

NGSS NOW

6 things to know about quality K-12 science education in March 2018



1 Does your district need training to identify quality NGSS materials?

Identifying high-quality NGSS instructional materials is hard. That's why Achieve has created the EQUIP suite of tools, which includes the [EQUIP Rubric for Science](#), the [NGSS Lesson Screener](#), and [PEEC](#). We're now offering training opportunities to help your state, district, or organization use these tools most effectively so that students benefit. Visit [our website](#) to learn about the different available opportunities and how to schedule a training.



2 NSTA National Conference 2018: Science on My Mind



From March 15-18, science educators from across the country will be coming together for the National Science Teachers Association's [2018 National Conference](#) in Atlanta. Follow along on social media by using the hashtag #NSTA18 (and make sure to also follow [@NSTA](#)). If you're attending in person, be sure to check out Achieve's sessions:

- **PLI-2: Next Generation Analyzing Instructional Materials (NextGen AIM):** Pre-registration only. Wednesday, March 14, 9:00 a.m. - 4:00 p.m.
- **Strategies for Districts to Implement NGSS or Other 3-D Performance Expectations:** Thursday, March 15, 12:30 - 1:30 p.m.
- **NGSS@NSTA Forum Session: Looking for NGSS-Focused Instructional Materials?** Friday, March 16, 8:00 - 9:00 a.m.
- **Assessing 3-D Learning:** Saturday, March 17, 12:30 - 1:30 p.m.

Follow [@OfficialNGSS](#) on Twitter to see more about what we're up to at #NSTA18.

3 From Bayer's *The Beaker Life*: Why I'm Jealous of Students in Next Generation Science Standards Classrooms



Don't miss this great [blog post](#) from Achieve's on Vanessa Wolbrink ([@vawolb](#)) over on Bayer's *The Beaker Life* blog!

"In an NGSS science classroom, I wouldn't just memorize the periodic table. I'd wonder - perhaps with some prompting from my teacher - why do we use both water and soap when we wash our hands and not just water? Then, as I begin to investigate how soap molecules interact with oil and dirt differently than water molecules do, I'd use the periodic table to look at the relative properties of elements based on patterns of electrons in the outmost energy level of atoms. I'd then gather evidence to look at the strength of the electrical forces between particles (NGSS high school physical science standards [HS-PS1-1](#) and [HS-PS1-3](#)). In the end, I'd know something about electrostatic interactions when cleaning something with soap and water, and I'd also be on my way to developing a deep understanding of the periodic table - the patterns among the atoms, the organization of the table, and how I could use it to make sense of

something - much better than if I had just memorized the abbreviations. Not only would I have a lot more fun along the way, but I'd also be much more likely to actually retain the knowledge and skills and apply them to other things."

To learn more about Bayer's work and to read more blog posts, follow them on Twitter at [@BayerUS](#).

4 Choosing Instructional Materials: Lessons Learned

Achieve's Matt Krehbiel ([@ksscienceguy](#)) recently published [a new piece](#) on the NSTA Blog in which he shares five big lessons that he has learned about selecting instructional materials.

"While high-quality materials are needed, that's only one of the factors to consider. The materials need to be part of a broader science implementation plan that includes, among other things, professional learning to support ongoing improvement in instruction. But how these materials are selected can help address several implementation issues simultaneously if it is done well. Because this is likely the most significant science-specific expenditure your district will make, it's worth devoting the time and resources needed to select materials in a thoughtful, strategic way. Use this process as a lever for change to improve science instruction for every student in your district."

5 STEM & the Standards: Librarians and the NGSS

An [article](#) from the School Library Journal looked at ways that school librarians are helping students increase their exposure to engineering as part of the NGSS.

"Four disciplinary core ideas include physical sciences;



Photo credit: Carolyn Jones, EdSource

life sciences; earth and space sciences; and engineering, technology, and applications of science. While science classrooms are the traditional domain of the first three, library maker spaces are also natural, and accessible, venues for the fourth.

"Every student can access services through the library, so you don't have to be in a special engineering class to encounter the NGSS," notes Allison. "You can come to the library and use the maker space or sign up for a program and be exposed to those ideas. Anyone has access to them."

6 Geneva Teacher Teaches Science with Storytelling, Characters



Photo credit: Rick West, The Daily Herald

A [recent article](#) from The Daily Herald in Illinois highlights how Matt Gain, an eighth-grade chemistry and physics teacher, brings the NGSS to life for his students.

"How science is taught in Illinois schools is changing as part of the state's newly implemented Next Generation Science Standards. The biggest change is science textbooks have become irrelevant and the curriculum primarily is driven by lab work, Gain said.

"We have a classroom set of books but we use them for ramps," Gain said. "(Students) can get this information from so many different sources."

"In eighth grade, Gain teaches students about physical science, focusing on thermal energy, weather, chemical reactions, the periodic table, light, sound and motion, and understanding the processes. His approach involves lots of hands-on experiments.

"We teach kids how to connect the dots," he said. "What do the facts mean. Now the lab is how you are teaching. Used to be the lab was for review."

