



National Park Service Rock Creek Park Planetarium Education

WONDERS OF THE NIGHT SKY

Watch the sun set and reveal a star covered sky. Use your imagination and play connect the dots to create star pictures. Listen to stories about bears, dragons, lions, or a beautiful queen. See the night sky as though you stayed up all night long. All of these experiences, and more, are included in “Wonders of the Night Sky.”

TOPIC: Basic Astronomy

BACKGROUND INFORMATION:

Unfortunately, many inter-city children do not have the opportunity to see the full night sky. Marred by light pollution, coming from building and street lights, only a few stars can be seen. The Rock Creek Park Planetarium enables us to display the night sky on a dome-shaped ceiling either with light pollution or free of it. The projector also controls time, so it can display stars throughout the night, slowing time down or speeding it up.

Where: Rock Creek Park Nature Center Planetarium

Length: 45 minutes

Who: 1st - 3rd grade classes

Students per group: maximum of 70

Chaperones per group: 5 recommended

CURRICULUM MATCH:

Based on the District of Columbia Science Standard 6; Space Sciences;

- **Grades K- 1:** Identify day and night and distinguish between the two by naming objects seen.
- **Grades 1- 3:** Observe, describe and explain patterns of daily, monthly and seasonal changes in the physical world.
- **Grades 1- 3:** Identify observable characteristics that enable classification of objects seen in the day and night sky.
- **Grade 2:** Investigate the movement of the planet Earth within a planetary system.
- **Grade 3:** Identify constellations as star patterns in the night sky.
- **Grade 3:** Describe the interval of time for the moon to orbit the Earth.
- **Grade 3:** Given a series of pictures showing a sequence of the apparent shapes of the moon, a ball and a light source, the student will construct predictions about what the next picture in the sequence should look like.

Based on the Benchmark Science Standards:

- **Grades K- 2:** Knows that the stars are innumerable, unevenly dispersed, and of unequal brightness
- **Grades K- 2:** Knows basic patterns of the Sun and Moon
- **Grades 3- 5:** Knows that the Earth is one of several planets that orbit the Sun, and the Moon orbits around the Earth
- **Grades 3- 5:** Knows the patterns of stars in the sky stay the same, although they appear to slowly move from east to west across the sky nightly, and different stars can be seen in different seasons
- **Grades 3- 5:** Knows that astronomical objects in space are massive in size and are separated from one another by vast distances

OBJECTIVES: By the end of the program, students will be able to;

1. Demonstrate how the earth spins.
2. Describe how the stars, sun and planets seem to move together across the sky.
3. Name one constellation.



WONDERS OF THE NIGHT SKY PRE AND POST- TRIP ACTIVITIES

Pre- trip activities: Prior to your visit to Rock Creek Park, please take a moment to read this pre- site. The pre- trip activity is important because children at this age vary immensely in their knowledge of the solar system, space and basic astronomy. Sharing with each other first can help level this problem. The post- trip activity is designed to reinforce the program by reviewing some of the constellations while also enabling the students to use their imagination to create more.

Pre- site: Pass out copies of “Our Solar System” (see attachment). Encourage students to share what they know about each of the planets.

Post- site: Pass out copies of star charts and allow the children to connect the dots and recall some of the constellations presented in the program, or to create their own. Some children also enjoy creating make believe stories to go along with their constellations.