



Make Your Own Constellation

Dark Skies, Bright Kids
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Activity Time: 45 min

Prep Time: 20 min

Grade: 2nd+

Standards of Learning Topic

- Primary SOL
 - English 2.1: The student will demonstrate and understanding of oral language structure.
 - a) Create oral stories to share with others.
 - English 2.2: The student will expand understanding and use of word meanings.
 - b) Use words that reflect a growing range of interests and knowledge.
 - c) Clarify and explain words and ideas orally.
 - English 2.3: The student will use oral communication skills.
 - b) Share stories or information orally with an audience.
 - d) Retell information shared by others.

Description

Students are given an introduction to some constellations in the night sky and are taught some of the constellation creation myths. Students create their own constellation and write their own story that explains the creation of the constellation. Students share their constellations and their stories with the class.

Materials

- Teacher needs
 - A single-hole punch
 - Ability to show constellations in the classroom, either using planetarium software or prepared images
 - Black construction paper
- Each student needs
 - Constellation template
 - Dry erase crayons or chalk

Goals

- Demonstrate that constellations are cultural constructions
- Create a new constellation and its origin story
- Share their work with their peers



Introduction to Topic

Constellations are patterns of stars in the night sky that resemble objects, people, or animals. Different societies have created their own constellations in the night sky. In the United States, we are most familiar with the constellations of the Greco-Roman tradition, but nearly every culture has their own constellations and a set of corresponding myths that explain the origin of that constellation. We present some references for constellation stories in the Resources section. There are several ways to teach this lesson depending on your goals. Some examples are:

- 1) Encourage students to observe the night sky;
Present a set of constellations and stories that are visible in your area for the current time of year.
- 2) Demonstrate that constellations are cultural phenomenon;
Present constellations that are represented in multiple cultures. Some constellations that appear in both Greco-Roman and Native American mythology are Orion, Taurus, Ursa Major, and Ursa Minor
- 3) Write original stories;
Present a set of constellations that tell a complex story.
 - a. Andromeda, Pegasus, Perseus, Cepheus, Cassiopeia, and Cetus are related in Greco-Roman mythology.
 - b. Ursa Major, Ursa Minor, Canis Major, Canis Minor, and Orion are related in both Native American and Greco-Roman cultures.

Pro Tips

- Make sure to mention that many constellations are pictures drawn *around* the stars. Encourage your students to be creative!

Pre-Activity Instruction

Explain what constellations are and how constellations are created. Ask students if they know any constellations and/or their origin myths.

Preparation

- 1) Pick at least two constellations to show students and learn their associated origin myths.
- 2) Punch holes in the construction paper (we find that half-sheets work well) randomly to serve as stars.
- 3) Gather materials.

Procedure

- 1) Show the constellations to the students. Do they “see” the picture in the stars?
- 2) Give the students each a piece of construction paper. Tell them to pretend that the holes in the paper are stars and to use them to create their own constellation.
- 3) Have the students name their constellation and write their own origin myth.
- 4) Have the students share their story with the class.

Post-Activity Discussion



- *Can anyone create constellations?*
Yes! And they can share their constellation story with their friends and family.
- *Summarize what constellations are and encourage the students to go out one dark night to see if they can find anything up in the night sky. They might even be able to find their own constellation!*

Extensions and Related Activities

- Wiggle Time Activity: Cassiopeia, Leo, Orion
- Observing

Resources

- Dot to Dot in the Sky is a series of books that show common solar system objects and gives their related creation stories at an appropriate level for elementary school classrooms.
<http://www.whitecap.ca/category/series/dot-dot-sky>
- Several astro-photographers offer series of real night sky images that show common constellations as they appear to the naked eye or with amateur telescopes.
<http://southernskyphoto.com/constellations/constellations.htm>
- *Stars of the First People* is an excellent book that compiles a number of myths from Native American peoples.
- *Sharing the Skies* is book about Navajo Astronomy.
- Ian Ridpath is a professional astronomer who has created an online book that gives a detailed history of constellations and their related mythology. See especially chapter 3.
<http://ianridpath.com/startales/contents.htm>
- Stellarium is free, open-source planetarium software that can be used on most personal computers and operating systems. It contains overlays of constellations from many cultures and contains links to their origin myths.
<http://www.stellarium.org/>

Glossary

- *Constellation* – A group of stars perceived as a figure or design, most notably those from classical mythology, common animals, and objects.
- *Myth* – A traditional story, especially one concerning the early history of a people, the world, or a natural phenomenon.
- *Origin Story* – A story that explains how something came to be.