

Internet Activity: Density

1. To get started, familiarize yourself with the equipment in this laboratory. Choose an object, and drag it onto the scale to determine its mass. Then determine its volume by placing it in the graduated cylinder. Finally, drop the object in the container of liquid. Did it sink or float? Try some other objects.

When you feel comfortable with the equipment, **make sure the density of the liquid is set to 1.0 g/cc** and complete the following table:

Object	Float (Y/N)	Mass	Volume	Density = Mass/Volume
a				
b				
c				
d				
e				
f				
g				
h				
i				
j				

Density of liquid in the pail = _____

2. Look for trends that determine the floatation of objects by examining the data in your table. First look at the relationship between mass and floatation.

- A. Do the objects with high mass all sink? **YES or NO**
- B. Do the objects with low mass all float? **YES or NO**
- C. Could you tell, just from the mass of an object, whether it would sink or float? **EXPLAIN.**

3. Next, look at the relationship between volume and floatation.

- A. Do the objects with high volume all sink? **YES or NO**
- B. Do the objects with low volume all float? **YES or NO**
- C. Could you tell, just from the volume of an object, whether it would sink or float? **EXPLAIN.**

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4. The density of an object is defined as its mass divided by its volume. If two objects have the same volume but different masses, the one with the larger mass is more dense.

A. Do the objects with high density all sink? **YES or NO**

B. Do the objects with low density all float? **YES or NO**

C. Will all objects with a density greater than a particular value always sink or float?

YES or NO

D. How does the value in 4C compare with the density of the liquid? **EXPLAIN.**

5. Remove all objects from the pail. **Change the density of the pail liquid to 5 g/cc.** Refer to your table, and make a prediction about which objects will sink in this new liquid and which will float. Test your predictions by placing the objects in the pail.

PREDICTION:

Explain what happened?