

K-12

BALANCED SCIENCE INSTRUCTION

In the Cobb County School District, science instruction emphasizes the systematic study of the physical and natural world. Aligned to the Georgia Standards of Excellence for Science, students learn through questioning, observations, experiments, and research. Students deepen their understanding as they evaluate evidence and design solutions to real-world problems.

SCIENCE AND ENGINEERING PRACTICES

- **Asking Questions and Defining Problems**
Students ask testable questions and define problems that can be explored through scientific inquiry or engineering solutions.
- **Developing and Using Models**
Students create and use models to represent systems, processes, or phenomena and make predictions or explanations.
- **Planning and Carrying Out Investigations**
Students design and conduct investigations to gather data and answer scientific questions or test design solutions.
- **Analyzing and Interpreting Data**
Students organize, visualize, and interpret data to identify patterns or relationships that support scientific claims.
- **Using Mathematical and Computational Thinking**
Students apply math skills and digital tools to represent, analyze, and solve scientific and engineering problems.
- **Constructing Explanations and Designing Solutions**
Students use evidence to construct scientific explanations and design solutions to real-world problems.
- **Engaging in Argument from Evidence**
Students critique and defend ideas using logical reasoning and evidence from data and models.

DISCIPLINARY CORE IDEAS

Disciplinary Core Ideas provide the essential content that students need to understand scientific concepts. Organized into life, physical, Earth, and space sciences, and engineering, disciplinary core ideas help students build coherent knowledge over time. They serve as the foundation for investigations, explanations, and problem-solving across grade levels and disciplines.

CROSS CUTTING CONCEPTS

Crosscutting Concepts help students connect ideas across disciplines. They identify patterns, explore cause and effect, and consider scale and quantity when analyzing systems. Concepts like energy and matter, structure and function, and stability and change guide students in understanding how systems work and evolve. By using these concepts, students build deeper, transferable understanding of scientific phenomena.

SCIENTIFIC FOUNDATIONAL SKILLS

Science is the study of the natural and engineered world through careful observation, data collection, and controlled experimentation. Students develop a deep understanding of core scientific principles while building essential inquiry skills, such as designing investigations, analyzing data, constructing evidence-based arguments, and engineering solutions to real-world problems.

