Scouting America

Astronomy Merit Badge

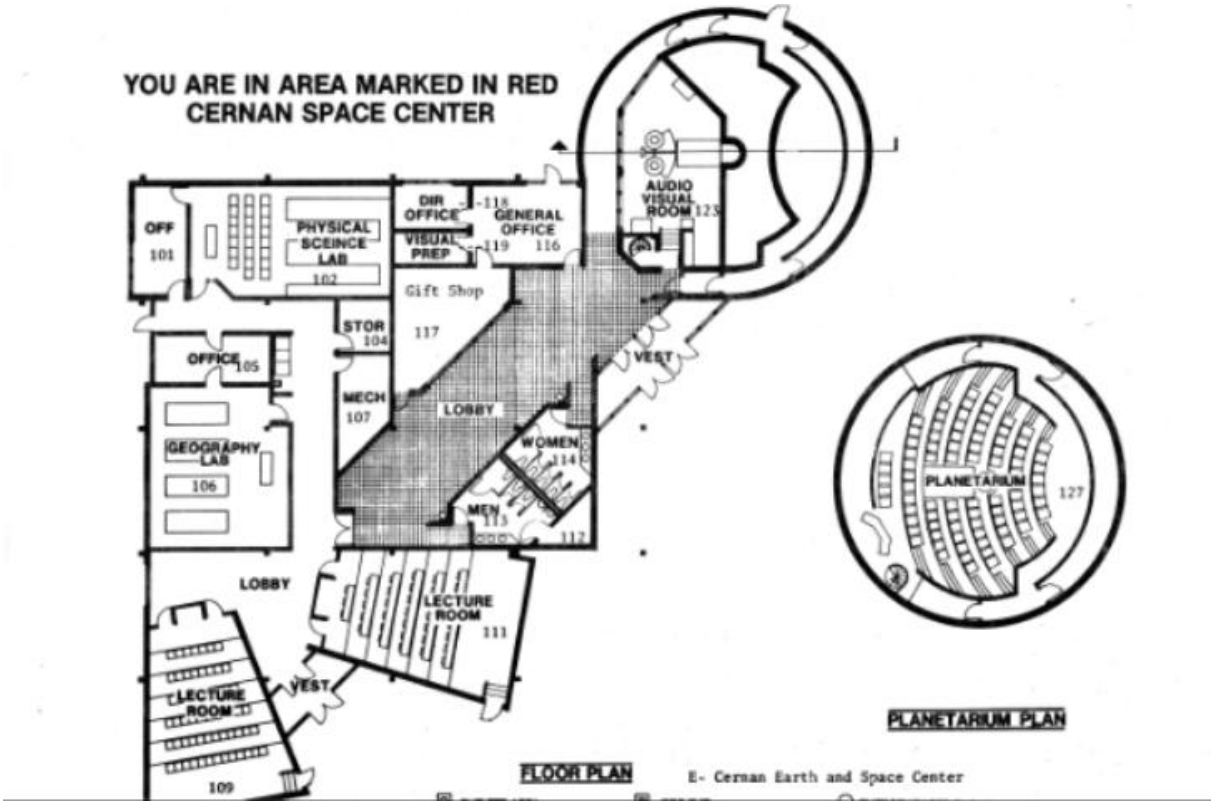
Workbook & Observation Journal

The work space provided for each requirement should be used by the Scout to make notes for discussing the item with his counselor, not for providing the full and complete answers. Each Scout must do each requirement.

SCOUT'S NAME

UNIT

PATROL



4) Identifying Stars & Constellations

a. Identify in the sky at least 10 constellations, at least four of which are in the zodiac.

- ☐ 1. _____
- ☐ 2. _____
- ☐ 3. _____
- ☐ 4. _____
- ☐ 5. _____
- ☐ 6. _____
- ☐ 7. _____
- ☐ 8. _____
- ☐ 9. _____
- ☐ 10. _____

Suggested Procedure:

Using a Star Finder (also called a Planisphere), go outside on a clear night, set the correct time and date, and orient yourself so that you and the Star Finder are aligned to true north. The visible field in your Star Finder should roughly correspond to what you see in the night sky.

Do an internet search for "star finder" or "planisphere". There are several good templates on the internet; all you need to construct your own is a printer, scissors, and a brass fastener.

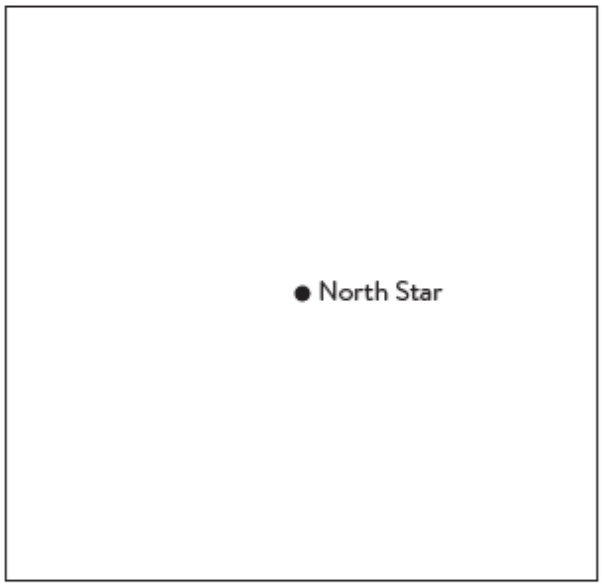
Sample: www.vicas.org/star-wheels.html

b. Identify at least eight conspicuous stars, five of which are of magnitude I or brighter.

