

Next Generation Science Standards PARENT Q&A

Fostering Science Learning to Last a Lifetime

From the National Science Teachers Association



A strong foundation in science, technology, engineering, and mathematics (STEM) will put your child on the road to success in school and beyond.

Important critical-thinking skills will cultivate the great thinkers and innovators of tomorrow and promote a better educated public. And, graduates in the STEM fields will have great job prospects. Far too many kids, however, are turned off to science because they never get a chance to explore and engage in science as it's done in the real world by scientists. The time has come to make a change.

The *Next Generation Science Standards (NGSS)* will help all students develop a scientific way of thinking that will prepare them to be informed citizens and ready for college and career. The NGSS focus on the big ideas in science and emphasize the common practices that scientists use every day, such as planning investigations, developing models, and designing solutions. Modeling this scientific way of thinking will ensure that the concepts children learn in school will stay with them not just for a day, a week, or a year—but for a lifetime.

Here are answers to a few questions you might have about the *Next Generation Science Standards*.



What are standards?

Standards are the learning goals for what students should know and be able to do at each grade level. Standards are not curriculum and do not tell teachers how to teach; rather, they are used as a tool to help teachers know what to teach, to help parents know what children are expected to learn, and to help schools and teachers know what to assess.

What are the *Next Generation Science Standards*?

The NGSS promote a new way of teaching and learning that allows students to actively do and experience science in a deep, meaningful way, not just learn about it from a textbook or a lecture. The standards accomplish this by integrating three dimensions of learning:

- **science disciplinary core ideas** (the content—for example, biology);
- **major practices** (how science is conducted in the real world—such as through planning and carrying out investigations); and
- **crosscutting concepts** (science ideas—like *cause and effect*—that permeate all the sciences).

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The standards also incorporate important engineering and technology principles, starting in elementary school. Most importantly, the NGSS set high expectations for *all* students, not just those planning to pursue STEM careers.

Who wrote the NGSS?

Education teams from 26 states led the development of the NGSS, with a 41-member writing team (many of them classroom teachers) and in collaboration with many stakeholders, scientists, experts, and partners, including the National Science Teachers Association (NSTA). Thousands of educators, parents, and other community members also participated in an extensive review of drafts.

How do I know if my state has adopted the NGSS or if my school or district is using or planning to use the new standards?

As of this writing, 13 states (including the District of Columbia) have formally adopted the NGSS, and many others states and districts are planning to adopt some time in the future (get updates at www.nsta.org/ngss). To find out if or when the NGSS are coming to your school, start by contacting your child's science teacher or your school district's office of science.

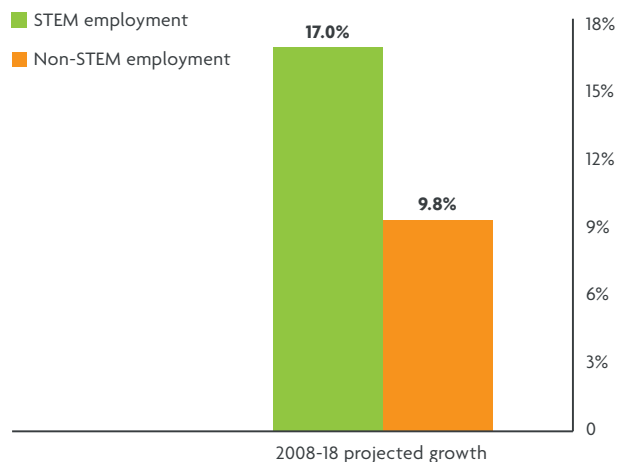
How will NGSS change my child's science classroom?

With NGSS, teachers will emphasize scientific exploration and experimentation, instead of giving long lectures and expecting students to memorize lists of facts. You'll see engaging classroom experiences with children asking more questions, exploring and discussing possible solutions, investigating science concepts, using argumentation, and being fully active in the learning process.

Want to learn more about the NGSS?

Visit the NGSS@NSTA Hub at www.nsta.org/ngss, or the official NGSS web page at www.nextgenscience.org.

Projected Growth in STEM and Non-STEM Employment



Source: ESA calculations using Current Population Survey public-use microdata and estimates from the Employment Projections Program of the bureau of Labor Statistics

Are the NGSS different from the Common Core State Standards?

The NGSS were developed independently and are not part of the *Common Core State Standards (CCSS)* initiative. The CCSS initiative establishes goals for what students should know in mathematics (CCSS-M) and in English language arts (CCSS-ELA). The NGSS addresses science. The CCSS-ELA standards do include goals for reading and writing within content areas, such as science, but they do not and should not replace the NGSS.

What can I do to prepare my child for a STEM-filled world?

Studies show that family involvement is one of the biggest predictors of success in school. Seek opportunities to explore science at home and in the community with your child. We also encourage you to get involved at your child's school and connect with teachers to learn more about changes in science instruction as they occur. And, help inspire children by exploring careers in STEM fields. Be sure to check out NSTA's parent page at www.nsta.org/parents.

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