

Investigation Two – The Appearance of the Moon

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.	Standard I <hr/> Objective 1 1
Objective 1 Describe the appearance of Earth and the moon.	
Intended Learning Outcomes <ol style="list-style-type: none">1. Use science process and thinking skills2. Manifest scientific concepts and principles3. Understand science concepts and principles4. Communicate effectively using science language and reasoning.	

Background Information

Big rocks from space hit the moon, leaving holes called craters. The moon is made up of lots of gray color. There are no animals and plants because there is no usable water or air. What are those light and dark areas on the moon's surface? The light areas are highlands or mountains. The dark areas are flat, low plains. Most of the small craters on the moon were formed by the impacts of meteoroids crashing into the moon's surface. The larger craters were probably formed by larger celestial bodies (like asteroids and comets) hitting the moon's surface. The largest crater on the moon, *The Imbrium Basin*, is 700 miles wide.

Pre-Assessment/Invitation to Learn

How do you think craters were formed on the moon? Have students record their answers on page 4 in their moon books.

Instructional Procedure

1. Put the soil, sand, or flour in the pan.
2. Hold a rock over the pan (almost as high as your chin).
3. Drop the rock.
4. Measure in metrics the diameter of the crater and record.
5. Repeat this procedure holding the rocks at different lengths.
6. Record discoveries in their journals on page 4.

Materials

- Soft soil, sand or flour
- Shallow pan
- Several rocks of different sizes
- My Moon Book

Curriculum Extensions

Materials

- Gray tempera paint
- Seven-inch circle cut out of black construction paper
- Plastic sandwich bag
- Black construction paper and white copy paper to make stars
- (9x12)

Art –

- Have students wad a plastic sandwich bag and use it to apply gray tempera paint to cover a nine-inch square paper. After it dries, cut out a 7-inch circle. Glue moon cutout onto the larger black paper and cut out white stars to add to the picture (*Standard I, Objective 1*)

Language Arts –

- For a writing activity that is out of this world, tell students that many stories have been told about the shapes on the moon's surface. A well-known story states that the moon shows the face of a man ("The Man in the Moon"). Have each student study her or his project and write about what she or he sees on the moon (refer back to the *What the Moon is Like* by Franklin M. Branley).

Assessment Suggestion

- Students can describe what they did, what they saw, and what they learned in their journals.
- Check for accuracy on page 4 of their journals.

Homework & Family Connections

- Students conduct the same experiment with their families, explaining what they learned.
- Share moon stories with their families
- Send home a list of Web sites and encourage students to look up with their families.
- Read books about Earth and the moon.