NGSS NOW

7 things you need to know about the NGSS this month

January 2017

1 HAPPY NEW YEAR!

Welcome to the January 2017 edition of the *NGSS Now* newsletter! We hope that your new year is off to a great start and greatly appreciate your amazing efforts in support of high-quality science education for your local schools, districts, and communities.

Reflecting briefly on 2016, the *NGSS Now* newsletters were used to share a wealth of information about the standards and to highlight our newly developed resources that aid in the implementation process. For example, in addition to launching a revamped website at www.nextgenscience.org in March 2016, some notable highlights from last year included:

- NGSS EQuIP Teaching Channel videos
- EQuIP Rubric Version 3.0
- NGSS Lesson Screener

Taken together, these resources and others serve to illustrate some important features of NGSS-aligned instructional materials and highlight some of the common ideas and frequently asked questions that emerge regarding classroom activities.

Looking ahead, many educators and students are preparing to dive end deeper into NGSS implementation and our team wishes you continued success. Throughout 2017, we will continue to develop, identify, and curate some of the most high-quality resources available for both understanding and implementing the standards. As always, we seek and value your feedback and collaboration to ensure that, collectively, we are able to fully realize the vision of the NGSS on behalf of student success and achievement.

2 REMINDER: Submit Your NGSS Lessons and Units Today!

Achieve has 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--in an effort to identify and shine a spotlight on emerging high-quality lesson and unit plans designed for the

NGSS.

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

To ensure your lessons are reviewed before the start of the 2017-2018 school year, please submit any lessons or units no later than March 31st. 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*.

Learn how to submit your materials today.

3 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.

3-PS2-3: Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

3-5-ETS1-1: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.*

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

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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 117 and 205).

4 Science Phenomenon

This phenomenon offers teachers a potential way to connect our "Featured Standards" (see #3) to a real-world phenomenon:

In this hyperlinked GIF the spider web actually moves toward a small object, initiates contact, and then sticks to it.

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

- What could cause a spider web to spring out toward an object before the object even touches it?
- What features must the object have? Does it matter how close an object is to the web?
- What are the features of a really good spider web and are you able to make one in your classroom?

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.

5 QUESTION OF THE MONTH

Q: ***When will NGSS Example Bundles be available for 2nd grade and 5th grade?***

A: The fourth and final set of NGSS Example Bundles will be released in late-January 2017. The final set of bundles will include examples for 2nd grade, 5th grade, and Middle School Course 4 (Phenomenon Model and Topics Model).

Click here to read the NGSS *Example Bundles Guide* then click here to review the existing suite of example bundles.

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

6 What's So Special About Disciplinary Core Ideas?

By Joe Krajcik
NSTA Blog
December 12, 2016

In the December 2016 edition of the NSTA Blog, Dr. Joe Krajcik, a professor of science education at Michigan State University stated, "I like to think of disciplinary core ideas (DCIs) as conceptual tools that learners can use to make sense of phenomena or solve problems."

Having previously served as Design Team Lead for both *A Framework for K-12 Science Education* and the Next Generation Science Standards (NGSS), Dr. Krajcik has a wealth of background knowledge and insights regarding the standards. This blog post helps to outline the critical role of DCIs in three-dimensional learning and explain how they provide both structure and coherence to K-12 science instruction. **Read more.**

7 Tips for Managing Student Frustration During Engineering Design Projects

Excerpt from STEM Teaching Tools.

The NGSS calls for students to engage in engineering design across K-12 and a new tool is available to help teachers, administrators, and district staff better manage student frustrations as they undertake engineering design projects in the classroom.

One recommendation is to remain both patient and positive with students, recognizing the likelihood that many will need to work through multiple iterations of a project in order to develop a quality design. Another recommendation is that educators learn how to reframe "failure" in engineering design as a positive outcome of learning science by "doing" science. Taken together, these approaches can demonstrate to students that engineering is highly iterative, rather than a lock-step process. As a result, educators can then redirect student frustrations into a greater focus on exploring new approaches and developing solutions to any 'chronic snags'. **Read more.**

NEXT GENERATION SCIENCE STANDARDS
For States, By States