

Sink or Float



STEM • GET OUTSIDE! • OUR OCEAN

Calling all scientists! It is up to you to figure out if an object will sink or float in water! Use your science observations skills to guess (predict) whether an item will sink or float. Then test out your prediction (experiment) and get your answer (result)!

Materials:

- A bucket, bowl or container (Your bathtub will work!)
- Water
- 5 or more objects to test (can be found inside or outside)
- Sink or Float Data Sheet
- A pen, pencil, or marker

Directions:

1. Fill up a bucket, bowl, bathtub, or other container with ~12 inches of water.
2. Gather all of your objects to be tested.
3. Before testing each object, record the object you are about to test and your prediction (will the object sink or float) in the Sink or Float Sheet.
4. Place the object in the water, and record the results!
5. Repeat.



Questions

1. What item do you think will float to the top?
2. What item do you think will sink to the bottom?
3. How are these objects different from each other? How are they the same?
4. What causes items to float rather than sink?
5. Do you think buoyancy would change in salt water vs. fresh water?

More Info:

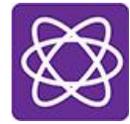
Whether an object sinks or floats depends on its density. Everything is made of **molecules**. Molecules are tiny particles that can only be seen with a microscope. Some objects have molecules that are packed closely together. Others have molecules that are packed more loosely. This is **density**. Objects with tightly packed molecules are denser and sink. Objects with more loosely packed molecules are less dense and float. Hollow things often float too as air is less dense than water. ***Less dense objects float and more dense objects sink!***

Another thing to consider is the shape of an object. A ball of clay sinks right away. However, can you change the shape of the clay, to make it float? Generally, the more surface area an object has touching the water, the more **buoyant** (able or apt to stay afloat or rise to the top of a liquid or gas) it is. The force of the water pushing back up against the object helps it to float. When an object floats, it pushes water out of the way (**displacement**). Have you ever noticed that when you climb into a bath the water level rises? That's because your body displaces the water.



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Sink or Float Data Sheet

Record your predictions and results of your sink or float activity using this chart:

Item:	Sink?	Float?	Results:

