SINK OR FLOAT LAB

NAME

CLASS / DATE

01 QUESTION

How does an object's density compare to water's density in predicting whether it sinks or floats?

02 PREDICT BEFORE YOU MEASURE

BEFORE TESTING, I THINK…

○ more objects will float ○ more objects will sink ○ I am not sure yet

Predict each object's result first; then record the actual classification in a separate column.

03 VARIABLES

I CHANGE (INDEPENDENT)	I MEASURE (DEPENDENT)

I KEEP THE SAME (CONTROLLED) · OBJECT TESTED CHANGES. KEEP THE SAME ROOM-TEMPERATURE WATER AND BASIN; LOWER EACH OBJECT GENTLY.

04 MATERIALS

- ☐ Stable basin of water
- ☐ Wood, metal, plastic, rubber and orange samples
- ☐ Balance and volume tool if measuring
- ☐ Towel and labels

05 PROCEDURE

SAFETY Use large, clean, non-breakable objects with no sharp edges. Avoid small parts around young children, and never put test objects or water in your mouth. Lower objects gently into a stable basin, keep water away from electrical equipment, and dry spills promptly.

1. **PREDICT** For each labeled object, choose sink or float and write one reason before placing it in water. ☐
2. **TEST GENTLY** Lower one object at a time into the same water. Wait for ripples to settle. ☐
3. **CLASSIFY** Record the actual result separately from your prediction. ☐
4. **MEASURE IF POSSIBLE** For measurable objects, find mass and volume; density = mass ÷ volume. Otherwise mark not measured. ☐
5. **EXPLAIN A SURPRISE** Compare density with water and consider size, shape or trapped air. ☐

DATA AND EXPLANATION

NAME

CLASS / DATE

06 RECORD YOUR OBSERVATIONS

OBJECT	PREDICTION	ACTUAL RESULT	DENSITY (G/ML), IF MEASURED
Wooden block			
Metal spoon			
Plastic bottle cap			
Rubber eraser			
Orange with peel			

Water is about 1 g/mL. Use mass ÷ volume only for samples you measured; leave other densities as not measured.

07 SORT BY WHAT YOU OBSERVED

Draw one object floating and one sinking. Label each object and its actual result; show the waterline.

08 EXPLAIN IT WITH EVIDENCE

CLAIM

EVIDENCE

REASONING

Reasoning must use: prediction · actual result · density · mass · volume

09 THINK FURTHER

Which object could you change or measure more carefully to test whether shape or trapped air affects its result?