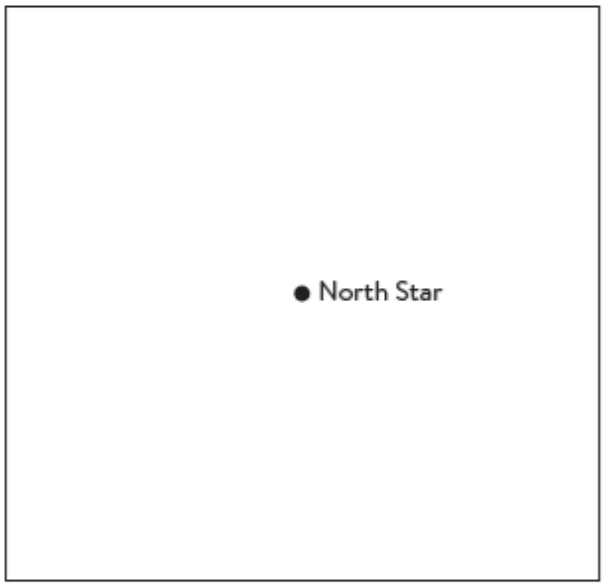
	Name of Star	Magnitude I or Brighter?
☐ 1.	_____	
☐ 2.	_____	
☐ 3.	_____	
☐ 4.	_____	
☐ 5.	_____	
☐ 6.	_____	
☐ 7.	_____	
☐ 8.	_____	

c. Make two sketches of the Big Dipper. In one sketch, show the Big Dipper's orientation in the early evning sky. In another sketch, show its position several hours later. In both sketches, show the North Star and the horizon. Record the date and time each sketch was made.

Date: / / Time:



Date: / / Time:



Suggested Procedure:

Choose a clear night when you will have the time and the ability to make observations some hours apart. Looking north, draw the position of the Big Dipper with relation to the North Star. Nothe the time next to it. Several hours later (six hours are best but at least four hours and preferable more than five hours) draw the position of the Big Dipper with relation to the North Star and noth the time next to it. (Be sure to clearly identify which digram represents which observation.)

5) Identifying the Planets

d. Observe a planet and describe what you saw.

_____

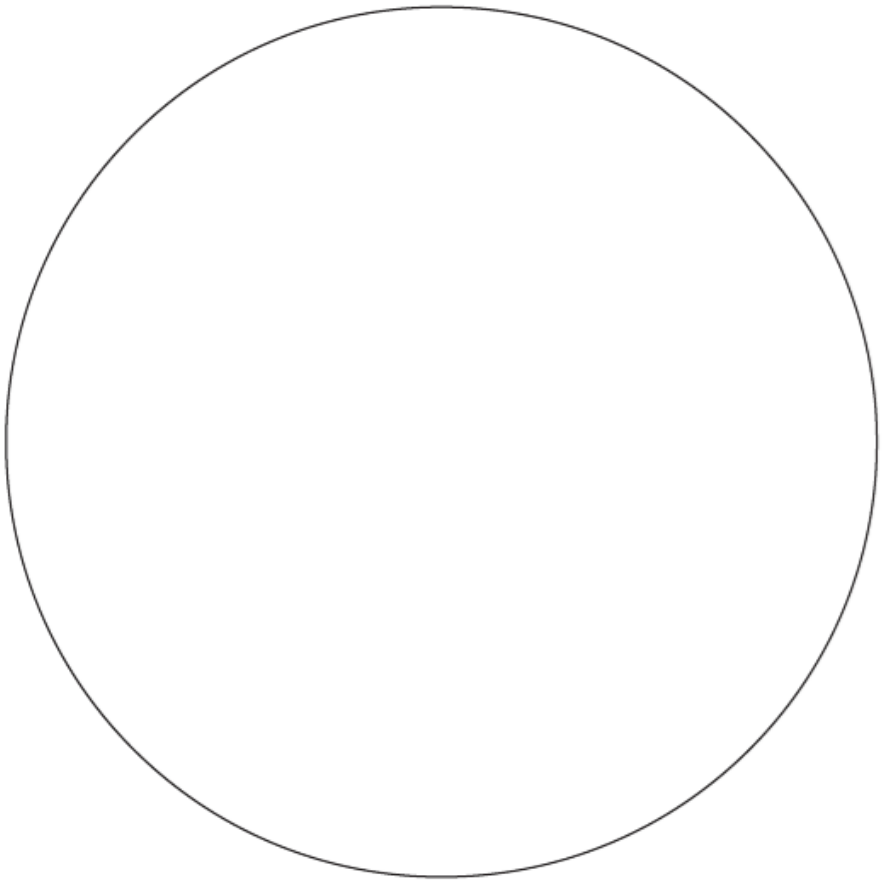
_____

_____

_____

6) Identifying the Moon

a. Sketch the face of the Moon and indicate at least five seas and five craters. Label these landmarks.



b. Sketch the phases and the daily position of the Moon, at the same hour and place, for four days in a row. Include landmarks on the horizon such as hills, trees, and buildings.

Date: / / Time:

Date: / / Time:

Date: / / Time:

Date: / / Time:

7) The Sun & Other Stars

c. Identify at least one red star, one blue star, and one yellow star (other than the Sun).

Red star: _____

Blue star: _____

Yellow star: _____

Explain the meaning of these colors.

_____

_____

8) Site Work

Visit a planetarium or astronomical observatory. Submit a written report, a scrapbook, or a video presentation afterward to your counselor that includes the following information:

1. If you had to explain the difference between a star and a planet to a younger Cub Scout, how would you describe it?

2. (Only answer if we had good weather.) What was the most surprising thing you observed through a telescope and why?

3. Why is light pollution a significant issue for astronomers, and what is one step we can take to reduce it?

4. Based on what you learned tonight, which constellation or star is now your favorite to locate, and how do you find it?

Bonus Question: 5. Who was Eugene Cernan and why is he important to us tonight?