REAL SCIENTISTS + HANDS-ON STEM

SCIENCE FROM SCIENTISTS®

Teacher Professional Development Opportunities

Our specialty is collaborating with teachers to **advance their confidence and expertise** in providing students with high-quality, standards-aligned science learning experiences. Science from Scientists educators have advanced science degrees and extensive experience in elementary and middle school classrooms to provide a fresh perspective on bringing hands-on, minds-on learning opportunities to your classroom.

SciSci's teacher workshops can be customized to address your school or district's needs.

Program Overview

- Real, charismatic scientist educators facilitate engaging and interactive activities to help teachers build confidence and know-how for implementing the latest practices for teaching science and engineering.
- Workshops can range from an hour to a full day.
- Virtual workshops are available for organizations outside our service area.
- Clock-hour certificates are available upon completion.

Program Cost

Our team can work with your school to provide options that fit your budget and discounts for large groups. For more information, email info@sciencefromscientists.org.

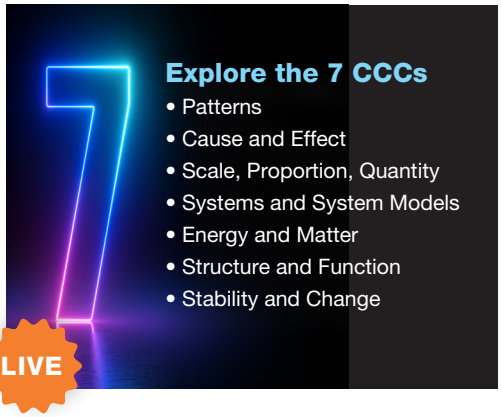
In-Person or Live Virtual Workshops

SciSci workshops provide teachers the time, space, resources, community to think deeply about their teaching practice.

What Scientists and Engineers Do: Exploring the 8 Science & Engineering Practices*

Science standards throughout the US challenge us to think differently about how we teach and what our students learn. In this workshop, we'll dig into the eight Science & Engineering Practices (SEPs) — what scientists and engineers do when they investigate the world and design solutions to problems. Gain a deeper understanding of SEPs and their implications on science teaching and learning in your classroom.

- **Who is this for:** K–12 teachers, curriculum specialists, and school leaders
- **Duration:** 1.5–2 hours
- **Delivery:** In-person or live virtual workshop



How Scientists and Engineers Think: Exploring the 7 Crosscutting Concepts*

The foundation for state science standards across the US identifies seven crosscutting concepts (CCCs) that are universal across the science disciplines. The CCCs represent how scientists and engineers think about the natural and designed worlds, regardless of specific science or engineering discipline. We'll explore the CCCs in ways that deepen understanding and provide ideas for engaging students in problem-solving like scientists and engineers.

- **Who is this for:** K–12 teachers, curriculum specialists, and school leaders
- **Duration:** 1.5–2 hours
- **Delivery:** In-person or live virtual workshop

Customized Workshops on Hands-on, Minds-on Science

Hands-on experiences are essential to quality science instruction, but hands-on is not enough! To maximize learning potential, hands-on experiences must be coupled with opportunities for students to engage in the cognitive work of sensemaking. We'll explore instructional strategies you can employ in your classroom to engage your students deeply in minds-on learning. We can offer single workshops or a multi-workshop series, customized for your organization.

- **Who is this for:** Teachers grades 3–8
- **Duration:** 1.5 hours to multi-day
- **Delivery:** In-person or live virtual workshop

Examples of hands-on, minds-on topics include:

- **Deep dive into one or more SEP or CCC:** *Planning and Carrying Out Investigations* or *Designing and Using Models,* for example.
- **Classroom routines for sensemaking:** Discussion strategies, writing prompts, questioning in science, and/or claims-evidence-reasoning.
- **The 5E Model and why it works:** Using the model for instructional design to actively engage students in sensemaking.
- **STEM identity:** instructional strategies to enhance your students' STEM-related confidence and sense of belonging.
- **Using the 5E Model to enhance field trip experiences:** How to transform field trips and community programs into deeper learning experiences for your students.
- **Ask us about additional topics!**

SEPs and CCCs are components of NGSS.

SCIENCE
FROM SCIENTISTS®

Science and Engineering Online Courses

Get the flexibility you need to deepen understanding, confidence, and know-how to facilitate latest practices for teaching science and engineering.

Gain Confidence and Expertise Implementing the latest Minnesota Science Standards

This online course, designed specifically for Minnesota educators, allows teachers to dig into the Science and Engineering Practices (SEPs) and Crosscutting Concepts (CCCs)—the core components of *A Framework for K-12 Science Education,* NGSS, and Minnesota's science standards. Participants will learn how these concepts transform science teaching and learning.

- **Duration:** 6 clock hours; certificate provided upon completion
- **Delivery:** Self-paced online course
- **Who is this for:** K–12 teachers, curriculum specialists, and school leaders

> "The online accessibility made it fit into my schedule and allowed me to work at my own pace."
>
> — PAST PARTICIPANT

Exploring SEPs and CCCs with SciSci

This online course is available to educators in all states. Engage with Science and Engineering Practices and Crosscutting Concepts, the core components of *A Framework for K-12 Science Education,* NGSS, and other state science standards. This online course explores how teaching these practices and concepts transforms science teaching and learning.

- **Duration:** 6 clock hours; certificate provided upon completion
- **Delivery:** Self-paced online course
- **Who is this for:** K–12 teachers, curriculum specialists, and school leaders

> "I really liked the format of this class because it has a good variety of tasks to complete."
>
> — PAST PARTICIPANT