

Activity — How are Moon Craters Made?

Standard I

Objective 1

Connections

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.

Objective 1

Describe the appearance of Earth and the moon.

Intended Learning Outcomes

1. Use a Science Process and Thinking Skills
2. Manifest Scientific Concepts and Principles
3. Understand Science Concepts and Principles
4. 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. 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.

Invitation to Learn

How do you think craters are formed on the moon? Where do you think the rocks come from that crash into the moon? Why are there so many craters on the moon? Have students record their answers in their moon journals.

Instructional Procedures

1. Put the soil, sand, or flour in the pan.
2. Hold a rock over the pan (about as high as your chin).
3. Drop the rock.
4. Lift it out carefully so that you do not change the shape of the crater. Repeat with different size rocks, smoothing the sand before each try.
5. Repeat this procedure holding the rocks at different heights.
6. Record discoveries.

Materials

- ☐ soft soil, sand, or flour
- ☐ shallow pan
- ☐ several rocks of different sizes
- ☐ moon journal

Possible Extensions/Adaptations

Art

Have students wad a plastic sandwich bag and use it to apply gray tempera paint to cover an eight-nine inch square, After it dries, cut out a circle.

Glue moon cutout onto the larger black paper and cut out white stars to add to the picture.

Writing

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 Frankly M. Branley).

Assessment Suggestion

Students can describe what they did, what they saw, and what they learned in 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 websites and encourage students to look up with their families.

Read books about the Earth and moon.

Materials

- ☐ gray tempera paint
- ☐ seven inch circle cut out of black construction paper
- ☐ plastic sandwich bags.
- ☐ 9 x 12 black construction paper and white paper to make stars