

Cub Scout Space Badge Workbook

Requirement:

- a. Identify two constellations and the North Star.

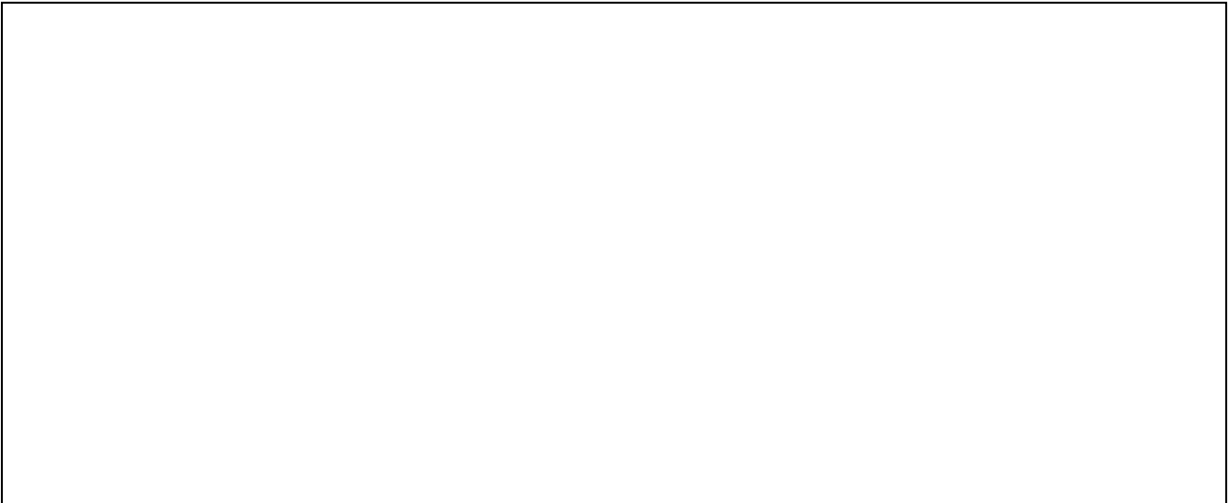
Activity:

- Night Sky Live Show
- Visit the Atwood Sphere

Attend the **Night Sky Live** show or visit the **Atwood Sphere** exhibit to learn more about the constellations and the North Star.

What constellations did you identify?

Draw them below:



Requirement:

- b. Make a pinhole planetarium and show three constellations.

Activity:

- Make a Star Finder
- Make a Pinhole Planetarium

Make a star finder to help you locate three constellations. Directions for making a star finder can be found at this website:

<http://spaceplace.nasa.gov/starfinder>

Draw the stars of those constellations on another piece of paper but make sure the whole drawing of all three constellations is no bigger than the lit-up end of a flashlight.

Poke a hole in each of the stars on your paper. Hold a flashlight up to the BACK of your paper. Your light will shine through the holes onto the wall of a darkened room. You now have a pinhole planetarium!

Requirement:

- c. Visit a planetarium

Activity:

- Explore the exhibits at the Adler Planetarium

What was your favorite exhibit at the planetarium?

What did you like about this exhibit?

What did you learn at the Adler Planetarium?

Requirement:

- d. Build a model of a rocket or space satellite

Activity:

- Visit the “Shoot for the Moon” exhibit gallery

We can't build models at the planetarium but you can research information about the model you want to build.

Go to the **Shoot for the Moon exhibit** on the upper level to explore many of the rocket models on display, including a real space capsule.

Which rocket is your favorite?

Sketch your favorite rocket:



Do some more research after you visit the Adler Planetarium to find out more about rocketry and space satellites. The NASA website is a great resource for information on rockets and space satellites:

<http://www.nasa.gov>.

Requirement:

- e. Read and talk about at least one man-made satellite and one natural one

Activity:

- Visit the following exhibit galleries: **Our Solar System** and **Shoot for the Moon**

Natural Satellites:

The Moon is a natural satellite of Earth. Visit the **Shoot for the Moon** and **Our Solar System** exhibit galleries on the upper level to find information about the Moon.

1. What are craters? How are they made?

2. Which planet does the Moon look like most: Jupiter, Mercury, or the Earth? (Hint: Look at the round planet models)

Find the Moon rock in the “Shoot for the Moon” exhibit. Write 3 words to describe the Moon rock.

1. _____

2. _____

3. _____

Requirement:

- e. Read and talk about at least one man-made satellite and one natural one

Activity:

- Research man-made satellites on the internet

Man-Made Satellites:

Back at home, look at NASA’s website <http://www.nasa.gov> for information on man-made satellites.

Click on the “Missions” link at the top, then the “Current Missions” link on the left. This list explores satellites and other missions that NASA is currently doing. Pick one of the missions and do some research about it. Explore the following questions:

1. Where does the satellite orbit?

2. Is the satellite bigger or smaller than a human?

3. In what year was the satellite launched?

4. What type of research is being done with this satellite?

Requirement:

- f. Find a picture of another planet in our solar system. Explain how it is different from Earth.

Activity:

- Visit **Our Solar System** exhibit gallery

Explore the Solar System gallery. Look at all of the planet models in the gallery, including the ones over your head! Choose a planet and compare it to the model of Earth.

1. Which other planet did you choose?

2. Which planet is bigger, Earth or your planet?

3. Does your planet seem to be hotter or colder than Earth?

4. How long would one orbit around the Sun take on the planet you choose?

5. How many moons does your planet have?
