



NGSS EXPLAINED: EVERYTHING YOU NEED TO KNOW ABOUT THE NEXT GENERATION SCIENCE STANDARDS

OMG! The sky is falling! Just kidding, but we do have new standards on the way. The Next Generation Science Standards (NGSS) were unveiled in April 2013 after three years of collaboration between science experts and classroom teachers.

THE NGSS CALL FOR A CHANGE IN HOW WE TEACH SCIENCE OVER THE NEXT DECADE. HERE ARE 7 THINGS TO KNOW RIGHT NOW:

1. THEY ARE RESEARCH-BASED (AND THAT'S A GOOD THING)

Sometimes we worry that “research-based” will mean complicated and wordy, but the NGSS were built on a common-sense model that we can get behind: the National Research Council’s [Framework for K-12 Science Education](#). “The NRC framework is the skeleton,” says Michael Wyession, an earth science professor at Washington University in St. Louis and committee member, “and the NGSS are the organs that flesh out that skeleton.” Ooh, a science metaphor we can relate to!

2. THEY WERE WRITTEN BY TEACHERS, FOR TEACHERS

No more lawmakers writing standards! Kenneth Huff, a sixth-grade teacher in Williamsville, NY, was one of a team of more than 40 NGSS writers, half of whom were classroom teachers. “Throughout the process,” he remembers, “we spent countless hours listening to what the science education community wanted and needed.”

3. THE NGSS ARE NOT A CURRICULUM

The NGSS are not an attempt to regulate the material you teach in your classroom, but rather an overview of what students should know and be able to do. You’ll want to be familiar with the standards so that you can design your curriculum to meet the expectations. That means digging into the NGSS to see which topics are covered, and which have been covered in other grades.

4. THE ULTIMATE GOAL IS EDUCATING FUTURE SCIENTISTS

“We need to ensure that students understand how scientists and engineers work,” says Zipporah Miller, Anne Arundel County, MD, K-12 Coordinator for Science. The NGSS aim to ensure that ALL students are successful in science. This means increased equity and opportunity for students that may not have had the opportunity to be engaged in science before. “NGSS will help students go to college without having to take remedial courses,” says David Evans, NSTA executive director.

5. THE NGSS STRESS CRITICAL THINKING

It’s a big challenge, but perhaps our ultimate one as teachers in the 21st century. With so much information a Google search away, we need to teach students how to understand and evaluate the information they find. This is especially true for science, which remains at the center of many of the most pressing cultural and political debates of our time.

“THE NGSS ARE OUR BEST HOPE FOR IMPROVING SCIENCE EDUCATION.”

—KAREN OSTLUND, RETIRING PRESIDENT OF NSTA

6. IT’S INTEGRATED WITH THE COMMON CORE (WE KNOW, WE KNOW)

Look. We get it. The Common Core has been twisted, skewed and, at times, pushed into the classroom with little advance planning. The standards aren’t perfect, and implementation even less so. But we’re still optimistic about the fact that the NGSS include Common Core standards at every turn. What kids do in reading and math should be related to what they do in science, and vice versa.

7. THERE’S NO NEED TO PANIC

The NGSS are so new that there are few curriculum materials to guide you. This shift will take years to implement. “In my view, this is a thirty year process,” says Evans, “In countries that have made big changes in their education systems, it takes a generation for the new standards and practices to impact the school system.”

DECODING THE NGSS STANDARDS

EACH SCIENCE STANDARD IS BROKEN DOWN INTO THREE SECTIONS:

SCIENCE AND
ENGINEERING
PRACTICES

CROSS-CUTTING
CONCEPTS

DISCIPLINARY
CORE IDEAS

