

Modeling The Moon's Motion

Objectives:

- To investigate the rotation and revolution of the Moon
- To investigate the apparent and actual motions of the Moon

Materials Needed:

- "Orbit of the Moon" sheet
- Sun model (yellow ball)
- Earth model (blue and black ball)
- Moon model (white ball with black dot)
- 3 caps

General Procedure:

1. Place each model (Sun, Earth, and Moon) on an inverted cap. This will keep the models from rolling around while you work with them.
2. Find the "Orbit of the Moon" sheet and lay it down on a flat surface. Place the Sun model on the spot on the sheet labeled "Sun". Place the Earth model on the dot labeled "Earth." Make sure you place the Earth model so that the blue side, representing daylight, faces the Sun. Place the Moon model on top of position 1 on the sheet. Make sure you place the Moon model so that the black dot faces the Earth.
3. Move the Moon from position 1 to position 2, making sure that the black dot continues to face the Earth. To do this, you will need to slightly turn or rotate the Moon model.
4. Move the Moon model from position 2 to position 3, making sure that the black dot continues to face the Earth. Again, you will need to slightly turn or rotate the Moon model.
5. Continue moving the Moon model from one position to the next along its orbital path around the Earth, until the Moon has completed its orbit around the Earth. Throughout this exploration, make sure that the black dot on the Moon ALWAYS faces the Earth.
6. Follow the directions on the Activity 1 worksheet (on the following pages) and answer the worksheet questions.