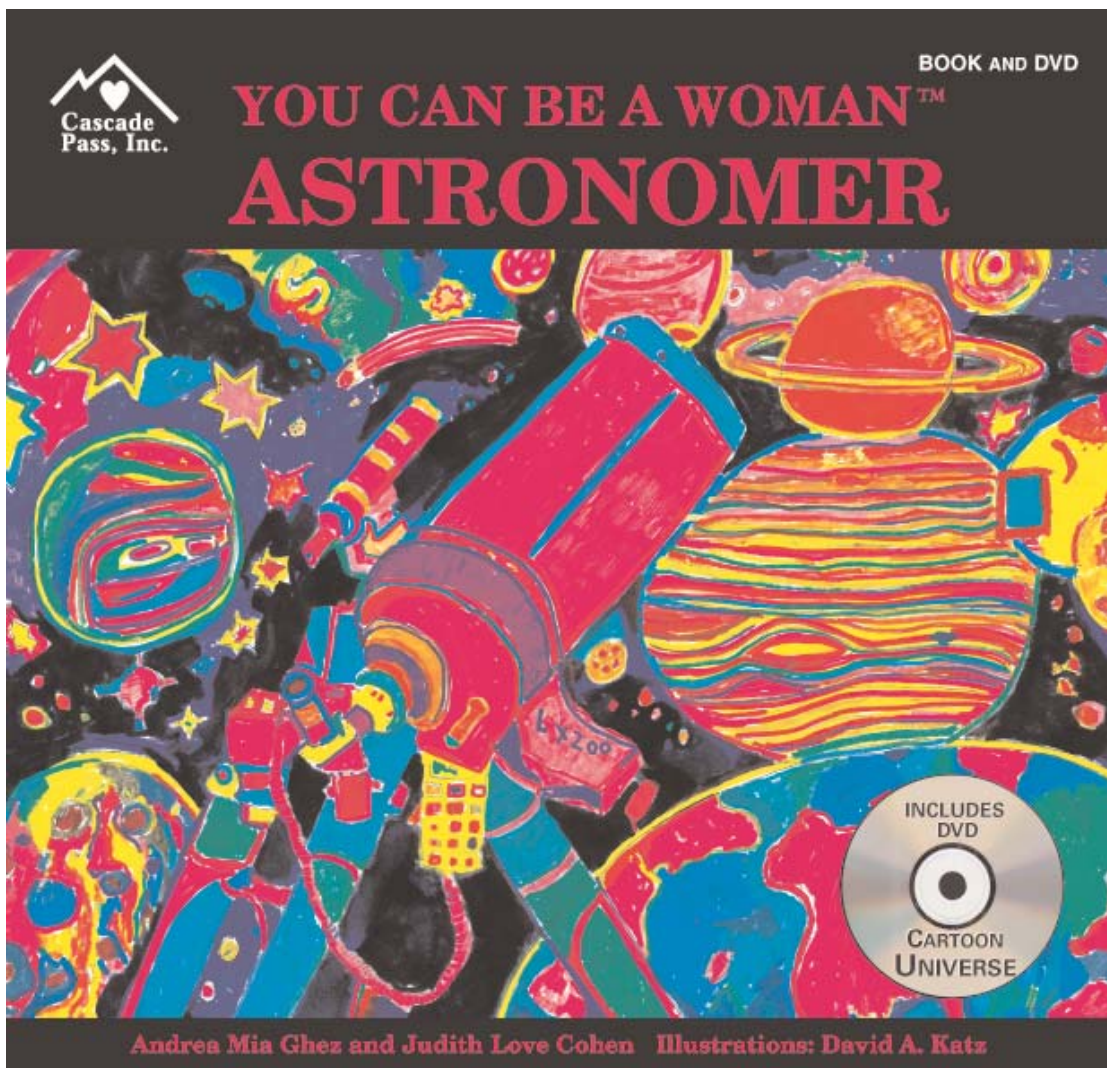


# YOU CAN BE A WOMAN™ ASTRONOMER



## YOU CAN BE A WOMAN ASTRONOMER

### SCIENCE LESSON PLAN 1

**PURPOSE:** To create a basic understanding of how the Earth, sun and moon rotate in their orbits and revolve around their own center line.

**MATERIALS:** A flashlight.

**PROCEDURES:** Have three children stand and act out the roles of Earth, sun and moon.

1. Show how the Earth goes through night and day. The first child plays the part of the sun and holds the flashlight. Have the second child play the part of the Earth, face the sun, and then turn away from it (revolution).
2. Show the Earth rotating around the sun to produce the seasons. The second child walks in a large circle around the sun. At specified spots on the circle, the Earth turns around for night and day. The rotation in a complete circle takes one year.
3. Show how the moon rotates around the Earth by slowly having the third child walk around the Earth (portrayed by the second child).

**CONCLUSIONS:** Why is there night and day on Earth?  
How long does it take, a short or long time, for the moon to rotate around the Earth? (Answer: one month)  
Compare the moon's rotation around the Earth with the Earth's rotation around the sun. How long is the Earth's rotation? (Answer: one year)

### SCIENCE LESSON PLAN 2

**PURPOSE:** To learn more about the members of our solar system family: the sun and the planets.

**MATERIALS:** Mural-sized paper, art supplies (crayons, paint, colored pencils, glitter, etc.), scissors, glue.

**PROCEDURES:** Have children plan and construct a mural to illustrate the relative sizes and positions of the sun, the inner planets, and the outer planets.

**CONCLUSIONS:** What do we know about the inner planets (Mercury, Venus, Earth, Mars)?  
What are the relative sizes? (Sun is a million times bigger than Earth.)  
What new things do we know about the five outer planets (Jupiter, Saturn, Uranus, Neptune and Pluto)?

**RESOURCES:** Posters, textbooks on astronomy or specific planets, magazine articles. Visit a local planetarium.



A Star Giving Out  
Different Light Waves

## SCIENCE LESSON PLAN 3

- PURPOSE:** To develop an understanding of the relation of the stars to Earth.
- MATERIALS:** Posterboard, drawing materials (crayons, colored pens, paper), scissors, glue, variety of books with skymaps.
- PROCEDURE:** Have the children divide the posterboard into different months: January, February, March, etc.  
Have the children draw or cut out pictures of constellations for each month and glue them onto the posterboard at the appropriate month. (Use a skymap for the appropriate hemisphere, Northern or Southern.)
- CONCLUSIONS:** How can you use the chart to help you navigate? (The two end stars in the big dipper point to the North Star.)  
How can the chart be used as a calendar?  
Why do we see different star patterns every month? (The Earth orbits the sun and is in a different position in the sky.)
- RESOURCES:** Library books and periodicals with sky maps such as The Space Atlas, Astronomy Magazine. On a clear evening, go outside to find the stars on the charts.



White Dwarf



The Big bang



A Red Giant