

Density: Sink and Float for Solids - Activity Sheet

Objective: _____

Question to investigate

Why does the heavier candle float and the lighter piece of clay sink?

Materials for each group

- 2 tea light candles in their metal containers
- Clay
- Water in a beaker
- Electronic balance
- Dropper

ACTIVITY

Procedure

Compare the density of wax and water.

1. Use the wick to pull one candle out of its container.
2. Put the empty container onto the electronic balance and carefully pour water into the empty metal container until it fills the container to the same level as the candle in the other container. You may use a dropper to add the last bit of water and prevent spilling. The goal is to compare the mass of equal volumes of wax and water. Record the mass below.
3. Take it off the balance and wipe up any water that may have spilled.
4. Place the container with wax on the electronic scale.
5. Record the mass:

Mass of water _____ g Mass of wax _____ g

Which weighs more, wax or an equal volume of water? _____

Which is more dense, wax or water? _____ How do you know?

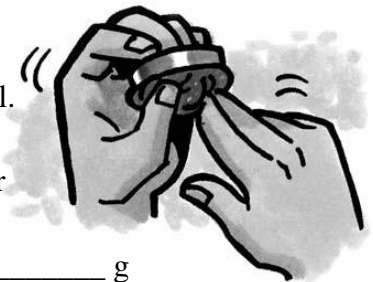
Compare the density of clay and water

6. Again, you will fill the empty container with water until it is full. **DO THIS ON THE ELECTRONIC SCALE** to prevent spilling. While transporting. Add a few drops to the one you used earlier. If you kept the water in it. Record the mass below.

Mass of water _____ g Mass of clay _____ g

Which weighs more, clay or an equal volume of water? _____

Which is more dense, clay or water? _____ How do you know?



Knowing the density of an object can help predict if it will sink or float in water.

If an object is *more dense* than water, would you expect it to sink or float? _____

If an object is *less dense* than water, would you expect it to sink or float? _____

Remember that the density of water is 1 g/cm^3 . Predict whether the following objects will sink or float.

Will these objects sink or float?		
Object	Density (g/cm^3)	Sink or float
Cork	0.2 – 0.3	
Anchor	7.8	
Wooden oar	0.4	
Apple	0.9	
Orange	0.84	
Orange without peel	1.16	