

## Metric Lab

### Metric Length Lab

#### Part A: Prefix Values Smaller than a Meter

Find something in the classroom that is about:

1. 1 meter in length: \_\_\_\_\_
2. 1 decimeter in length: \_\_\_\_\_
3. 1 centimeter in length: \_\_\_\_\_
4. 1 millimeter in length: \_\_\_\_\_

#### Part B: Decimal Relationships

1. Measure the length of a science desk in centimeters and record the length below, be sure to include the unit 'cm' to your measurement.
2. Move the decimal point to record the length in each of the following units .... (be sure to include the unit in the measurement).
  - a. kilometers: \_\_\_\_\_
  - b. hectometers: \_\_\_\_\_
  - c. decameters: \_\_\_\_\_
  - d. meters: \_\_\_\_\_
  - e. decimeters: \_\_\_\_\_
  - f. centimeters: \_\_\_\_\_
  - g. millimeters: \_\_\_\_\_

### Metric Volume Lab

#### Part A: Volume by Formula

1. Use a ruler with a metric scale to measure the length, width, and height of a textbook in **centimeters**.
2. Use the formula to calculate the volume of the textbook.

Volume = Length X Width X Height (**be sure to include the units with the numbers**)

Volume = \_\_\_\_\_ X \_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_

5. Measure and calculate the volume of the dice in **millimeters**

Volume = Length X Width X Height (**be sure to include the units with the numbers**)

Volume = \_\_\_\_\_ X \_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_

#### Part B: Volume Displacement

1. Place 15 mL of water in a graduated cylinder
2. Drop a marble into the graduated cylinder and record the new volume
3. **Subtract** the original volume of water from the volume of the water after the marble has been added to find the volume of the marble.

Original Volume of Water \_\_\_\_\_ mL

Volume of Water with Marble \_\_\_\_\_ mL

Volume of Marble \_\_\_\_\_ mL

## Metric Mass Lab

### Part A: Measuring Mass on the Triple Beam Balance Scale

1. Make sure all of the balances are set at zero and that the needle points to the line.
2. Place the dice on the scale. Beginning with the smallest balance, move the balances until the needle points to the line.
3. Record the mass of the dice, including the unit:

\_\_\_\_\_

4. Measure the mass of the rock, using the same method.
  5. Record the mass of the rock, including the unit:
- \_\_\_\_\_
6. Measure the mass of the bag of salt, using the same method.
  7. Record the mass of the bag of salt, including the unit:

\_\_\_\_\_

### Part B: Measuring the Mass of Liquids on the Triple Beam Balance Scale

1. Place an empty cup on the triple beam balance and record the mass, below.
2. Pour 15 mL of water into the cup and record the mass, below.
3. **Subtract** the mass of the cup from the mass of the cup with water to obtain the mass of the water

Mass of Empty Cup \_\_\_\_\_ g

Mass of Cup with 15 mL of water \_\_\_\_\_ g

Mass of water \_\_\_\_\_ g

### Part C: Does Air have Mass?

1. Place a balloon in an empty cup on the triple beam balance and record the mass of the balloon and cup, below.
2. Blow up and tie off the balloon and place it in the cup on the triple beam balance. Record the mass, below.
3. Subtract the mass of cup and the empty balloon to find the mass of the air.

Mass of empty balloon and cup \_\_\_\_\_ g

Mass of blown up balloon and cup \_\_\_\_\_ g

Mass of air \_\_\_\_\_ g