

Whitney Water Center Learning from Home

Episode 11: Water and Density

Introduction

Even though salt water and tap water look the same, they are not the same density. *Density* the measure of mass compared to its volume. For example, one cup of feathers is much heavier than one cup of rocks; the rocks are denser than the feathers. We will see through experimentation that salt water does not have the same density as tap water.

Experiment 1: Do salt water and tap water mix?

Materials

- Empty container
- Food coloring (2 different colors)
- Table salt
- Two separate containers of water
 - Salt water
 - The salt water solution can be prepared ahead of time by mix one part table salt with four parts tap water. Mix well; most of the salt should dissolve into solution.
 - Add food coloring
 - Tap Water
 - Add food coloring (different from the saltwater)

Link to video

Facebook: Please view on YouTube

YouTube: <https://www.youtube.com/watch?v=rd2iwyxSmuc>

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

