Computer Science in Science



Why Computer Science? Every 21st century student should have the opportunity to learn computer science. The basics help nurture creativity and problem-solving skills, and prepare students for any future career.

Modeling and Simulation in the Science Classroom!

Code.org has partnered with the award-winning Project GUTS (Santa Fe Institute) to deliver a science program that integrates computer modeling and simulation into Earth, Life, and Physical Science. In this course, computer science is a tool that supports more innovative explorations of STEM concepts using modern scientific practices.

PROJECT GUTS
Growing Up Thinking Scientifically

Full Year Professional Development Model

Spring: Online introduction to curriculum and platform.

Summer: In-person, multi-day workshop and online follow-up

School Year: Job-embedded PD focused on implementation and reflection.

Many teachers have participated. 98% recommend it to others. The majority say, "It's the best professional development I've ever attended."

"You are not only taught how to expand the minds of your students using 21st century skills, but how to encourage them to want to do more!"

"This is a must-have course for any educator who is serious about keeping their professional toolbox up to date."

What's in a workshop?

Interactive instruction from an experienced computer science and science facilitator, including an introduction to computer science, pedagogy, curriculum overview, and practice with the programming environment.

Curriculum Features:

- Online programming environment that uses a visual block-based language
- Daily instructional lesson plans for teachers, videos, and supplemental extension resources
- Modular design allows for a range of classroom implementation time (10-25 hours)
- Aligns to national science (NGSS) and computer science (CSTA) standards

CS in Science Modules

Intro to Modeling and Simulation	Water as a Shared Resource	Ecosystems as Complex Systems	Chemical Reactions
Learn the basic concepts in modeling complex systems through hands-on activities and participatory simulations	Investigate the importance of groundwater and the impacts of water usage on aquifer levels	Explore a simple predator-prey model to consider who eats whom—and what happens when one population grows faster than another	Study chemical reactions: the conditions under which they occur, the evidence, limiting reactants versus reactants in excess, and when chemical reactions stop

For more info, visit https://code.org/curriculum/science

Currently, Code.org's CS in Science workshops are only available through a district partnership. For info, visit: http://code.org/educate/districts

"Friendly, open-minded facilitators are fantastic with helping to teach new material while making participants feel good about every success."

Code.org is a 501(c)3 non-profit dedicated to expanding participation in computer science education by making it available in more schools, and increasing participation by women and underrepresented students of color. The Code.org vision is that every student in every school should have the opportunity to learn computer programming.