

# FLUID REDISTRIBUTION

## AT HOME ACTIVITY

### DISCOVER THE EFFECTS OF MICROGRAVITY

- Get a plastic cup, a straw, water, and some clay.
- Fill the cup with water and seal one end of the straw with clay.
- Tilt the cup slightly and see what happens in the straw.
- Think about why this is happening in space.

### LEARN ABOUT FLUID REDISTRIBUTION

- Watch videos or read about space and astronauts.
- Understand that in space, fluids move differently without gravity.
- Know that this can cause things like puffiness in space travelers.

### APPLY YOUR KNOWLEDGE

- Think about why it's important for astronauts to understand fluid redistribution.
- Imagine other challenges astronauts face and how scientists help solve them.
- Share your thoughts with your friends or family.



## MATERIALS

- Clear, flexible tubing (approximately 3 feet per group)
- Two clear plastic cups per group
- Food coloring (optional)
- Drinking straws
- Modeling clay or Play-Doh
- Rulers
- Timers or stopwatches

## UNDERSTANDING FLUID REDISTRIBUTION

Fluid redistribution in space is a crucial aspect of astronaut health. In the microgravity of space, bodily fluids, including blood and water, shift towards the upper body, leading to effects like facial puffiness and congestion. This phenomenon is vital to understand for long-duration space missions and informs the design of spacecraft, spacesuits, and medical countermeasures. It showcases the interdisciplinary nature of science, physics, and engineering in solving real-world problems in space exploration.

## FLUIDS IN SPACE

- Turn learning about fluid redistribution in space into an exciting experiment! All you need are a plastic cup, a straw, water, and some clay or Play-Doh.
- While you're doing this, talk about why astronauts in space might experience changes in their bodies because of this fluid movement.
- It's a hands-on activity that helps you understand how fluid behaves in space. Enjoy the experiment and the fascinating world of space exploration!

