Know Before You Go

- Bring your notebook

These requirements will be met during the event:

Explain what light pollution is and how it and air pollution affect astronomy.

Do the following:

a. Identify in the sky at least 10 constellations, at least four of which are in the zodiac.
b. Identify in the sky at least eight conspicuous stars, five of which are of magnitude 1 or brighter.
c. Make two sketches of the Big Dipper. In one sketch, show the Big Dipper's orientation in the early evening 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.
d. Explain what we see when we look at the Milky Way.

Do the following:

a. List the names of the five most visible planets. Explain which ones can appear in phases similar to lunar phases and which ones cannot, and explain why.
b. Using the Internet (with your parent's permission), books, and other resources, find out when each of the five most visible planets that you identified in requirement 5a will be observable in the evening sky during the next 12 months. Then compile this information in the form of a chart or table.
c. Describe the motion of the planets across the sky.
d. Observe a planet and describe what you saw

Do the following:

a. Sketch the face of the Moon and indicate at least five seas and five craters. Label these landmarks.
b. Sketch the phase and the daily position of the Moon, at the same hour and place, for four nights within a one week period. Include landmarks on the horizon such as hills, trees, and buildings. Explain the changes you observe.
c. List the factors that keep the Moon in orbit around Earth.
d. With the aid of diagrams, explain the relative positions of the Sun, Earth, and the Moon at the times of lunar and solar eclipses, and at the times of new, first-quarter, full, and last-quarter phases of the Moon.

Do the following:

a. Describe the composition of the Sun, its relationship to other stars, and some effects of its radiation on Earth's weather and communications.
b. Define sunspots and describe some of the effects they may have on solar radiation.
c. Identify at least one red star, one blue star, and one yellow star (other than the Sun). Explain the meaning of these colors.