



# OpenSciEd Frequently Asked Questions

## What, exactly, is OpenSciEd?

- OpenSciEd is an effort among science educators, curriculum developers, teachers and philanthropic foundations to improve the supply of and demand for high-quality K-12 science instructional materials by producing free courses designed for new college and career-ready science standards.
- OpenSciEd is creating a set of exemplary science instructional materials that are:
  - designed and aligned to the *Framework* and the NGSS;
  - based on research regarding how students learn, what motivates learning, and the implications for teaching
  - developed with educators and extensively piloted by teachers and schools;
  - designed to be used with low-cost, standard laboratory equipment and materials amenable to large-scale deployment; and
  - improved over time based on feedback from teachers and piloting.
- All OpenSciEd products will be freely available to download once they are completed.

## Why was OpenSciEd launched?

- OpenSciEd was launched to address the demand for high-quality, open-source, full-course science instructional materials, as well as to support the implementation of science instructional units.
- OpenSciEd seeks to ensure any science teacher, anywhere, can access and download freely available, high-quality, locally adaptable full-course materials.

## What is the ultimate goal for OpenSciEd?

- OpenSciEd will foster a large community of science teachers and education leaders who adopt, adapt, and enact high-quality science instructional materials to create a generation of students that has a greater scientific knowledge base, the ability to think and reason scientifically and a deep appreciation of science disciplines.
- OpenSciEd will provide a vibrant and thriving pipeline of freely available, open-source, full-course science instructional materials based on the *Framework* and the NGSS that will empower educators in the classroom and support student learning.

### **Is OpenSciEd a completed initiative?**

- Not at all! OpenSciEd is a multi-year effort that is now just in its beginning stages, initially focusing on grades 6-8. There will be many opportunities for states and science educators to get involved.

### **Why is the initial focus on middle school?**

- Science education in middle school continues to lay the foundation for later learning in high school and college-level science courses, which further helps prepare students for post-secondary learning and career opportunities.
- Middle school science is typically taught by a science specialist in a dedicated science class, which is often not the case in elementary schools.

### **Is OpenSciEd a national initiative, or are science educators from only certain states involved?**

- Ten partner states volunteered to join this effort and are involved through the state department of education, collaborations of multiple districts with a lead representative, or other regional education agencies working with specific schools. The partner states are California, Iowa, Louisiana, Massachusetts, Michigan, New Mexico, New Jersey, Oklahoma, Rhode Island, and Washington.
- Each partner state—and specific districts, schools and teachers in those states—participated in curriculum-based professional learning during Summer 2018, in preparation for the Fall 2018 pilot of three units of instruction in grades 6-8.
- Initial units will be piloted by partner states in Fall 2018 and Spring 2019, revised based on feedback from states, schools, and teachers, and available for wider distribution by Fall 2019.

### **Are science educators playing a role in OpenSciEd?**

- Absolutely! OpenSciEd works with classroom educators, experienced science curriculum developers, individual school districts, Achieve and the science education community to create and pilot robust, research-based, open-source science instructional materials that are designed for the *Framework* and the NGSS.
- OpenSciEd believes it is essential that science teachers and leaders are actively involved in the design, development, and enactment of instructional materials, and all help shape resources to focus on the unique science learning needs of today's students. This is incredibly rewarding and empowering for our nation's educators and ultimately, our students.

### **Will OpenSciEd instructional materials address individual needs of states?**

- Each state is creating its own locally appropriate mechanism to pilot units, collect data, and listen to feedback from teachers, schools and educators about this work.
- Though OpenSciEd will ultimately have broad appeal, it will always be a locally driven initiative. Upon completion, the instructional materials will be freely available to anyone and can be customized to suit the users' needs.

### **Why are we talking about science – aren't mathematics and English Language Arts the most important subjects?**

- Science—and therefore science education—is central to the lives of all Americans, particularly students, preparing them to be successful in their educational, personal and professional endeavors.
- Our nation's future leaders require—and deserve—a world-class science education that is knowledge-rich, encourages discovery, and will give them what they need to not only effectively prepare for jobs that may not yet exist, but to thrive in the world of tomorrow.
- An in-depth understanding of science content and gaining scientific reasoning skills -- such as analytics, problem-solving and data interpretation -- will be crucial to students as they pursue their careers.
- Science also provides context and support for other subject areas, such as mathematics and English Language Arts and literacy.

### **Why the emphasis on high-quality instructional materials?**

- When teachers have access to great instructional materials, they can focus their time, energy and creativity on bringing lessons to life and finding ways to inspire their students to learn and grow based on their unique needs and interests.
- High-quality science instructional materials must be accessible to all teachers if they are going to help students become informed citizens and knowledgeable users of today's rapidly expanding technological innovations.
- Too many teachers are provided with outdated and unaligned instructional materials, sending them online, in search of foundational materials.

- Science teachers spend an average of seven hours per week searching for appropriate instructional materials (both freely available and paid for) and an additional five hours per week creating materials to accompany their lessons.

### **What criteria are used to deem science instructional materials as “high-quality?”**

- High-quality is defined as well-designed and well-crafted instructional materials reviewed and approved by independent, third-party experts (such as EdReports and Achieve) using widely agreed upon criteria.

### **What does OER stand for and mean?**

- Open Educational Resources (OER) are freely available materials that can be downloaded, edited, locally adapted and shared to better serve all students.
- OER materials make both distribution faster (they’re downloadable) and localization easier (they can be edited).
- Because they’re freely available, OER materials are available to *all* schools and districts.
- OER materials can continuously evolve because they are being used and adapted by classroom teachers in real time.
- Based on early research, OER materials show promise in improving student outcomes and provide more empowerment opportunities for teachers.

### **What if my district and state don’t want to become involved with OpenSciEd?**

- OpenSciEd will make no requirements to schools, districts or states; instructional materials adoptions will remain the purview of schools and districts under each district or state’s current laws and policies.

### **Have all 50 states adopted the Next Generation Science Standards?**

- To date, 19 states and the District of Columbia, representing more than 35 percent of U.S. students (Arkansas, California, Connecticut, Delaware, Hawaii, Illinois, Iowa, Kansas, Kentucky, Maryland, Michigan, Nevada, New Hampshire, New Jersey, New Mexico, Oregon, Rhode Island, Vermont and Washington) have adopted the NGSS. Additionally, 20 states have adopted new science standards whose development was influenced by the *Framework* and the NGSS.