



Developed at:



THE LAWRENCE
HALL OF SCIENCE™
UNIVERSITY OF CALIFORNIA, BERKELEY

**Engage teachers
and they'll engage
students.**

FOSS professional learning experiences help teachers become active learners.

FOSS puts the experience of over 100,000 teachers to work in your classroom, making it easy to engage your students in active learning. Our professional learning is designed to transform the culture of classrooms, encouraging students to explore and educators to collaborate. We strive to develop long-term partnerships with districts and teachers nationwide by providing a range of customized services.

Planning

We can help you to set clear goals and benchmarks, and to meet the specific needs of your teachers by building multi-year customized plans that align with NGSS, Common Core, and English Language Proficiency standards.

Implementation

Face-to-face workshops introduce the FOSS materials, teaching and assessment resources, instructional design, and specific teaching strategies so teachers understand the program and how to manage materials and students. Classroom coaching and mentoring help teachers promote student learning and initiate the use of formative assessment.

Support

Ongoing support, leadership development, peer collaboration, and networking opportunities maintain the fidelity of your implementation and support further staff growth.

Materials management made easy

During professional learning, teachers and administrators learn strategies that make setting up the classroom science environment easy and efficient, and are introduced to many time-saving resources on FOSSweb for classroom management.

Transformative, customizable professional learning programs.

FOSS professional learning programs are designed to transform the culture of classrooms and to foster continuous improvement and collaboration among educators. We work with districts to offer customizable, multi-year professional development plans that include a range of:

- **Hands-on workshops** that allow teachers to learn by doing. These workshops leave educators excited about working with FOSS materials and convey a clear understanding of teaching resources and specific teaching strategies.
- **Classroom coaching and mentoring** to help teachers develop strong pedagogical techniques that support student learning and initiate the use of formative assessment as an instructional practice.
- **Facilitation of professional learning groups** to help teachers analyze data and make informed instructional decisions.
- **Summer institutes and national workshops** that provide opportunities to network with other teachers and share ideas directly with the FOSS development staff.

“FOSS really walks you through every step of the process. From getting your materials together, how to set up your groups, and even what to say in the beginning, what background knowledge you need to have. You don’t need to be an expert to use the FOSS kits. You just need to be a teacher.”

Clare O., Teacher, Rhode Island

Supporting active learning

Our goal is to help educators in the classroom successfully and easily implement the most innovative pedagogy of our time, FOSS. Our support includes:

NGSS standards

The vision of NGSS quickly comes to life when teachers are invited to experience the use of FOSS to figure out and explain phenomena using effective three-dimensional teaching and learning strategies.

Innovative learning assessment

Professional learning can help educators use a variety of tools in each module to assess the three dimensions envisioned in the NGSS performance expectations. FOSS has designated multiple opportunities in each module to assess all three dimensions: students' conceptual knowledge, their use of science and engineering practices, and how they apply crosscutting concepts to explain a variety of phenomena.

Meeting ELA and Math Common Core standards while teaching science

Teachers learn to capitalize on the synergy with the Common Core State Standards for English Language Arts (ELA) and Math by using the connections built into each FOSS investigation. FOSS teachers learn to conduct more fruitful discussions and have students engage in collaborative conversations in integrated curricular areas, then express ideas in writing backed up by evidence.

Meeting the needs of diverse learners

Teachers learn how to implement strategies that provide access to science learning for all students.

Technology to make the job easier

To help teachers make full use of digital technology, FOSS professional learning provides the virtual investigations, tutorials, models, and simulations they need to prepare for lessons, facilitate class discussions, provide specific enhancements, and manage assessment.

- eInvestigations Guide
- Teacher Preparation Videos
- Online Assessment and Reporting



A commitment to you that no other science curriculum can match.

Professional Learning is a key ingredient in the successful implementation of NGSS and any new curriculum program. It is especially vital with an active learning, inquiry-based science program like FOSS. That's why FOSS ensures your success through direct, in-person professional learning that goes far beyond any other science curriculum.

School Specialty and Delta Education, in partnership with the FOSS team at the Lawrence Hall of Science, will partner with your district to design a multi-year implementation plan that meets your specific NGSS needs and goals. This ongoing support helps you get the most out of FOSS materials, and provides guidance on how to best instruct your students. Whether you're a new or existing user of FOSS, we'll help you design the optimum mix of support for your district—including workshops, institutes, and other forums for development of teachers and teacher-leaders. Here's one example of a multi-year program for a district new to FOSS.

YEAR ONE

Three-Dimensional Teaching and Learning

- FOSS Program Overview: introducing program components and modeling instructional design
- NGSS introduction and vision of the Framework for K-12 Science Education
- Specific module training for grade-level teachers and science specialists, including science content and materials management strategies
- Identifying Science and Engineering Practices and Crosscutting Concepts within FOSS investigations
- Developing science leadership teachers and science specialists
- Introducing science notebook techniques and literacy connections
- Using strategies to support ELA and English learners
- Emphasis on access and equity for all students
- Using embedded assessment to improve instruction
- Classroom coaching: ongoing support of teachers on content and pedagogy provided in the moment

**Title II funds provide support for professional learning.*

YEAR TWO

Enhancing Student Performance

- Strengthening science notebooks—writing to learn
- Sense-making discussions using three-dimensional learning; a focus on practices of developing models, engaging in argumentation, and constructing explanations
- Assessment for Learning
 - Embedded/Formative assessment strategies, including self-assessment and next-step strategies
 - Benchmark/Summative assessment, including online assessment and reporting
- Facilitating professional learning groups to analyze data and plan next steps
- Module training for new teachers and additional module training for returning teachers and science specialists
- Strengthening and developing the science leadership team
- Increasing the focus on access and equity, including ELD integrated instruction

YEAR THREE

Building Capacity and Beyond

- Module training for new teachers and additional module training for returning teachers and science specialists
- Strengthen application of instructional strategies based on student information from embedded assessments
- Develop models for ongoing professional learning and program expansion
- Incorporating crosscutting concepts into classroom practice
- Building parent and community resources and support
- Blending district and external resources to make your science program self-sufficient
- Co-facilitating with teacher leaders in professional learning groups

FOSS: A vision fulfilled. Science teaching transformed.

Every student deserves the benefits of science education—not just exposure to scientific phenomena, but the opportunity to understand and explain them. From its foundation, FOSS was built to afford that opportunity to all, regardless of background culture, language, or ability.

The scholars at the Lawrence Hall of Science designed FOSS around the principle of collaborative, active investigation. FOSS effectively engages all students by inviting them to interact with observable phenomena, a teaching philosophy subsequently codified with the arrival of NGSS. FOSS makes science accessible and equitable for every student in every classroom. This active learning philosophy has turned two million students and 100,000 teachers into hands-on active investigators of scientific phenomena. FOSS is recognized today by experts and organizations across the country for its proven quality, rigor, support, and effectiveness.

Learn more.

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