

# Density Lab

**Directions:** Print out this handout to use as a guide for the lab that is attached.

**Introduction:** This week's lab is presented in quiz form. When completing this lab, please remember to convert your length, width and height measurements from millimeters to centimeters [1 cm = 10 mm]. The measurements from the caliper are given in the form: xx.xx mm. The measurements for the mass from the balance are given in grams in the form xx.x g.

## Equations

$$\text{Volume} = \text{length} \times \text{width} \times \text{height}$$

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

$$\% \text{ error} = \left| \frac{\text{Standard Value} - \text{Experimental Value}}{\text{Standard Value}} \right| \times 100 \%$$

**Objectives:** To calculate the density of a block, determine its composition based on density, and calculate the percent error in your measurements.

## **Steps:**

1. Record the length of the block in centimeters: \_\_\_\_\_
2. Record the width of the block in centimeters: \_\_\_\_\_
3. Record the height of the block in centimeters: \_\_\_\_\_
4. Record the mass of the block in grams: \_\_\_\_\_
5. Calculate the volume of the block to 2-decimals: \_\_\_\_\_
6. Calculate the density of the block to 2-decimals: \_\_\_\_\_
7. Determine the makeup of the block from the table: \_\_\_\_\_
8. Calculate the percent error in your calculations: \_\_\_\_\_