

## Clark Planetarium Seasons and Phases of the Moon Kits



Clark Planetarium has provided SESC with two Seasons and Phases of the Moon Kits. These kits consist of two boxes with globes, lights, power strips, moon models and multimeters. Students can easily visualize a representation of the earth's seasons and the phases of the moon with these models. The following is an excerpt from a Moon Activity: Modeling Moon Phases that can be downloaded as a PDF from <http://www.clarkplanetarium.org/guides-and-handouts.html>

### Activity – Modeling Moon Phases

This is a simple and fun activity where students utilize models of the Sun, Earth and Moon and determine why moon phases occur.

#### Objective:

After this activity, students will be able to state the order of the moon's phases from a first quarter moon to the next first quarter moon and demonstrate how the moon's position relative to Earth creates the phases.

#### CORE concepts covered:

**STANDARD I:** Students will understand that the appearance of the moon changes in a predictable cycle as it orbits Earth and as Earth rotates on its axis.

**Objective 1:** Explain patterns of changes in the appearance of the moon as it orbits Earth.

- a. Describe changes in the appearance of the moon during a month.
- b. Identify the pattern of change in the moon's appearance.

**Objective 2:** Demonstrate how the relative positions of Earth, the moon, and the sun create the appearance of the moon's phases.

- a. Identify the difference between the motion of an object rotating on its axis and an object revolving in orbit.
- b. Compare how objects in the sky (the moon, planets, stars) change in relative position over the course of the day or night.
- c. Model the movement and relative positions of Earth, the moon, and the sun.

**STANDARD IV:** Students will understand the scale of size, distance between objects, movement, and apparent motion (due to Earth's rotation) of objects in the universe and how cultures have understood, related to and used these objects in the night sky.

**Objective 1:** Compare the size and distance of objects within systems in the universe.

- b. Compare distances between objects in the solar system.