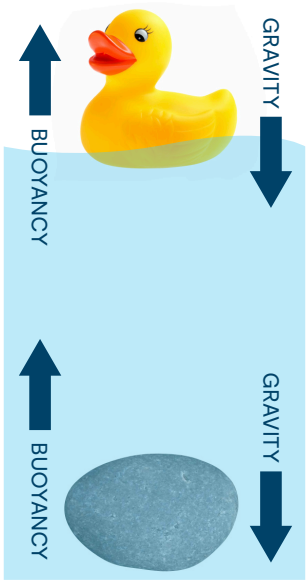
CURIOSITY AT HOME

SINK OR FLOAT

Explore buoyancy by playing Sink or Float.

Buoyancy is the upward force of a fluid (liquid or gas) on an object that is fully or partially submerged in the fluid.

Gravity is the downward force of a body or planet (Earth) has that pulls objects towards its center.



MATERIALS

- Tub or pan of water
- Objects that are safe to be placed in water

Experiment continued on next page...

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CURIOSITY AT HOME

SINK OR FLOAT

6–8 GRADE EXPLORATION

An objects density determines if it will sink, float, or hover.
Find 5 – 6 objects around the house that are safe to be placed in water.

1. Using a scale, find the mass (g) of the objects and record your results in the chart below.

   (If you don't have a scale, you can download a digital scale app that will weight objects up to around 100g)

2. Calculate the volume of the objects and record it in the chart below.

   Volume of cuboid = L x W x H

   Volume of a cylinder = $\pi r^2 h$

3. Calculate the density and record it in the chart below.

   $$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

4. The Density of water is 1.0 g/cm^3

   Based on your calculations of density. Which objects do you think will sink, float, or hover in the water? Record your predictions in the chart below?

5. Place each object in the tub of water. Does it sink, float, or hover? Record your observations in the chart below?

The Density of water is 1.0 g/cm^3

Object	**Mass** (g)	**Volume** (cm^3)	**Density** (g/cm^3)	**Prediction** (Sink, Float, Hover)	**Observation**

How do mass and volume relate to each other to determine if something sinks or floats.

If you placed these objects in a fluid with a density of 2.0 g/cm^3 would any objects that float in water, sink?

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