

# Space Explorer



Learning about the stars and planets and other things up there in the sky can open up a whole new world. Astronomers and astronauts use telescopes, satellites, spaceships, and other scientific equipment to study space. You, too, can take a step into space exploration.

## 1. The Night Sky

Go stargazing with an adult who knows the planets and the stars, or have an adult help you read a star map. Try to find the North Star, the Big Dipper, the Little Dipper, or other groups of stars. (They are called *constellations*.)

## Try It!

## 2. The Moon

Why does the moon look like it changes shape? One week it is full. The next time you see a half-moon. The moonlight you see is the sun shining on one side of the moon. As the earth and moon move around the sun, you see the moon in different places. You also see the parts of the moon that get sunlight. Draw the moon on the same day of the week for four weeks. What did you see?

Week 1	Week 2
Week 3	Week 4

### 3. Ready, Set, Jet!

Pretend that you are on a journey to a Girl Scout center on the moon. How would you dress for space? How would you move in space? Draw or create a costume for your journey. Show your drawing to others. Be ready to answer questions about your space outfit.

### 4. Shadow Time

Did you know that the earth rotates? It turns around much like a top. Have you seen the sun in different places in the sky? It looks like the sun is moving, but it is the earth that is moving. Try this activity to mark the earth's movement.

1. On a sunny day, take a stick and put it in the ground. It should cast a shadow. Mark the very end of the shadow by placing another stick in the ground.
2. Leave your sticks in the ground and return in an hour. Has something changed? Use a third stick to mark where your shadow is now. Do this once more in another hour. Which way did your shadow move? What do you think made your shadow move? Is there a way you could use this movement to tell time?

### 5. Star Maker

Pick a favorite constellation, or create a pattern of stars to make your own indoor star show!

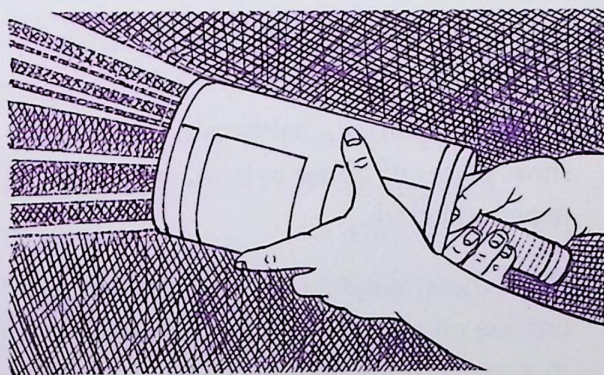
You will need:

- A cylinder-shaped oatmeal container.
- A flashlight.
- A large safety pin.

1. Draw your constellation on the bottom of the cylinder-shaped container on the outside. Make dots to mark where the stars are in the constellation. Using the safety pins, punch holes in the box where you made the dots.



2. At night or in a darkened room, place the flashlight in the box and shine it on a blank wall or on the ceiling.



3. Show your constellation to others. Tell them about your constellation. Put on a star show with friends who have made their own constellation boxes.