

# Experiment 9

## DATA SHEET

Name: \_\_\_\_\_

Section: \_\_\_\_\_

### A. Determining the Density of Regularly Shaped Objects

Shape of Object	Mass of Object (g)	Dimensions of Object (cm)	Calculated Volume of Object (cm <sup>3</sup> )	Calculated Density of Object (g/cm <sup>3</sup> )	Substance
Sphere		Diameter =			
Silver prism*		_____x_____x_____			
Gold prism*		_____x_____x_____			

*\*note: silver and gold referring to the colors, not the substances!*

### B. Determining the Density of Irregularly Shaped Objects

Mass of Dry Graduated Cylinder: \_\_\_\_\_g

Object Description	Mass of Object (g)	Volume of Water in Cylinder (cm <sup>3</sup> )	Volume of Water in Cylinder with Object (cm <sup>3</sup> )	Volume of Object (cm <sup>3</sup> )	Calculated Density of Object (g/cm <sup>3</sup> )
Small					
Large					

### C. Comparison of Volume-Finding methods volume from Part C

Shape of Object	Volume From Part A	Volume From Water Displacement	Difference in Volumes

#### D. Determining the Density of Water

Trial	Mass of Dry Graduated Cylinder (g)	Mass of Cylinder and Water (g)	Mass of Water (g)	Volume of Water (cm <sup>3</sup> )	Calculated Density of Water (g/cm <sup>3</sup> )
1					
2					

Average density of water \_\_\_\_\_

Percent Error of calculated density of water \_\_\_\_\_

#### QUESTIONS

1. Compare the two methods used in parts A and C to find the volume of a regularly shaped object. Which method do you believe was more accurate? Why?
2. What are the most probable causes for error in your calculation of the density of water?
3. If you were given a hollow metal sphere, could you calculate the density of the metal by using the methods in this experiment? Why or why not?
4. How could you determine the density of your body?