

Name: _____
Hour: _____ Date: _____

Chemistry: *Lab – Measuring in Science*

Introduction:

Observe the safety rules of the lab. Return the lab equipment when you are finished with it, and make sure that the lab tables are neat and clean. Ask your teacher (but don't expect the final answer) if you have questions. Be sure to show your work and include the proper units.

Marble Mass

a. Determine the total mass of 15 marbles. Tell what you did to get your answer and show your work.

b. Find the *average* mass of a marble. Show your work.

c. Do all marbles have this average mass?

YES or NO

Weigh 3 individual marbles and write down their masses to check your guess.

Sheet Thickness

You need to find the **thickness** of one sheet (NOT one page) of paper of your textbook. Take your data, label it clearly below, and show your calculations. [Vernier Caliper or Ruler?]

Measuring and Converting Temperature

a. List the 3 different temperature systems. Write the word out; don't just use the symbols.

1. _____ 2. _____ 3. _____

The formulas for converting between these systems are as follows:

$$^{\circ}\text{C} = 0.555(^{\circ}\text{F} - 32)$$

$$^{\circ}\text{F} = 1.8(^{\circ}\text{C}) + 32$$

$$\text{K} = ^{\circ}\text{C} + 273$$

- b. Using a Celcius thermometer, record the 3 different temperatures below. Using your calculator, then convert the temperatures to the other 2 temperature systems. (NOTE: Use the bend of your elbow to find your body temperature.)

	°C	°F	K
classroom			
body temperature			
tap water			

Measuring Volume

- a. Use 1) a metric ruler/caliper and 2) an appropriately-sized beaker or graduated cylinder to measure the volume of a cube (in mL) in two different ways. Show your work.

measurements and formula	water displacement
Answer = _____	Answer = _____

- b. Using the technique best suited to this purpose, find the volume of the irregularly-shaped object provided. Describe clearly what you did in the space below, label your data, and show your calculations.