

## 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

See [www.adventuresci.com](http://www.adventuresci.com) to find specific Grade Level Expectations (GLE).

#### STANDARD 6 – THE UNIVERSE

Conceptual Strand 6: *The cosmos is vast and explored well enough to know its basic structure and operational principles.*

#### STANDARD 11 – MOTION

Conceptual Strand 11: *Objects move in ways that can be observed, described, predicted, and measured.*

### 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 can see or hear in the daytime and at night. Have students draw day and night pictures. Students can also find and cut out pictures from magazines and identify them as DAY or NIGHT.
2. Play a Simon Says game using directions (up, down, over, under, high, low) and sky object words (Moon, ground, clouds, etc.) “Simon Says everyone look up,” or “Simon Says everyone wave at the clouds.” This is a quick and fun way for children to make 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.
3. 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 they are about the same height. Have one student walk away from the class while the other stays in place so the class can easily make a comparison. Talk about how the student looks smaller as s/he moves away. Does this work with all objects? Relate this concept to familiar objects such as airplanes, cars, birds, the Sun and Moon.

### Post-Visit Activities

1. Have students drop 6 to 10 beans onto black construction paper and glue each bean where it landed. Students connect the beans/dots with lines, using chalk or white crayon, to create a picture. Have students name their constellation and tell a story about it.
2. Use a globe to talk about your location on Earth and the countries that are on the other side of the Earth from you. Darken the classroom and focus a bright light on the globe at your location. (A clear light bulb works best for this.) Explain 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 turning. Help students notice some parts of the globe are in darkness while others are in light.

3. Expand the discussion of day and night by introducing students to the habits and characteristics of nocturnal animals such as crickets, bats, moths, fireflies, spiders, or owls. Many night animals cannot see colors like humans, but see well enough to hunt for food at night. Some nocturnal animals are especially insensitive to red light.
4. Have students change an ordinary flashlight into a night flashlight using red cellophane, paper, napkins, or fabric. Cover the light beam with red material and secure with a rubber band or tape. Suggest students go on a night walk with parents to search for nocturnal life using their red light flashlights.
5. Download a current star chart from the Planetarium website and encourage students to go out with family to look for constellations or planets. The red flashlight makes it easier to read the star chart at night and still see the stars.
6. As a class project, record the weather for several days or weeks. Show students the different types of cloud formations. Discuss what to do when you hear thunder and see lightning. Help students become aware of the sights and sounds around them by observing, listening, and sharing their experiences.

## 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.

## Resources

### Books

*A Child's Introduction to the Night Sky*  
Michael Driscoll, Meredith Hamilton  
ISBN-13: 978-1579123666

*Everything Kids' Astronomy Book* (Everything Kids Series)  
Kathi Wagner, Sheryl Racine  
ISBN-13: 978-1598695441

### *Find the Constellations*

H.A. Rey  
ISBN-13: 978-0547131788

### *Zoo in the Sky: A Book of Animal Constellations*

Jacqueline Mitton and Christina Balit  
ISBN-13: 978-0792259350

### *The Planet Hunter: The Story Behind What Happened to Pluto*

Elizabeth Rusch, Guy Francis  
ISBN-13: 978-0873589260

*Touch the Sun* by Noreen Grice a NASA Braille book

*Find the Constellations and Zoo in the Sky are available from the Nashville Public Library.*

### Websites

Monthly star charts and related articles -  
[www.SudekumPlanetarium.com](http://www.SudekumPlanetarium.com)

Paper Plate Astronomy  
[analyzer.depaul.edu/paperplate/](http://analyzer.depaul.edu/paperplate/)

NASA Sun - Earth Connection for Educators -  
[sunearth.gsfc.nasa.gov/edsecef.htm](http://sunearth.gsfc.nasa.gov/edsecef.htm)

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

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

Spacekids  
[www.spacekids.com/](http://www.spacekids.com/)

NASA Kids  
[kids.msfc.nasa.gov/](http://kids.msfc.nasa.gov/)

Build a Solar System -  
[www.exploratorium.edu/ronh/solar\\_system/](http://www.exploratorium.edu/ronh/solar_system/)

How Big is the Solar System? -  
[noao.edu/education/peppercorn/pcmain.html](http://noao.edu/education/peppercorn/pcmain.html)

Scale models of the solar system  
[www.vendian.org/mncharity/dir3/solarsystem/](http://www.vendian.org/mncharity/dir3/solarsystem/)

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