NGSS NOW

7 things you need to know about the NGSS this month

October 2016

1 New Resource: Third release of NGSS Example Bundles

The Example Bundles (formerly known as the Model Content Frameworks for Science) demonstrate ways that curriculum developers can bundle the NGSS within a school year. "Bundling" is an important strategy for implementing standards, as it helps brings coherence to classroom instruction.

This month, we are releasing the third set of bundles, including:

- **3rd Grade Bundles** (Thematic Model and Topics Model)
- **Middle School Course II Models** (Phenomenon Model and Topics Model)
- **High School Course III Models** (Conceptual Progressions Model and Domains Model-Biology)

Previous releases featured the following resources:

- Kindergarten Bundles (Thematic Model and Topics Model)
- 1st Grade Bundles (Thematic Model and Topics Model)
- 4th Grade Bundles (Thematic Model and Topics Model)
- Middle School Course I Models (Phenomenon Model and Topics Model)
- High School Course I Models (Conceptual Progressions Model and Domains Model-Chemistry)
- High School Course II Models (Conceptual Progressions Model and Domains Model-Physics)
- NGSS Example Bundles Guide

All of the currently available NGSS Example Bundle resources can be viewed here.

The remaining set of bundles will be released in the coming months and will ultimately cover all grade levels. The full suite of samples will help ensure that curriculum developers for science, including educators and commercial publishers, have a broad set of examples to consider.

2 Featured Standards

This issue of NGSS Now features an example of how certain PEs* could be

3 Science Phenomenon

This month's Science Phenomenon is geared toward high school students. This illustrative

bundled in order to develop an instructional unit that engages students in science phenomena.

HS-PS1-1: Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

HS-PS1-3: Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

HS-PS2-6: Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

As they implement the standards, teachers, principals, and district leaders might consider the questions below when discussing how to align instruction to the standards:

a. What type of lessons can teachers develop to help students build toward this bundle of PEs?
b. How could a classroom discussion about this month's "Science Phenomenon" (see right) help engage students around this bundle of PEs?
c. How can principals better evaluate and support teacher leaders as they work to support their colleagues?

**For a more in-depth look at these NGSS PEs and to search for others, read more here. Need more context? See where these ideas are introduced in A Framework for K-12 Science Education (pages 106, 111, and 116).*

example offers teachers a potential way to connect our Standards of the Month (October 2016) to a real-world phenomenon that students can ask questions about:

Restaurants require employees to wash their hands with soap.

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

- How do soap molecules interact with oil and dirt differently than water molecules interact with oil and dirt?
- Why do we use water with soap?
- What are the properties of soap molecules?

4 Featured NGSS Question of the Month

Q: How can I find some lessons that are aligned to the NGSS?

A: The NGSS describe very different expectations of students than were evident in most previous materials. For example, they expect students to use evidence and reasoning to support claims about why or how something happens in the real world. Similarly, in determining whether instructional materials are designed for the NGSS, it is important to look for evidence. Tools like the newly-released EQuIP Rubric, Version 3.0 can be very helpful in collecting evidence about the alignment of instructional materials.

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

What NGSS Phenomena Ideas do you have?

A Teaching Channel blog by high school science teacher Kyla Burns highlights the important role of phenomena in classroom instruction and links to a public form through which teachers can submit NGSS phenomena ideas and look at other submissions. She also encourages other teachers to share lessons and collaborate on how to better implement NGSS teaching practices into students' daily learning.

Read more.

NGSS in the News

Incorporating NGSS Practices into the Classroom

By Ben Graves
Discover Magazine
September 29, 2016

In this post, guest contributor Ben Graves shares his advice for identifying ways to incorporate NGSS practices into classroom curriculum. Ben is a fellow with the Knowles Science Teaching Foundation, which supports a small cohort of early-career teachers across the United States with intensive professional development. He teaches AP Environmental Science and freshman environmental science at Delta High School, a rural school in Western Colorado.

Read more.

New science standards urge shift from 'learning about' to 'figuring out'

By Tina Garcia Mathewson
Education Drive
August 3, 2016

An important instructional shift with NGSS is changing from simply telling students information they need to know to letting them figure it out. Students, then, go from "learning about to figuring out."

Students who grow up in classrooms organized by the Next Generation Science Standards see a natural phenomenon that sparks their curiosity and then are guided along a path of inquiry, engaging in the activities real scientists do to make sense of it. As a K-12 science framework, the NGSS encourages teachers to help students build on prior knowledge and draw connections across science disciplines and grade levels to deepen their understanding from one year to the next. Read more.


NEXT GENERATION
SCIENCE
STANDARDS
For States, By States