

Whitney Water Center Learning from Home

Episode 10: Buoyancy

Introduction

Did you ever wonder why you float in water? It's because of buoyancy! *Buoyancy* is the force that pushes up on the object floating in the water. If the buoyancy force pushing up is greater than the force of gravity pushing down, the object in the water will remain floating.

We are going to demonstrate buoyancy with foil and marbles. If we placed the individual marbles in the water, gravity is greater than buoyancy and the marbles sink. When we distribute the weight of the marbles in a foil boat, buoyancy is greater than gravity and the marbles in the foil boat float.

Experiment 1:

Materials

- Two small pieces of aluminum foil, both the same size
- Small container of water
- Marbles, pennies, paper clips, or any other item that is identical in size and shape.

Link to video

Facebook: <https://www.facebook.com/scctrwa/videos/619715412210448/>

YouTube: <https://www.youtube.com/watch?v=PjcOqEedyzE>

Estimating Buoyancy

1. Create a boat from a piece of foil.
2. Estimate how many marbles (or other like objects) your boat can hold and stay afloat.
Record your estimate on the table below.
3. Add marbles one at a time until the boat sinks.
4. Record your results on the table.
5. Redesign your boat and repeat the experiment!

Draw your Boat	Estimated number of marbles	Actual number of marbles

