

Lab: Internet Density

Name: _____

Period: _____

Date: _____

Mr. Hodder

Question: How can you predict whether an object will float or sink?

Materials: Density Gizmo from ExploreLearning.com

Procedures

1. Use the scale to measure the mass and the graduated cylinder to find the volume of each object.
2. Determine the density of each object using $D=M/V$
3. Rank the items from least to greatest density.

Object	Mass (g)	Volume (cm ³)	Density (g/cm ³)	Rank
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Procedures (cont.)

4. Use the slide bar to set the density of the fluid in the container to each of the densities labeled in the table. Determine if the object sinks or floats in the container.

Object	Liquid density (sinks or floats)		
	1.0 g/mL	2.0 g/mL	5.0 g/mL
1			
3			
4			
6			
9			
12			

Procedures (cont.)

5. Gold is one of the densest substances known, with a density of 19.3g/cm^3 . Use the scale and graduated cylinder to determine the mass and volume of each crown. From there determine each ones density and which one is made of pure gold.

Crown	Mass (g)	Volume (cm^3)	Density (g/cm^3)
A			
B			
C			

Explore Learning Assessment Questions (found below Gizmo)

1. _____
2. _____
3. _____
4. _____
5. _____

Analysis

1. Which of the three crowns was made of gold? _____ Explain _____

2. What is the relationship between the object density, the liquid density and the tendency of the object to float? _____

3. Does mass alone determine whether an object will sink or float? _____ Explain _____

4. Does volume alone determine whether an object will sink or float? _____ Explain _____

5. What is true about the density of all the floating objects? _____

6. What is true about the density of all the sinking objects? _____
