



DIY ACTIVITY

MAKE A MOON MODEL GRADES 3-5

OBJECTIVES

- Observe the spatial relationships between the earth, sun, and moon.
- Recognize that sunlight reflecting off the moon creates the moon's phases.
- Draw and explain the sequence of the moon's phases, in order.

PROCEDURE

1. Place the lamp on a solid surface that you can stand near.
2. Push the pencil into the middle of the foam ball (the moon).
3. Turn on the lamp (the sun) and turn off the room lights.
4. Hold the pencil with the foam ball out at arm's length, with the ball slightly above your head (your head is the earth).
5. With your arm held out straight, turn your whole body slowly to the left.
6. With your camera, take a photo of the pattern of light and shadow on the foam ball (the moon) each 1/8th of a turn.
7. Complete a whole rotation, taking photos along the way.
8. Create a diagram in your science notebook by drawing pictures, in order, of the photos taken during your rotation.

MATERIALS NEEDED

- Science notebooks (1 per student)
- Pencils
- A light that can stand or clamp to a table
- A pencil
- A foam ball, white, ~3" in diameter
- A camera or phone with camera

Activity Duration: 15-20 minutes

WHAT IS GOING ON HERE?

As you move the moon, you'll begin to see different phases. You can see that the lit side of the moon, visible from Earth, creates the changing moon phases. The moon does not make its own light, it only reflects light. The moon model shows how the sun illuminates the moon as the moon orbits the earth.

FURTHER EXPLORATION

Model the moon, sun and earth relationships for a lunar eclipse and a solar eclipse. Research and answer the question: do we always see the same side of the moon? Research and create a model that explains why the moon rises later each day.