CONSTITUTION EXERCISE

This lab is an introduction to the stars and constellations. The first section contains some
questions to help generate discussion about the stars. The second section presents the stars and
constellations using slides, charts and models. The last section is an activity to make your own
constellation and its corresponding myth.

**Materials:**
Overhead of constellation jpg
Overhead of different individual constellations (optional)
Handouts of sky chart
Paper, pencil, crayons for each student
Book of myths: “*The Constellations: how they came to be,*” by Roy A. Gallant.
Available in Leon County Public Library
Large clear bowl
Globe

**Invitation:**

1. Has anyone ever gone out at night and looked at the stars? Did you see any patterns or
   pictures in the stars? What is a star pattern called? (*Many answers, Many answers,
   Constellation*)

2. Can you name any constellation that you may have seen?

3. Discuss what a constellation is and some names

4. Why would people make names for groups of stars? (*Many answers, e.g. to help them
   remember the stars and pick them out again*)

5. How could being able to pick out certain stars help people? (*Locate themselves in
   relation to latitude, Pick out which way was North, Tell the season*)

6. But we have compasses, maps, and satellites for that. We would have always had those,
   right?

7. So before those things, people had to know how to read the stars to navigate. Do you
   have any idea how they might have done that?

8. Can you think of any particular stars that would have been helpful in navigating? (*North
   Star Polaris, etc.*)

9. The North Star is over the North Pole, so if you travel toward the North star, you are
   traveling: (*North*)
10. If you were standing in the United States, would you see the same stars as someone standing in Australia? (No)

11. Could you see the North Star in the southern hemisphere? (No)

**Exploration/Concept Introduction:**

Exercise: need large clear bowl and globe

*Use inverted bowl to represent view of sky.* Can be moved to any place on Earth. Rim of bowl is horizon and top of bowl is zenith. Show that stars seen in northern hemisphere will differ from those in southern, depending on location.

1. So, can you see the North Star from the southern hemisphere? (No)

2. You see different stars depending on where you are on the earth, what time of night it is, and where the earth is in its rotation around the sun (the season).

**Hand out star charts.**

1. This is a star chart. *Show slide.* It is a map of the stars you can see in the sky. We are going to pretend that it is our bowl. The top of the bowl is at the middle of the chart—the zenith. The edge of the chart is the edge of the bowl—the horizon.

2. In order to read your chart you align the north side with your direction north. Look at the east and west directions. Do you notice anything strange? *(They are backward! That is because you have to hold this map over your head to read it.)*

3. Find the big and little dippers. If you went out tonight and looked, the big dipper would appear by the horizon and the little dipper would be higher up in the sky. Look at the dippers. Can you find the North Star—Polaris? If you can find the dippers at night, you can find the North Star.

4. The big dipper is actually part of a constellation called Ursa Major—The Great Bear. *Show slide.* The little dipper is part of Ursa Minor—The Small Bear and the tail of the bear leads right to Polaris—the North Star.

5. As a way to help memorize the constellations, people make up stories about them and these stories became important parts of their culture. Most of the constellations on our chart are named after the famous Greek myths, but many other cultures also had myths about constellations.

6. We talked about Ursa Major and Minor. The Greek have a story about these constellations. *Read p. 29-30 in “The Constellations: how they came to be,” by Roy A. Gallant.*
7. The Navajo also saw these constellations as bears, but some cultures had other ideas. The Maya saw Ursa Major as a parrot and in Egypt they thought it was a boat.

Put up slide. Some other constellations are:
- Draco the dragon
- Pegasus the winged horse
- Cephus the Ethiopian King and his wife Cassiopea
- Taurus the bull
- Orion
- Gemini

Application:

Need paper, pencils, and crayons

1. Choose a constellation or make one from the stars on your star chart.

2. Draw the stars on your paper and make a constellation out of them. Make it into a picture like you saw on the overhead. An outline is fine.

3. Now, using the tip of your pencil, poke a hole through your paper for each star. This way you can put a flashlight behind your paper and see your stars.

4. Create a short myth about your constellation. Write in on your paper.