

Science and Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Disciplinary Core Ideas

Physical Science

- Matter and its interactions
- Motion and stability: Forces and interactions
- Energy
- Waves and their applications in technologies for information transfer

Life Science

- From molecules to organisms: structures and processes
- Ecosystems: interactions, energy, and dynamics
- Heredity: inheritance and variation of traits
- Biological evolution: unity and diversity

Earth and Space Science

- Earth's place in the universe
- Earth's systems
- Earth and human activity

Crosscutting Concepts

1. Patterns
2. Cause and effect: mechanism and explanation
3. Scale, proportion, and quantity
4. Systems and system models
5. Energy and matter: flows, cycles, and conservation
6. Structure and function
7. Stability and change

The Three Dimensions of NGSS

