



Core Knowledge & Skills

Students engage in core scientific knowledge integrated with science and engineering practices to build a foundation to think and act as a scientist. By developing skills and strategies to investigate and solve problems, students build knowledge. This knowledge, paired with curiosity, provides students opportunities to observe, interpret and make scientific connections to the outside world.



Crosscutting Concepts

Effect; Scale, Proportion and Quantity; System and System Models, Energy and Matter, Structure and Function, and Stability and Change. Progression of crosscutting concepts from grade to grade ensures students demonstrate mastery of core knowledge and skills.

BALANCED INSTRUCTION in SCIENCE

Science instruction balances core knowledge with crosscutting concepts and science and engineering practices. Through obtaining, evaluating and communicating information, students are actively engaged in a range of learning experiences that foster a comprehensive knowledge of science.

Embedded Practices

- Students engage in meaningful and challenging learning activities that address their unique characteristics and needs.
- Students engage in learning experiences that foster communication, collaboration, creativity, and critical thinking.
- Students leverage a variety of digital and print resources to learn content and demonstrate what they know.

Investigate & Connect

- Students **gather** information and evaluate claims.
- Students **solve** real-world problems.
- Students **ask** questions to plan and carry out investigations.
- Students **apply** mathematics and computational thinking to make sense of data.

Evaluate Information

- Students **evaluate** claims, methods, and designs.
- Students **analyze** and interpret data.
- Students **apply** mathematical and computational thinking to evaluate quantitative relationships.
- Students **develop** conclusions and solutions supported by evidence.
- Students **read** technical text and evaluate claims, methods, and designs.

Communicate Findings

- Students **communicate** ideas and methods they generate.
- Students **use** argumentation supported by evidence to validate claims.
- Students **construct** models to communicate ideas.
- Students **share** ideas and methods they generate through technical writing.

Students apply crosscutting concepts across all disciplines throughout the K-12 science experiences. These include: Patterns, Cause and