

Operation Constellation

Curriculum Link:

Understanding Earth and Space Systems - Space

Have you ever seen a constellation before? Constellations are recognizable patterns formed in the night sky by stars and are named after the animals, items, or mythological figures that they look like!

Materials You'll Need:

- Black construction paper
- Mini marshmallows
- Toothpicks
- Pencil paper clip or thumbtack
- Card stock paper
- Flashlight
- Scissors
- Scotch tape

Procedure:

STEM Q for You: Have you ever seen a constellation in the night sky? Which constellations have you seen? ... *Some famous constellations include Libra, Orion, Gemini, Hercules, the Big Dipper, and the Little Dipper!*

Part A: Marshmallow Constellations

Step 1

Choose your favourite constellation using a constellation map!

Step 2

Using the toothpicks and marshmallows, recreate your favourite constellation.

STEM Q for You: What do the toothpicks and marshmallows represent? ... *The marshmallows represent the stars that make up the constellations and the toothpicks represent the invisible lines that connect them.*

Part B: Flashlight Constellations

Step 3

If you have the following tools readily available, you can make your own constellations that light up just like the stars in the sky! The tools you will need to make constellations in this way are card stock paper, something sharp (pencil, paperclip, or thumbtack), a flashlight, scissors, and scotch tape.

Step 4

Use a pencil to trace a circle around the end of the flashlight onto the card stock.

Step 5

Use scissors to cut the circle out.

Step 6

Draw your favourite constellation onto the card stock circle, drawing dots to represent stars.

Step 7

Use the sharp item (pencil, paperclip or thumbtack) to poke holes through your paper where the dots are.

Step 8

Attach the card stock constellation to the end of your flashlight using the scotch tape.

Step 4

Turn off the lights in your workspace or move to a dark location. Turn on your flashlight and direct it towards a blank space on a wall. Watch your constellations shine brightly!

The STEM Behind The Fun:

What are constellations used for? ... *In the past, constellations were often used for directions. Travellers would follow the night constellations to get to where they wanted to go.*

Do you see the same constellations in the same place all the time? ... *No! We see different constellations at different times of the year.*

Why do the constellations we can see change? ... *Constellations appear to gradually shift west over time. This is caused by Earth's orbit around the Sun. In the summer, viewers are looking in a different direction in space at night than they are during the winter. Earth orbits our Sun once each year!*