



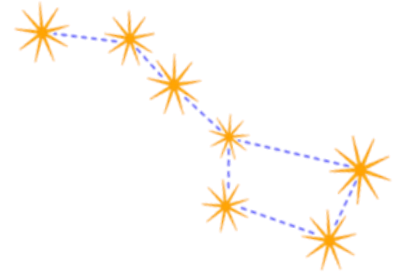
Fun with Constellations!

For this activity, you will create star patterns seen in the night sky right inside your own home! You can also use your imagination to create your own unique constellations!

Suggested Ages: PreK – 2nd Grade

Guiding Questions

- What is a star? What are groups of stars called?
- When do you see stars? Where are the stars during the day?
- Are all stars the same? What color is a star?
- Do stars form patterns? Do they move?
- What is our closest star? What do we use to see stars?
- What happens to your star pattern as you move closer to the wall? What happens when you move away from the wall? When you tip it up or down?



Materials

Constellation templates, flashlight*, a rubber band, a push pin, aluminum foil, 18-ounce cups (Styrofoam, paper or plastic), duct or masking tape, pen or pencil, black electrical tape, scissors

*If your flashlight has a shiny, reflective surface around the bulb, unscrew the top and remove the lens. Cover the shiny reflector with black electrical tape and reassemble the flashlight without the lens.

Activity Instructions

- Print out the constellation templates.
- Cut off the bottom of a cup and make sure your flashlight will fit inside.
- Cut a piece of aluminum foil big enough to fit over the mouth of the cup and secure it with a rubber band.
- Lay one of the constellation templates over the aluminum foil. Using a push pin, poke holes through the template and the foil wherever you see a star. You could also get creative! Make up your very own constellation without using a template!
- Insert the flashlight into the bottom of the cup. You may need to apply tape around the edges to ensure a snug fit. Turn the flashlight on and aim it at the wall in a darkened room. What do you see?
- If you find that your star pattern is not clear, try pointing your flashlight to the side of the interior of the cup rather than aiming it directly at the foil.
- Make more constellation cups using the remaining constellation templates.

Extensions

- A group of stars that seem to form a pattern are called a **constellation**.
- There are 88 official constellations.
- Many constellations were named after animals or mythological characters by ancient Greek astronomers.

- Constellations were very helpful to sailors navigating across oceans and to farmers who relied on them to keep track of planting and harvesting seasons.
- Constellations seem to move across the sky, but it is actually planet Earth that is moving as it rotates on its axis.
- We do not see stars during the day due to the extra light from the sun.
- A star is a huge glowing ball of hot gas. There are hundreds of billions of stars just in our Milky Way Galaxy.
- Stars can be red, orange, yellow, green, white and blue. A star's color indicates its temperature, with red being the coolest and blue the hottest.
- We use telescopes to see stars and planets in space.

Additional Activities

- Make star constellations using miniature marshmallows and toothpicks. Use a marshmallow for each of the stars and then connect them with toothpicks to create the pattern.
- Find out more about the names and stories of constellations: https://cms-tc.pbskids.org/parents/crafts-experiments/RJG-FLASHLIGHT-CONSTELLATIONS_StoriesC.pdf?mtime=20190430194310
- Books to read about stars and constellations:
Our Stars by Anne Rockwell
The Big Dipper by Franklyn M. Branley
Stars! Stars! Stars! by Nancy Elizabeth Wallace
Find the Constellations by H.A. Rey

Constellation Templates

