NGSS NOW

7 things you need to know about the NGSS this month (and a Science fact)

November 2015

1 NGSS Accelerated Model Course Pathways

The NGSS Accelerated Model Course Pathways offer guidance to schools and districts seeking to organize NGSS performance expectations into a compressed time frame for high-achieving students. Watch this brief overview video and see five highlights from the resource below.

5 Key Takeaways

- The accelerated pathways are designed to support, not replace, existing NGSS implementation efforts.
- The accelerated pathways offer additional options to students who want or need to pursue advanced-level science courses earlier in middle or high school, and at a more rapid pace.
- The accelerated pathways outlined in the document are only starting points - not finished products. Districts and schools must determine whether and how to structure opportunities for students.
- This document explores NGSS accelerated pathway links to Advanced Placement (AP) science courses, but this should not limit districts and schools from considering other advanced science courses. As an additional resource for these pathways, three appendices (A, B, and C) identify connections between NGSS Disciplinary Core Ideas and AP Essential Knowledge statements for AP Biology, Physics, and Chemistry - that is, the appendices describe how the NGSS lay the

foundation for AP coursework. These appendices could be used by schools as they plan for providing AP courses to advanced students.

- The National Association for Gifted Children (NAGC) provided a statement of support for the Accelerated Model Course Pathways. Read it here.

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2 QUESTION OF THE MONTH

Q: Now that the NGSS have been written, how can educators use *A Framework for K-12 Science Education* (the *Framework*)?

A: The *Framework* is an essential starting point for educators. It describes a vision for science education firmly rooted in the research about how students best learn science. It also helps clarify the three dimensions by providing in-depth descriptions of each practice, crosscutting concept, and disciplinary core idea, and describing how each dimension builds across K-12. These descriptions are essential in translating the NGSS into instruction since the intersections of the three dimensions in the NGSS performance expectations do not prescribe how the three are linked in curriculum, units, or lessons. In addition to supporting a deep understanding of the standards themselves, additional chapters of the *Framework* address important areas for discussion for successful implementation at the building, district, and state levels.

3 NGSS implementation can open the door to local partnerships

Partnerships - such as those between schools and local businesses, schools of higher education, or informal education organizations - can provide strong supports for NGSS implementation. Such partnerships can bring trained science and STEM professionals into classrooms, helping connect students' hands-on learning experiences to the real world. District and school leaders can bolster the implementation process by identifying potential partners, fostering meaningful relationships, and then crafting practical engagement plants that make sense for the relevant parties.

Great examples of NGSS partnerships already exist across many states and districts. If you have any in mind, please highlight them via Twitter @OfficialNGSS.

SCIENCE FUN FACT

A new study of electric eels reveals these organisms are able to emit surprisingly complex electrical signals.

4 Standard of the Month

3-PS2-4: Define a simple design problem that can be solved by applying scientific ideas about magnets. For a more in-depth look at this NGSS performance expectation 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* (page 116).

NGSS in the News

5 Building Towards NGSS Classrooms

By Sean Elkins
The Teaching Channel
October 16, 2015

"Find an organizing principle, observable phenomenon, or authentic context to build instruction around. This is often the most important planning decision a teacher makes, because a great context or phenomenon makes three dimensionality much easier."

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6 Supporting Argumentation through Student Talk

By Judi Kusnick, Angie Ruiz, and Sushella Nath
California Science Teachers Association
October 19, 2015

"Students have science experiences that they are invited to make sense of. Through discussion with each other, the students are able to try out ideas and rehearse constructing explanations in a safe setting."

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7 Improving R.I. students' grasp of science

By Carolyn Higgins
The Providence Journal
September 28, 2015

"I want my students to develop the skills to analyze information and construct explanations, which leads to conceptual understanding."

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