

Can You Find Volume Without a Ruler?

Name: _____ Date: _____

Safety: avoid overflow, read the water level at eye level, use only objects that can safely get wet, and dry spills right away.

1. Predictions

Compare your objects before measuring. Which has the greatest volume? Which will float or sink? Explain your clues.

2. Measure, Calculate, and Test

Object name	Initial water level (mL)	Final water level (mL)	Volume (mL and cm ³)	Mass (g)	Density (g/cm ³)	Float/sink prediction	Actual result

Helpful formulas

Final water level - Initial water level = Displaced water = Object volume

1 mL = 1 cm³

Density = Mass / Volume

3. Calculator comparison

After calculating by hand, use the Displacement & Density Calculator. What matched? What did you correct?

4. Reflection

Which object surprised you most?

How did density help explain floating or sinking?

What could affect real-world float/sink tests besides density?

What would you measure more carefully next time?

5. Real-World Challenge

Choose a waterproof object. Measure its volume by displacement, calculate density, test whether it floats, and explain the result using mass, volume, average density, and buoyant force.
