

New York State Science Learning Standards ECLIPSE!

3rd Grade

- **3-PS2-2.** Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

Disciplinary Core Ideas:

- PS2.A: Forces and Motion
- PS2.B: Types of Interaction

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Systems and System Models
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems

4th Grade

- **4-PS4-2.** Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

Disciplinary Core Ideas:

- PS4.B: Electromagnetic Radiation
- ESS1.C: The History of Planet Earth

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Systems and System Models
- Energy and Matter
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems

5th Grade

- **5-PS2-1.** Support an argument that the gravitational force exerted by Earth on objects is directed down.
- **5-ESS1-1.** Support an argument that differences in the apparent brightness of the Sun compared to other stars is due to their relative distances from Earth.
- **5-ESS1-2.** Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.



5th Grade (cont'd)

Disciplinary Core Ideas:

- ESS2.A: Earth Materials and Systems
- PS2.B: Types of Interactions
- ESS1.A: The Universe and its Stars
- ESS1.B: Earth and the Solar System

Crosscutting Concepts:

- Cause and Effect
- Scale, Proportion, and Quantity
- Systems and System Models
- Energy and Matter
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems
- Science Addresses Questions About the Natural World

Middle School

- **MS-PS2-4.** Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects and the distance between them.
- **MS-ESS1-1.** Develop and use a model of the Earth-Sun-moon system to describe the cyclic patterns on lunar phases, eclipses of the Sun and the moon, and seasons.
- **MS-ESS1-2.** Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.
- **MS-ESS1-3.** Analyze and interpret data to determine scale properties of objects in the Solar System.

Disciplinary Core Ideas:

- PS2.A: Forces and Motion
- PS2.B: Types of Interactions
- PS4.B: The Electromagnetic Spectrum
- ESS1.A: The Universe and its Stars
- ESS1.B: Earth and the Solar System
- ESS1.C: The History of Planet Earth
- ESS2.A: Earth's Materials and Systems

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Stability and Change
- Systems and System Models
- Science is a Human Endeavor
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems



High School

- **HS-PS1-8.** Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.
- **HS-ESS1-1.** Develop a model based on evidence to illustrate the life span on the Sun and the role of nuclear fusion in the Sun's core to release energy that eventually reaches Earth in the form of radiation.
- **HS-ESS1-7.** Construct an explanation using evidence to support the claim that the phases of the moon, eclipses, tides, and seasons change cyclically.
- **HS-ESS1-7.** Con

Disciplinary Core Ideas:

- PS1.C: Nuclear Processes
- PS2.A: Forces and Motion
- PS4.B: Electromagnetic Radiation
- ESS1.A: The Universe and its Stars
- ESS1.B: Earth and the Solar System
- PS3.D: Energy in Chemical Processes and Everyday Life
- PS4.B: Electromagnetic Radiation

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Energy and Matter
- Stability and Change
- Systems and System Models
- Science is a Human Endeavor
- Science Addresses Questions About the Natural and Material World
- Influence of Engineering, Technology, and Science on Society and the Natural World
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems