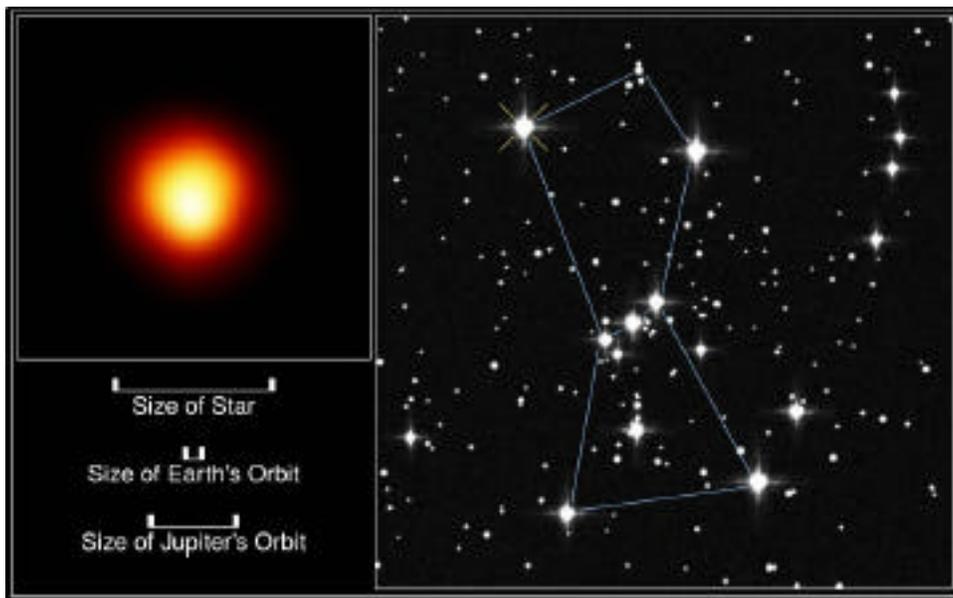


Space Odyssey Online Teacher's Guide

Creative Constellation

Previsit Activity for Deep Space



Courtesy NASA / NSSDC

Grades K-3

CDE Standards

Science: 4.4a

Language Arts: 2,3,4,6

Preparation and Materials

Estimated Preparation Time: 10 minutes

Estimated Activity Time: Two or more class periods of 45 minutes each

Materials

M & Ms, beans, or some other small manipulative

Small star stickers

Black construction paper (12 inch x 18 inch)

Paper

Pencils

Copies of Native American or other constellation legends

Chalk or white colored pencils

Chart paper

Markers

Creative Constellations worksheet

Learning Goals/Objectives

Students will

- Identify common constellations in the night sky
- Define a constellation
- Recognize that constellation legends are an important part of human culture
- Write legends about created constellations

Connection to *Space Odyssey*

During a trip to *Space Odyssey*, be sure to ask about the Jumbo Big Dipper exhibit. This demonstration uses a three-dimensional model of the stars that make up the Big Dipper. Visitors can wander among the stars to see how they look from different locations. Students can learn that constellations are based on their own perspective and would look different from another location in our galaxy.

Advanced Preparation

1. Obtain copies of constellation legends from the list of resources below.
2. Make copies of the Creative Constellations student worksheet.

Classroom Activity

Day One

1. Ask your students what they know about constellations. Write down their knowledge on a piece of chart paper for later reference.
2. Read one of the books from the resources list below to your class. These books will teach your students basic facts about constellations.

3. Be sure to discuss the difference between a constellation and an asterism. The Big Dipper is an asterism, while Ursa Major is a constellation. An asterism is a small group of stars within the larger constellation.
4. Discuss how and why constellations came to be. Have students complete the worksheet provided at the end of this lesson.

Days Two and Three

1. Have a brief class discussion to refresh students' memories about constellations. Ask students to name some of the constellations they remember from your previous discussion.
2. Read students one or two of the constellation legends from the list below.
3. Instruct students that they will be working in small groups to create their own constellations and legends.
4. Divide students into groups of two to three. Provide each group with eight M & Ms or beans, eight star stickers, one piece of black construction paper, and one piece of chalk.
5. Demonstrate to students how they will make their constellations. Hold all of the M & Ms or beans in your hand. Drop them onto the black paper from about six inches above the paper. Replace the beans with the star stickers. Hold your paper back and turn it in all directions to find several different shapes that the stars make.
6. Choose one of the shapes made by your constellation and connect the dots using a piece of chalk. Model writing a short legend about how that shape came to be in the sky.
7. Allow the groups to complete the activity on their own. Give them plenty of time to write, edit, and revise their legends. Kindergarten students may need to dictate their stories to an adult.

