

Name:

Class:

Date:

## Unit 2 Astronomy, Seasons, Phases of Moon, Tides, Eclipses

### The Big Idea:

Earth is part of a system of celestial bodies that are grouped together around a central star, the Sun. This system includes objects of different masses and composition such as planets, moons, asteroids, minor planets, and comets. These objects move in predictable paths determined by gravity.

The regular motion and relative position of the Sun, Earth and moon affect the seasons, phases of the moon, tides, and eclipses.

**Essential Question:** How does the position of Earth in the solar system affect conditions on our planet?

### Objectives:

#### Students will be able to:

1. Describe the theory of how the universe was formed.
2. Describe Earth's location (address) in the universe.
3. Compare the revolution times of planets and relate them to distance from the sun.
4. Distinguish between rotation of Earth on its axis and its elliptical revolution around the sun.
5. Use models to explain how Earth's revolution around the sun affects changes seasonal temperatures.
6. Design and conduct a scientific simulation to explore the relationship between the angle of the light source and the temperature on the surface it strikes.
7. Use a model to demonstrate the phases of the moon relative to the position of the sun, Earth and moon.
8. Develop a model or illustration to show the relative positions of the earth, sun and moon during a lunar and solar eclipse and explain how those positions influence the view from Earth.
9. Describe factors affecting tidal changes and analyze tidal change data for Long Island Sound.

**KEY CONCEPT WORDS:** *force, gravity, orbit, rotate, day, night, revolve, year, period, hemisphere, season, phases of moon, solar eclipse, lunar eclipse, tides (neap, spring).*

Objective	Sheet #	Date	Type	Description



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