) for two critical reasons." The first is "to reflect the importance of understanding the human-built world" and second is "to recognize the value of better integrating the teaching and learning of science, engineering, and technology."

Thanks to a new resource from [STEMTeachingTools](#), teachers may be able to help students learn about engineering design by making small adaptations to curricula and incorporating students' existing knowledge, expertise, and practices. [Click here for sample recommendations](#) on how to engage students in science learning that is inspired by their daily experiences and personal curiosities.

If you would like to have your question featured in a future edition of the NGSS Now newsletter, please contact ngss@achieve.org.

7 State Board Approves Science Curriculum Framework, First in Nation

On November 3rd, the California State Board of Education approved a [new science curriculum framework](#) that makes California the first state in the nation to produce a curriculum framework based on the Next Generation Science Standards (NGSS). The curriculum framework, which represents a major overhaul of how science is taught to the state's 6.2 million K-12 students, is essentially a blueprint for creating a curriculum that can be implemented by teachers in the classroom.

Tom Torlakson, state superintendent of public instruction, said that the new approach will dramatically upgrade and modernize science instruction. "This [curriculum] framework will help our students become the scientists and technology leaders of the future as well as citizens who are knowledgeable and understanding of the natural world and their environment," he said in a statement. [Read more.](#)

8 Learning to teach the NGSS Through Interactive Video

By Kathryn Davis
TeachingChannel Blog

The Teaching Channel has created a number of interactive videos to help educators examine how content known in the NGSS as Disciplinary Core Ideas (DCIs) can be taught using the Scientific and Engineering Practices (SEPs), as well as the Crosscutting Concepts (CCCs).

[Click here to watch the videos](#) and discover tips on how to create your own interactive videos.

9 How NASA Promotes Diversity in STEM

By Timothy Walden
Silicon Angle

Many companies have begun to address the issue of women in technology, but what about women

in space? Is there diversity at NASA, and how is the space agency recruiting talent?

During the *Grace Hopper Celebration of Women in Computing*, three prominent and inspiring women, including an astronaut, an electrical engineer, and a film producer, addressed a range of important issues regarding women in NASA and diversity in STEM careers.

[Read more](#) about the event and [watch their complete video interview](#).

