

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## Measuring Liquid (Food Coloring) Lab

### Purpose:

To develop skill in measuring with a graduated cylinder

To use the metric system in measuring

### Materials:

Red, blue, and yellow food coloring

test tube stand

Water

50-mL graduated cylinder

3 beakers

labels for test tubes

6 test tubes

### Procedure: (EACH STUDENT MUST PERFORM AT LEAST ONE OF THE MEASUREMENTS AND ONE OF THE POURS)

- 1.) Label each test tube, A, B, C, D, E, or F.
- 2.) Fill three beakers with water. Add a few drops of food coloring to each beaker so that you have one beaker of red water, one of blue water, and one of yellow water.
- 3.) Into test tube A measure 19 mL of red water.
- 4.) Into test tube C measure 18 mL of yellow water.
- 5.) Into test tube E measure 18 mL of blue water.
- 6.) *From test tube C* measure 4 mL and pour the 4 mL into test tube D.
- 7.) *From test tube E* measure 7 mL and add it to test tube D. Mix.
- 8.) From the beaker of blue water measure 4 mL and pour it into test tube F. Then from the beaker of red water measure 7 mL and add it to test tube F. Mix.
- 9.) *From test tube A* measure 8 mL of water and pour it into test tube B. *From test tube C* measure 3 mL and add it to test tube B. Mix.

### Observations and Conclusions:

Complete the data table below – be sure to use the correct units.

Test Tube	Color of Water	Height of Water	Total Amount of Water
A			
B			
C			
D			
E			
F			

**Additional Questions:**

- 10.) Using graph paper, draw a bar graph to represent the quantity of the final 6 liquids. Be sure to include the essential elements of a graph: Title, interval on axis, label axis.
- 11.) Using graph paper, draw a bar graph to represent the height of water in each of the 6 test tubes. Be sure to include the essential elements of a graph.
- 12.) What are your observations after completing all the steps in the experiment?
- 13.) Identify some errors that could occur during the conduct of this experiment? How would you prevent each error from occurring if you were to perform this experiment again?

14) Convert the following problems:

$$1000 \text{ mg} = \underline{\hspace{2cm}} \text{ g}$$

$$1 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$$

$$160 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$$

$$14 \text{ km} = \underline{\hspace{2cm}} \text{ m}$$

$$109 \text{ g} = \underline{\hspace{2cm}} \text{ kg}$$

$$250 \text{ m} = \underline{\hspace{2cm}} \text{ km}$$

Kilo=1000 units

Hecto= 100 units

Deka= 10 units

Base= 1 unit

Deci= 0.1 units

Centi= 0.01 units

Milli= 0.001 units

King Henry Died By Drinking Chocolate Milk