



STEMTeachingTools.org

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

Life Sciences

- LS1: From Molecules to Organisms: Structures and Processes
- LS2: Ecosystems: Interactions, Energy, and Dynamics
- LS3: Heredity: Inheritance and Variation of Traits
- LS4: Biological Evolution: Unity and Diversity

Earth and Space Science

- ESS1: Earth's Place in the Universe
- ESS2: Earth's Systems
- ESS3: Earth and Human Activity

Physical Science

- PS1: Matter and Its Interactions
- PS2: Motion and Stability: Forces and Interactions
- PS3: Energy
- PS4: Waves and Their Applications in Technologies for Information Transfer

Engineering, Technology and the Application of Science

- ETS1: Engineering Design
- ETS2: Links Among Engineering, Technology, Science, and Society

Crosscutting Concepts

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

Key Definitions

Grade Level: The grade level(s) of the Performance Expectation	AB: Assessment Boundary
DCI: Disciplinary Core Idea	CS: Clarification Statement
Title of the Standard: Heading on the top of the page of the standard	SEP: Science and Engineering Practice
PE: Performance Expectation	CC: Crosscutting Concept
	CCSS: Common Core State Standards



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