

Discovery Lab Post-Visit Activities Spaced Out Grades K-2

We hope that you enjoyed your visit to the Orlando Science Center! As a means of enhancing and extending your students' Discovery Lab experience into the classroom, we are providing you with these post-visit materials to share with your class.

Discussion Topics:

- The sun gives off energy in the forms of heat and light. This energy can be converted into other forms of energy, such as electricity. What are different ways we can use solar energy?
- Day and night are caused by Earth's spinning motion. The "day" side of Earth faces the sun, and the "night" side faces away from the sun. As the Earth spins, part of it moves from the night side to the day side and the sun appears to rise in the east. At the same time, part of it moves from the day side to the night side and the sun appears to set in the west. What objects can you see in the day sky? In the night sky? In both the day and night sky?
- Astronomers use telescopes to study space. Telescopes come in many shapes and sizes. Some telescopes are even located in space! Without telescopes, we would know very little about the planets, stars, and other objects that make up our solar system. How do telescopes help us make better observations?

In Class Activities:

- Explore why the Sun appears to rise and set in the sky with this simple demonstration. In a clear space, free of any obstacles, have students spin quickly in circles. As students rotate, the objects in the room around them appear to be spinning. Upon stopping, however, the objects in the room once again appear stationary. Although the Sun may appear to travel across the sky from sunrise to sunset, it is really the rotation of Earth that causes it to look like the Sun is moving.
- Recreate the phases of the moon using Oreo® cookies. Twist apart Oreo® cookies and scrape off the cream to create the four basic phases of the moon. The cream represents the sunlight part of the moon that is visible from Earth, while the chocolate cookie represents the part of the moon that is hidden in shadow.
- Scientists use magnifying tools, such as lenses, microscopes, and telescopes, to examine objects that are small or far away. Students can use a drop of water to create a simple magnifying lens. Place a piece of plastic wrap on top of a piece of paper that has writing on it. Push a washer down over a word and use a medicine dropper or straw to place a couple drops of water in the center of the washer. Look at the letters through the water. Do they appear bigger? What would happen if you used maple syrup or vegetable oil instead of water? Look closely at the water drop—the top is curved and the bottom is flat, similar to a convex lens!

Math Problem:

The Moon is smaller than the Earth. Since it is smaller, there is less gravity. Because there is less gravity, your muscles would feel 6 times as strong on the moon as they do on Earth. Use this information to solve these problems:

- You can jump I foot high on Earth. How high could you jump on the moon?
 (Answer: 6 feet)
- You can spit a seed 10 feet on Earth. How far could you spit a seed on the moon? (Answer: 60 feet)
- You can throw a ball 100 feet on Earth. How far could you throw a ball on the moon? (Answer: 600 feet)

Writing Prompt:

A constellation is a group of stars in the night sky. Long ago, ancient civilizations studied the skies and told stories about the shapes and pictures formed by the stars. Finding pictures formed by the stars made it easier to locate the stars among the thousands of stars in the sky. Design your own constellation and invent a story for your new constellation.

Art Project:

Make a rotating paper plate window that changes from day to night. Draw and color two pictures on each half of a 6-inch circle of stiff paper—a day scene and a night scene. Cut a half circle from the center of the paper plate to create a viewing window. Be sure to leave a small central tab in the bottom center of the window. Place the paper circle behind the paper plate so that the drawings show through the window. Attach the paper circle to the paper plate using a brass paper fastener. Rotate the paper plate to show how day transitions into night.

Additional Resources:

No Place Like Space by Tish Rabe (Random House Books for Young Readers)
Regards To The Man In The Moon by Ezra Jack Keats (Aladdin)
What's Out There?: A Book about Space by Lynn Wilson (Grosset & Dunlap)
The Planets in Our Solar System by Franklyn M. Branley (Collins)
Pieces of Another World by Mara Rockliff (Sylvan Dell Pub)