

Think like a Scientist

Crosscutting Concepts

Patterns

Use observed patterns to:

- Classify and organize
- Investigate relationships
- Investigate cause and effect

Cause and Effect

- Identify when events have consistent causes.
- Figure out the mechanisms in how causes result in effects.

Scale, Proportion, and Quantity

Consider how phenomena are impacted by different scales of:

- Size
- Time
- Energy

Systems and System Models

- Explore the ways individual components work within, impact, and are impacted by a larger system.
- Use a model of a system to better understand the internal relationships.
- Use a model of a system to make predictions about component behaviors.

Energy and Matter

Track how energy and matter flow:

- Into a system
- Within a system
- Out of a system

Explore how the flow of energy and matter explain system behaviors.

Structure and Function

- Consider how the structure or shape of an object impacts how it works.
- Look for ways to improve function by altering structure in engineering designs.

Stability and Change

- Look for factors that influence the stability of a system.
- Explore how rates of change are controlled in systems.

