

The Moon Standard I and ILOs

Science Benchmark

Earth orbits around the sun, and the moon orbits around the Earth. Earth is spherical in shape and rotates on its axis to produce the night and day cycle. To people on Earth, this turning of the planet makes it appear as though the sun, moon, planets and stars are moving across the sky once a day. However, this is only a perception as viewed from Earth.

STANDARD I

Students will understand that the shape of Earth and the moon are spherical and that Earth rotates on its axis to produce the appearance of the sun and moon moving through the sky.

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Objective 1: Describe the appearance of Earth and the moon.

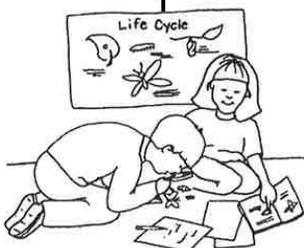
- a. Describe the shape of Earth and the moon as spherical.
- b. Explain that the sun is the source of light that lights the moon.
- c. List the differences in the physical appearance of Earth and the moon as viewed from space.

Objective 2: Describe the movement of Earth and the moon and the apparent movement of other bodies through the sky.

- a. Describe the motions of Earth (i.e., the rotation [spinning] of Earth on its axis, the revolution [orbit] of Earth around the sun.
- b. Use a chart to show that the moon orbits Earth approximately every 28 days.
- c. Use a model of Earth to demonstrate that Earth rotates on its axis once every 24 hours to produce the night and day cycle.
- d. Use a model to demonstrate why it seems to a person on Earth That the sun, planets, and stars appear to move across the sky.

Science language students should use:

Model, orbit, sphere, moon, axis, rotation, revolution, appearance



Intended Learning Outcomes for Third Grade Science

The Intended Learning Outcomes (ILOs) describe the skills and attitudes students should learn as a result of science instruction. They are an essential part of the science Core Curriculum and provide teachers with a standard for evaluation of student learning in science. Instruction should include significant science experiences that lead to student understanding using the ILOs.

The main intent of science instruction in Utah is that students will value and use science as a process of obtaining knowledge based upon observable evidence.

By the end of third grade students will be able to:

1. Use Science Process and Thinking Skills

- a. Observe simple objects and patterns and report their observations.
- b. Sort and sequence data according to a given criterion.
- c. Make simple predictions and inferences based upon observations.
- d. Compare things and events.
- e. Use instruments to measure length, temperature, volume, and weight using appropriate units.

2. Manifest Scientific Attitudes and Interests

- a. Demonstrate a sense of curiosity about nature.
- b. Voluntarily read or look at books and other materials about science.
- c. Pose questions about objects, events, and processes.

3. Understand Science Concepts and Principles

- a. Know science information specified for their grade level.
- b. Distinguish between examples and non-examples of science concepts taught.
- c. Explain science concepts and principles using their own words and explanations.

4. Communicate Effectively Using Science Language and Reasoning

- a. Record data accurately when given the appropriate form and format (e.g, table, graph, chart).
 - a. Report observation with pictures, sentences, and models.
 - b. Use scientific language appropriate to grade level in oral and written communication.
 - c. Use available reference sources to obtain information.