

Name _____ Date _____ Block _____

Mini Measurement Lab

Purpose

To practice taking common laboratory measurements.
To practice using metric units.

Materials

Metric ruler	Marbles	10 and 50 mL graduated cylinders
Various size blocks	Small and large beakers	Triple beam balance
Celsius thermometer		

Procedure

You and your lab partner(s) will visit each of 5 lab stations where you will have a few minutes to complete various tasks as described below with the materials that you find at the lab station. Be sure to fill in all of the required information from each station. When you finish taking the required measurements you will have to complete the questions at the end of this handout.

Note: You will not all be starting at station 1 so pay attention to exactly where you begin, you will be instructed as to which direction you will be moving.

Data-Be sure to include the proper units for each measurement!

1. Station 1 -measuring length

Use the rulers found at this station to measure the length of various objects:

A. Length of this piece of paper: _____

B. Width of this piece of paper : _____

Use the meter stick found at this station to measure:

C. Height of the lab table: _____

2. Station 2 -measuring liquid volume

Use the graduated cylinders found at this station to measure the volume of the liquid in each graduated cylinder.
DO NOT SPILL OR ADD ANY LIQUID TO THESE.

A. Volume of liquid in small graduated cylinder: _____

B. Volume of liquid in large graduated cylinder: _____

3. Station 3 -measuring temperature

Use the thermometers found at this station to measure the temperatures of the contents of each beaker. Make sure to wait until the temperature stops changing and to record the proper units.
DO NOT DROP THE THERMOMETERS OR REMOVE THE "ROLL GUARD"

A. Temperature of liquid A: _____

B. Temperature of liquid B-(ice water): _____

OVER FOR STATION 4 AND 5 →

4. Station 4 -measuring the volume of objects

Use the rulers found at this station to find the required measurements below for each object.
You will calculate the actual volume later.

A. *Wood rectangular block (measure in centimeters)*

Length _____ Width _____ Height _____

B. *Volume of a rock:* Fill the graduated cylinder to 50 ml. CAREFULLY place the rock inside the graduated cylinder WITHOUT spilling any of the water that is inside of the cylinder. Record the new level of water. You will calculate the actual volume later.

Volume of graduated cylinder with rock: _____

5. Station 5 -measuring mass

The time will come when you will have to find the mass of a substance that cannot be weighed without a container (liquid, powder or substance that may not stay put). The following steps will help you to find the mass of a substance when it must be placed into a container.

Record the following:

collected following

a.	mass of empty beaker	
b.	mass of beaker with 10 marbles inside	
c.	mass of beaker with 20 marbles inside	

Analysis: Use the data during the lab to answer the questions.

Station 1

1. Would the result have been the same if you had used a ruler to measure the lab table instead of the meter stick? Why/why not?

Station 2

1. How much greater is the volume in the large graduated cylinder than the volume in the small graduated cylinder?

Station 3

1. Approximately, what is the temperature of liquid B in Fahrenheit (F)?

Station 4

1. Use the formula length x width x height to determine the volume of the rectangular block.
2. What is the volume of the rock?

Station 5

1. What is the mass of the 10 marbles?

Conclusion: What is the purpose of using the metric system in science?