



Follow the Drinking Gourd

Grades 1-4

Objectives:

As a result of the visit to the Planetarium the student will be able to:

1. State that the Sun is a star and that it is the closest star to the Earth.
2. Understand that stars at night can be seen as pictures (constellations) and that these pictures can be useful.
3. Understand that there are seasonal changes in the natural environment, i.e.: the Sun rises higher each day of winter and spring, lower in summer and fall.
4. Define the concepts of slavery and freedom.
5. Describe United States geography as represented on maps.
6. Explain the importance of the North Star, Polaris.

Concepts Covered During Planetarium Visit

1. You can see many things in the sky during the day.
 - a. The Sun
 - b. Clouds
 - c. Rain
 - d. Rainbows
2. The Sun.
 - a. Is a star
 - b. Is the closest to the Earth.
3. At night you can see the (other) stars.
 - a. The stars can be made into pictures called constellations.
 - b. Not every culture saw the same constellations.
4. A long time ago, there were slaves in the US.
 - a. Slavery was allowed in many southern states.
 - b. Slavery was not allowed in many northern states and Canada,
 - c. Some slaves tried to escape to the free states in the north.
5. Many slaves saw the stars we call the Big Dipper as the Drinking Gourd.
 - a. Some slaves were taught a song that explained how to use the Drinking Gourd to escape freedom.



Pre-Visit Activities

1. Discuss with students that groups of stars can be connected together to form pictures known as constellations (similar to connect the dots). Not every culture sees the same picture in the stars. Have the students research which constellations different cultures created. Some cultures to examine include: Greek, Roman, Norse, Native American, and Chinese. What stories went with these pictures? Why were these pictures/stories important to each culture?
2. Discuss that the Sun is a star. Have them research facts about the Sun and other stars. Compare the Sun to other stars in our galaxy. How do they differ? How are they similar? How big is the Sun compared to the other stars? Bigger? Smaller? Same size?
3. Discuss that some people were kept as slaves in the Southern US in the past and that this was illegal in the Northern US and Canada. Have them research reasons for and against slavery in the US. What were the economic and social reasons for and against slavery?
4. Have them work in groups with maps of the US. Have them identify slave states/free states and some rivers that travel north/south.
5. Have them talk about the seasons. In groups or the class as a whole, have them identify some changes seen observed, i.e.: temperature, migrating, animals, trees, and length of day.

Post Visit Activities

Students should be given an assignment which helps them to think about what they have seen in the Planetarium such as:

1. Using the star patterns of Orion and the big Dipper, have them draw their own pictures and create a story around the pictures. Have the class share what they've come up with. Discuss the similarities and differences in each.
2. Have the class discover if the Sun is getting higher or lower in the sky each day for two weeks at the same time every day (best done at noon). This can be done by using a ruler or yardstick to cast a shadow and marking the length of the shadow. Is the shadow growing or shrinking each day? (A longer shadow means the Sun is getting lower each day).
3. Many ex-slaves wrote of being a slave and the fight to freedom. Some of these accounts can be found in *The Underground Railroad First Person Narratives of Escapes to Freedom in the North* (Blockson, 1987). An excellent article on what it was like to be an escaping slave is *Escape from Slavery: The Underground Railroad by Charles Blockson* (National Geographic, July 1984). Have them read portions of these works. The role of the North Star, Polaris, is emphasized in both works.
4. Have them research and write papers on important black musicians. Listen to some of their music in class. The song *Follow the Drinking Gourd* had a hidden message in the lyrics. Have them create their own secret song. Hidden messages might tell where to meet after school, which information is on a test, or what food to avoid in the cafeteria.
5. Take a field trip to visit a site used by Underground Railroad. If that is not possible have them make a map of the Underground Railroad sites. Have them measure the average distance between sites. How much time, in days, would be needed to travel between sites?
6. The book *Follow the Drinking Gourd* is readily available from most bookstores. If they do not have it in stock, they can order it for you. Ask for: *Follow the Drinking Gourd* by Jeanette Winter, Dragonfly Books, Alfred A. Knopf, New York, 1988, ISBN 0-679-81997-5. It can be found in the children's book section.

Sunshine State Standards Benchmarks

SC.1.E.5.1	Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.
SC.1.E.5.2	Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.
SC.1.E.5.3	Investigate how magnifiers make things appear bigger and help people see things they could not see without them.
SC.1.E.5.4	Identify the beneficial and harmful properties of the Sun.
SC.1.P.12.1	Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.
SC.2.N.1.1	Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.
SC.3.N.1.6	Infer based on observation.
SC.3.E.5.1	Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.
SC.3.E.5.2	Identify the Sun as a star that emits energy; some of it in the form of light.
SC.3.E.5.3	Recognize that the Sun appears large and bright because it is the closest star to Earth.
SC.3.E.5.4	Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.
SC.3.E.5.5	Investigate that the number of stars that can be seen through telescopes is dramatically greater than those seen by the unaided eye.
SC.3.E.6.1	Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.
SC.4.E.5.1	Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons.
SC.4.E.5.2	Describe the changes in the observable shape of the moon over the course of about a month.
SC.4.E.5.3	Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.
SC.4.E.5.4	Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.

Vocabulary

Your class should be familiar with the following terms before their visit:

Big Dipper: A cluster of seven stars in the constellation Ursa Major, four forming the bowl and three the handle of a dipper-shaped configuration.

Canis Major: A constellation that looks like a dog in the Southern Hemisphere near Puppis and Lepus, containing the brightest star in the night sky.

Constellation: A formation of stars perceived as a figure or design, especially one of 88 recognized groups named after characters from classical mythology and various common animals and objects.

Day: The time between sunrise and sunset.

Direction: A line leading to a place or point.

Earth: Third planet from the Sun and made out of rocks. It's our home planet.

Escape: To break loose from; get free of.

Freedom: Liberty of the person from slavery, detention, or oppression.

Gourd: The fruit of such a plant, often of irregular and unusual shape. The dried and hollowed-out shell of one of these fruits, often used as a drinking utensil.

Master: One who has control over or ownership of something or someone.

Night: The time between sunset and sunrise.

Orion: A constellation of a hunter in the celestial equator near Gemini and Taurus, containing the stars Betelgeuse and Rigel.

Planetarium: Commonly referred to as a theatre used for astronomy education with a large dome that can simulate the night sky. Technically it's the optical device for projecting images of celestial bodies and other astronomical phenomena onto the inner surface of a hemispherical dome.

Plantation: A large estate or farm on which crops are raised, often by resident workers or slaves.

Quail: A bird small in size and having mottled brown plumage and a short tail.

Revolution: Orbital motion about a point, especially as distinguished from axial rotation.

Rotation: Turning around a central point.

Season: One of the four natural divisions of the year, spring, summer, fall, and winter, in the North and South Temperate zones. Each season, beginning astronomically at an equinox or solstice, is characterized by specific meteorological or climatic conditions.

Sky: The expanse of air over any given point on the earth.

Slave: One bound in servitude as the property of a person or household.

Space: The expanse in which the solar system, stars, and galaxies exist; the universe.

Star: A ball of gases that glows and makes heat.

Sun: The "Star" of our Solar System. Where we get most of our light and heat comes from.

Taurus: A constellation that looks like a bull in the Northern Hemisphere near Orion and Aries.

Underground Railroad: A secret cooperative network that aided fugitive slaves in reaching sanctuary in the free states or in Canada in the years before the abolition of slavery in the United States.