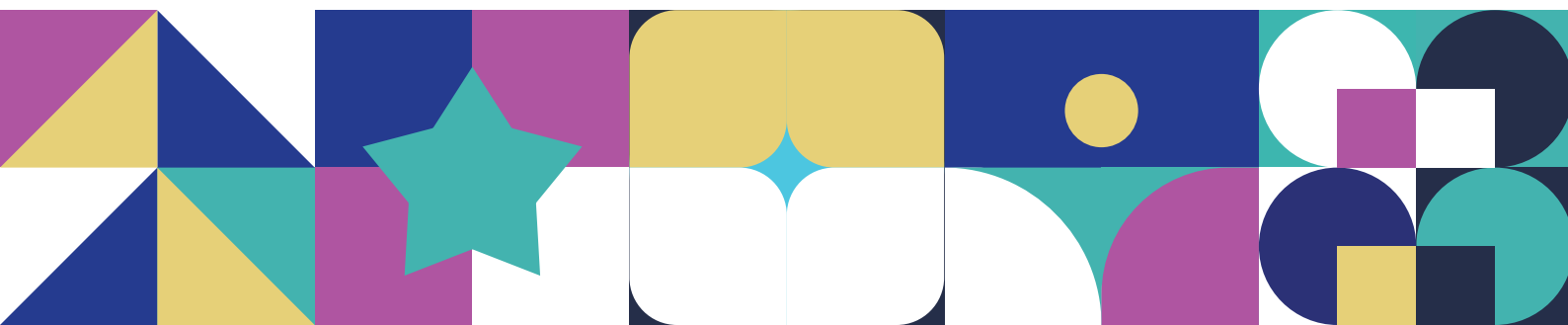


EPISODE 15
Experiments in
Space



Ages 4-7:

Scientists by their nature are inquisitive and seek knowledge about the world around them. They see how the world behaves and they try to find explanations; they find and confirm these explanations by using experiments. Being a scientist is part of being an astronaut, so let us be both today and learn more about our world! With the help of an adult, you could do one of the following experiments:

Plant capillaries:

Plants are different in many ways to humans, but they still need water to live. But plants don't have mouths, so how do they drink water? In this experiment we will see how water can move inside a plant using a few simple things. Ask an adult for help while doing this experiment to keep things safe and clean!

1. What you'll need:

- a. A piece of celery
- b. Food colouring
- c. A small bowl
- d. Water

2. Steps:

- a. Fill the bowl with some water.
- b. Mix a few drops of the food colouring into the water.
- c. Cut one end of the celery.
- d. Place the cut end of the celery into the coloured water.
- e. After a few hours, you will see that the coloured water has made its way up the celery stalk.

Ages 4-7:

Let's make parachutes!

Astronauts on the way back from space use parachutes to softly land their return pods. Scientists had to test multiple designs and materials to know which one works the best. We will do the same today at home! Ask an adult for help to prepare your parachute correctly and safely!

1. What you'll need:

- a. String or Yarn
- b. Scissors
- c. A small object (a toy, a rock, etc.)
- d. For the parachute, you need something light and somewhat flat, some options are:
 - i. a plastic bag
 - ii. a piece of paper
 - iii. a piece of tissue paper
- e. OPTIONAL: Glue

2. Steps:

- a. Cut the yarn/string into 4 pieces of equal length.
- b. Attach one end of each piece to your object, you can tie it or use the glue to attach it.
- c. Attach the other end of the strings to the corners of your parachute.
- d. Test your parachute. Try out the different materials, which material worked the best?

Ages 8-13:

Astronauts conduct all kinds of experiments in space, the different environment can mean that even the same experiment can have completely different results.

You could choose an experiment you did this year in your science class or think of a new experiment. How would the experiment look like in space? What would change? What would stay the same?



Share your results using [#ELFInSpace](#)



Ages 14+:

Experiments in space teach us a lot about how things are different outside of earth. Many things that we learned and made for space have become useful for life on earth, from our clothes to the food we eat.

What are some of the things that we learned and developed with space in mind that have made their way down to earth? What everyday items do you see changing in the future as space becomes more and more accessible? Combine science and your imagination and share with us your thoughts on the advancements of the future!