Variations/Extensions

1. Have student groups share their legends with the class. Post their constellations and legends for other classes to see.
2. Allow students to act out their legends or make them into a puppet show.
3. Focus on one small asterism, such as the Pleiades that is the same across cultures. Read some of the stories about this asterism from several different cultures. Discuss how different cultures have different elements as the focus of their stories, and how their stories reflect their particular cultures.

Resources

Books

Branley, Franklin. *The Big Dipper*. New York: Harper Collins Publishers, 1962.

Hans, E. M. *Spinning Through Space: Constellations*. Austin, Tex.: Raintree Steck-Vaughn Publishers, 2001.

Lurie, Alison. *The Heavenly Zoo*. New York: Farrar, Starus and Giroux, 1979.

Peck-Taylor, Harriet. *Coyote Places the Stars*. New York: Bradbury Press, 1993.

Malone, Peter. *Star Shapes*. San Francisco: Chronicle Books, 1997.

Milord, Susan. *Tales of the Shimmering Sky*. Charlotte, Vt.: Williamson Publishing, 1996.

Mitton, Jacqueline. *Zoo in the Sky*. Washington, D.C.: National Geographic Society, 1998.

Mosley, John. *The Ultimate Guide to the Sky*. Los Angeles: Lowell House Juvenile, 1997.

Silver, Donald. *One Small Square: The Night Sky*. New York: Learning Triangle Press, 1998.

Staal, Julius D. W. *The New Patterns in the Sky: Myths and Legends of the Stars* McDonald & Woodward Pub Co; September 1996

McDonald, Marianne. *Tales of the Constellations: The Myths and Legends of the Night Sky*. Smithmark. June, 1996.

Web sites

<http://www.astro.wisc.edu/~dolan/constellations/>

<http://www.astronomical.org/constellations/obs.html>

<http://www.geocities.com/CapeCanaveral/Launchpad/1364/Constellations.html>

<http://www.fcps.k12.va.us/DIS/OHSICS/planet/constell/constell.htm>

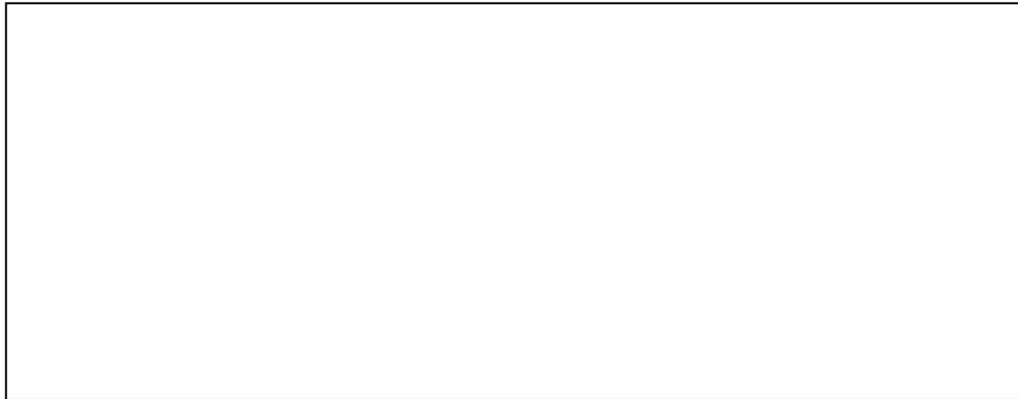
<http://www.enchantedlearning.com/subjects/astronomy/stars/constellations.shtml>

Name: _____

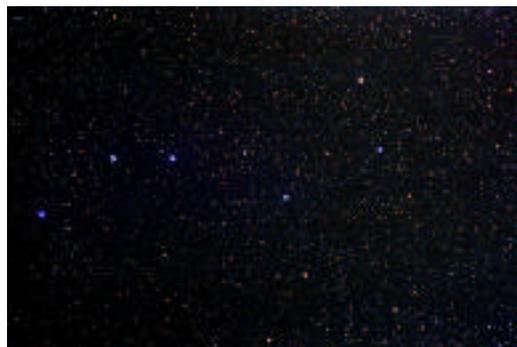
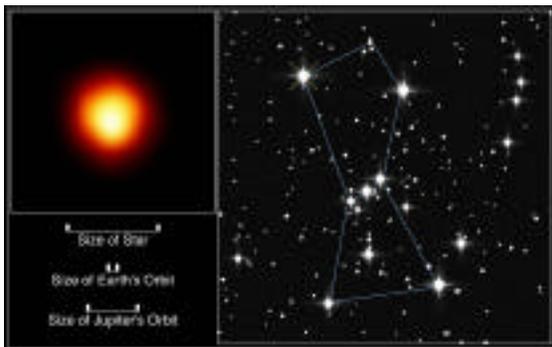
Creative Constellations

Tell what a constellation is using your own words.

Draw a constellation you know in the box below.



Write the names of these constellations.



The Big Dipper is not a constellation. It is called an _____.