2. Length of desk _____ mm _____ cm _____ dm _____ m

   Width of desk _____ mm _____ cm _____ dm _____ m

3. Volume of: small test tube _____ mL _____ L

   medium test tube _____ mL _____ L

   large test tube _____ mL _____ L

4. Size of graduated cylinder	10.0mL	25.0mL	50.0mL	100.0mL
Mass of cylinder + water	_____	_____	_____	_____
Mass of empty cylinder	_____	_____	_____	_____
Mass of water	_____	_____	_____	_____
Density of water	_____	_____	_____	_____

Calculations:

1) Density- On a separate sheet of paper show your work for <u>one</u> of the four density calculations. This is called a <u>sample calculation</u>. The sample calculation should contain three parts: 1) equation 2) filled-in equation with units 3) answer to correct number of significant digits with units.

density = mass / volume
= 2.86 g / 1.89 mL
= 1.51 g / mL

2) Average Density - Average the four densities. THINK!

3) Percent Error - Percent error tells how much difference there is between your calculation and the value that is considered to be correct.

% error = (difference / true value) x 100

% error = (student value - true value / true value) x 100

The correct, or true, value for the density of water at room temperature is 1.00 g / mL. Percent error can be positive or negative.

4) Graph - Plot points for volume and mass of water data on the graph paper provided. Do not draw a line through the plotted points until the teacher has instructed you in the proper way to draw best-fit lines. Be sure to include your name and date in the upper right hand corner of the graph.

Questions:

1. What happens to mass of water as the volume is increased? What happens to density? Explain.

2. Slope is equal to rise over run, or change in y over the change in x. What is represented on th y-axis? What is represented on the x-axis?

3. Use your answers to question 2 to determine what the slope of your graph represents.

4. What is a direct proportion? How does your graph illustrate a direct proportion?

5. Based on your graph, what is the mass of 36.0 mL of water? This process is called interpellation.

6. Use interpellation to determine the volume of 750 grams of water?

7. What does a positive percent error indicate? Negative % error?