SUFFOLK COUNTY VANDERBILT
Mansion | Museum | Planetarium

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New York State Science Learning Standards
Earth, Moon & Sun

3rd Grade

Disciplinary Core Ideas:

- PS2.A: Forces and Motion

Crosscutting Concepts:

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

4th Grade

Disciplinary Core Ideas:

- PS4.B: Electromagnetic Radiation

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Scale, Proportion, and Quantity
- Influence of Engineering, Technology, and Science on Society and the Natural World
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems
- Science is a Human Endeavor

5th Grade

- **5-PS2-1.** Support and 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 distance from the 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.

Disciplinary Core Ideas:

- PS1.A: Structure and Properties of Matter
- ESS1.A: The Universe and its Stars
- ESS1.B: Earth and the Solar System

Crosscutting Concepts:

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

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 pattern of lunar phases, eclipses of the Sun and Moon, and seasons.

Disciplinary Core Ideas:

- PS2.A: Forces and Motion
- PS2.B: Types of Interactions
- PS4.B: Electromagnetic Radiation
- LS1.C: Organization for Matter and Energy Flow in Organisms
- ESS1.A: The Universe and Its Stars
- ESS1.B: Earth and the Solar System

Crosscutting Concepts:

- Patterns
- Cause and Effect
- Stability and change
- Systems and System Models
- Scale, Proportion, and Quantity
- Interdependence of Science, Engineering, and Technology
- Scientific Knowledge Assumes an Order and Consistency in Natural Systems
- Influence of Science, Engineering and Technology on Society and the Natural World
- Science is a Human Endeavor