



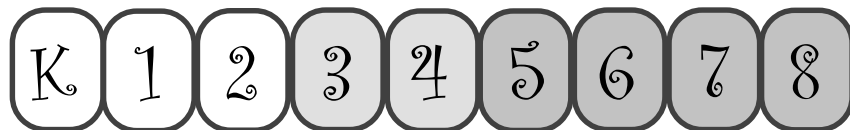
## Catch a Constellation

Throw your students and a handful of stars into the sky and watch as they turn into sparkling constellations! Whether they are studying classic constellations or creating new ones, the students will long remember the positions of the stars by transforming themselves into a star-studded sky.

### Objectives

The students will learn the configuration of the major stars in constellations such as Orion and Ursa Major.

### Grade Levels



### Subject Area

Science

Language Arts, Math, Social Studies

### Materials

Star charts, dark blue paper, fluorescent or glow-in-the-dark ink, laser pointer or flashlight, iron-on paper (optional).



## Procedure

**Introduction** Discuss the night sky with your students. What constellations are familiar to them? Do they know the story of the Big Dipper, or how to find the North Star? Share basic star charts with them, including constellations from mythology and from the zodiac. Have the students draw a bear (Ursa Major) and label the stars of the Big Dipper. Let each student choose a particular constellation to study.

**Resources** There are many sources of information on stars and constellations, including children's books, encyclopedias, science stores, and the Internet. You might want to start with H.A. Rey's book Find the Constellations (a revised edition can be found at Amazon.com).

- Step-by-step**
- 1 Have the students choose their favorite constellation and decide how to pose to fit the stars onto their images. Orion the Hunter has stars on his shoulders and knees; Cygnus the Swan has stars on outstretched wings (or arms); Cassiopeia is shaped like a "W"—you can be very inventive!
  - 2 Let the students take the digital images of each other, posed against a plain background such as a plain wall or door. Load the images into the computer according to the directions for your camera.
  - 3 Use ImageBlender to erase the backgrounds of the pictures (Refer to the Erasing Backgrounds mini-tutorial).
  - 4 Use the ImageBlender shape tool to mark the stars on the appropriate places on the images. If you are working on Taurus or Scorpius, you may have to draw horns or a tail!
  - 5 Make labels for the constellations.
  - 6 Leaving the background white, print out one copy of each constellation. Cut away the white background.
  - 7 Paste the constellation onto dark blue paper. You can print the constellations with dark blue backgrounds, but it would take a LOT of ink. If your students are working as a group to make a large sky diagram, have them work together to figure out where each constellation belongs in their "sky". Use fluorescent or glow-in-the-dark ink, if you have it, to mark the stars.
  - 8 Fasten the constellations to the ceiling, turn down the lights, and let the students tell stories about their sky!



---

**Sharing**

Turn your classroom into a planetarium by fastening the constellations to your ceiling. Use a large piece of dark blue bulletin board paper, if you have it, and use a blacklight if you have fluorescent ink on the stars. Let the students use a laser pointer to point out the important stars in their images, and have them tell the stories behind the constellations. Invite another class to come in and learn about your stars!

---

**Extensions**

Have the students write brief descriptions of their constellations and stars. Print out these descriptions together with the images to make a class constellation book. Give a copy to the school library.

Print the images onto iron-ons, and have the students sew or glue on star-shaped sequins or rhinestones (Refer to Appendix C).

Use the ImageBlender Slide Show or transfer the images into HyperStudio® or PowerPoint®, and make a slide show about the constellations. Include narration and appropriate music!

---

**Differentiation**

Students with advanced skills can do additional research on their constellations, such as exploring constellations from different cultures. They can add additional information onto their images, including the names, magnitudes and relative distances of their stars. Students who choose to work on a constellation slide show on the computer can add details, such as animations, special effects or transitions, or elaborate titles and fancy credits, or put the constellations on a web site. Students may also write and produce news broadcasts about their constellations.

---

**Related Ideas**

Language Arts - Have students write stories or poems for their constellations.

Language Arts - Have students write newspaper articles describing how their constellations first appeared in the sky.

Language Arts - Read the traditional myths that explain the names and stories of the constellations.

Social Studies - Have the students study the constellations used by travelers on the Underground Railroad.

Social Studies - Have students study the history of navigation by the stars.

Math - Chart the magnitudes of the stars or the distances to the closest stars.

Music - Have the students write a song to help them remember the names of the constellations.



## Curriculum Standards Correlations

---

### National Science Education Standards

**Earth and Space Standard D (K-4):** Students should develop an understanding of -

- Properties of earth materials
- Objects in the sky
- Changes in earth and sky

### NCTE- Standards for the English Language Arts

**Standard 1:** Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.

**Standard 5:** Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with a variety of audiences and for different purposes.

**Standard 7:** Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.