Professional Development Workshops

Discover! Classroom STEM Strategies

Science

Abridged

Our "Science Abridged" workshops simplify concepts from high school and college science classes to help educators translate biology or physics into a language that young students will understand. KnowAtom offers four workshops based on the Massachusetts Curriculum Frameworks Strands:

- Earth and Space Science
- Life Science
- Physical and Chemical Science
- Technology/Engineering

KnowAtom™
Interactive Science Curriculum

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1. The Scientific Method in the Elementary Classroom

Science is more than memorization. Real science is a process that begins with a question, produces data and leads to answers. Teaching science is teaching the critical thinking steps that yield the knowledge we have about the world. In this workshop, we define the role of the scientist in society and introduce a standardized scientific method that is age appropriate and consistent among different content areas.

2. The Engineering Design Process in the Elementary Classroom

Engineering is the product of science. Scientists use the scientific method to determine the properties of atoms, the structure of our solar system and the processes of sight and hearing. Engineers use scientific knowledge and mathematics to create new and better technologies. In this workshop, participants learn strategies to conduct engineering exercises with their elementary students.

3. Developing Critical Thinking with Inquiry in the Classroom

Inquiry is often misinterpreted as an activity that is simply hands-on and prompts questions. But real inquiry involves guiding discussions and redirecting so students form their own ideas based on detailed observations and independent scientific questions. This hands-on workshop explains how to cultivate students' critical thinking to reach curriculum goals.

4. Writing Successful Grants for Science

Teaching science requires the most hands-on resources of any of the core elementary subjects. Costs include everything from batteries to materials like microscopes or owl pellets. As state expectations for student science performance increases, so will the need for these necessary resources. Private grants are there to help close the gap.