

Wonderful Sky

Program Summary

Wonderful Sky is a live program in which an educator uses the planetarium to guide the audience through a simulation of day and night. Children actively participate in the program by answering questions, listening to sounds, and observing the differences between the day and nighttime skies.

Tennessee Science Standards

1. Earth And Its Place In The Universe 7.0

Objectives

1. State at least two difference between a planetarium and their classroom.
2. Name two objects seen in the daytime sky.
3. Name two objects seen in te nighttime sky.

Pre-Visit Activities

1. Ask the students to name things they would see or hear in the daytime and at night. Have students draw daytime and nighttime pictures. Students could also find and cut out pictures in magazines of day and night, fixing them on a divided board and labeled with DAY and NIGHT.
2. Demonstrate how the distance from an object makes the object appear to change in size. Select two students of approximately the same height. While they stand side by side, discuss and agree that they are about the same in height. Then have one student walk away from the class while the other student stays in front of the class so the class can easily make a comparison. Talk about how the student looks smaller as he or she moves farther away, comparing one student to the other. Does this work with all objects? Relate this concept to other familiar objects such as airplanes, birds, and the Sun and Moon.
3. Play a game of Simon Says using directional (up, down, over, under, high, low) and sky object words (Moon, ground, clouds, etc.). For example, "Simon Says everyone look up," or "Simon Says everyone wave at the clouds." This is a quick and fun way to motivate children into making observations and for you to see how well they understand the vocabulary. Add direction terms (north, south, east, west) for more advanced students and include these words in the game. If you are playing this game outside remind students to never look directly at the Sun.

Post-Visit Activities

1. Have students drop 6 to10 beans onto black construction paper. They will glue each bean down exactly where it landed. Once the glue has dried, students play connect the dots with the beans and try to find a picture. They can connect the beans to form a picture using chalk or white crayon. Have them write or dictate a story about their bean constellation and give it a name. Share individual pictures with the class or display their creations.
2. Use a globe to talk about your location on Earth and the countries that are on the other side of the Earth from us. Darken the classroom and focus a bright light on the globe at your location. (A clear lightbulb works best for this.) Explain that the light is the Sun. Slowly rotate the globe and explain how the place where you live turns toward the Sun and away from the Sun. Show

Vocabulary

constellation

day

directions

lightning

night

planet

planetarium

sky

Sun

star

thunder

how the Earth always turns in the same direction and never stops its rotation. Have students observe how some parts of the globe are in darkness while others are in light.

3. Continue the discussion of day and night by introducing a unit on the habits and characteristics of nocturnal animals such as crickets, bats, moths, fireflies, spiders, or owls. Many night animals cannot see colors like humans can, but do see well enough to hunt for food at night. They are especially insensitive to red light. Show students how to change an ordinary flashlight into a night flashlight that some animals may not be able to see. Using red cellophane, red paper, or red fabric, show students how to cover the flashlight beam. They can easily secure the red cover with a rubber band or tape so that it is not permanent. It should allow enough red light for safety. As a homework assignment have students go on a nature walk with parents to search for nocturnal life using their red light flashlights.
4. As a class project, record the weather for several days or weeks. Teach students the different types of cloud formations. Discuss what to do when you hear thunder and see lightning. Help students to become aware of the sights and sounds of the school day by observing, listening, and sharing their experiences.
5. Have students drop 6 to 10 beans onto black construction paper. They will glue each bean down exactly where it landed. Once the glue has dried, students play connect the dots with the beans and try to find a picture. They can connect the beans to form a picture using chalk or white crayon. Have them write or dictate a story about their bean constellation and give it a name. Share individual pictures with the class or display their creations.

Resources

Books

Touch the Sun by Noreen Grice a NASA Braille book

Websites

Monthly star charts and related articles - www.SudekumPlanetarium.com

clever astronomy demonstrations using paper plates <http://analyzer.depaul.edu/paperplate/>

NASA Sun - Earth Connection for Educators - <http://sunearth.gsfc.nasa.gov/edsecef.htm>

The Space Place (Hands-on projects for kids) <http://spaceplace.jpl.nasa.gov/>

Amazing Space (Hands-on projects for kids) - <http://amazing-space.stsci.edu/>

Spacekids - <http://www.spacekids.com/>

NASA Kids - <http://kids.msfc.nasa.gov/>

Build a Solar System - http://www.exploratorium.edu/ronh/solar_system/

How Big is the Solar System? - <http://www.noao.edu/education/peppercorn/pcmain.html>

Scale models of the solar system <http://www.vendian.org/mncharity/dir3/solarsystem/>

Exhibit Connections

Space Chase

The movement of the earth around the sun can be seen in the Earth-sun orrery in the solar System Survey.

Students can explore the Solar System Touchscreens to learn more about the Sun and human exploration of Earth's planetary neighborhood.

