Name _____ Date _____ Period _____

NUMBERS, MATH & MEASUREMENTS IN SCIENCE: LABORATORY PRACTICAL

Activity #1
Lab Station _____: Calculating Average Mass

Instructions: Using the balance at your lab table, measure the mass of each individual and fill out the table. After recording the mass, calculate the average mass of your items. Remember, CLEARLY SHOW ALL OF YOUR CALCULATIONS, CORRECT NUMBER OF SIGNIFICANT FIGURES and include your measurements.

Show Calculations HERE.

	Mass of Item (in grams)
Quarter A	
Quarter B	
Quarter C	
Quarter D	
AVERAGE MASS (2) Sig. Figs.	

Activity #2
Lab Station _____: Calculating Percent Error

Instructions: Using the balance at your lab table, measure the mass of each individual and fill out the table. After recording the mass, calculate the average mass of your items. **Calculate the percent error, if the known value of an eraser is 25.05g.** Remember, CLEARLY SHOW ALL OF YOUR CALCULATIONS, CORRECT NUMBER OF SIGNIFICANT FIGURES and include your measurements.

Show Calculations HERE.

	Mass of Item (in grams)
Eraser A	
Eraser B	
Eraser C	
Eraser D	
AVERAGE MASS (3) Sig. Figs.	
% Error (2) Sig. Figs.	

NUMBERS, MATH & MEASUREMENTS IN SCIENCE: LABORATORY PRACTICAL (cont.)

<u>Activity #3</u>
Lab Station _____: Accuracy & Precision
Instructions: Using the balance at your lab table, measure the mass of each individual and fill out the table. Look at each of the measurements in the table and complete the questions below. **The known value of a marker is 12.02g**

	Mass of Item (in grams)
Marker A	
Marker B	
Marker C	
Marker D	

1. Make a claim about the accuracy and precision of your measurements compared to the known value.

2. What is your reasoning to support your claim?

3. What specific evidence (data) do you have to support your reasoning?

<u>Activity #4</u>
Lab Station _____: SI Unit Card Sort
Instructions: Using the cards at your table, sort each SI Unit, Abbreviation and Instrument into the following categories below. Fill out the table below.

Measurement	Length	Mass	Volume	Temperature	Time
SI Unit	Meter		Liter		
Abbreviation		kg		K	
Instrument			Graduated cylinder		

Name _____ Date _____ Period _____

NUMBERS, MATH & MEASUREMENTS IN SCIENCE: LABORATORY PRACTICAL

Activity #5

Lab Station _____: Measuring with a Meter Stick

Instructions: Using the meter stick at your lab table, measure the length and width of the items **ONLY IN CENTIMETERS** and fill out the table. After recording the length in centimeters, convert all your measurements to millimeters and inches. Remember, CLEARLY SHOW ALL OF YOUR CALCULATIONS, CORRECT NUMBER OF SIGNIFICANT FIGURES and include your measurements.

Show Calculations HERE.

	cm	mm	in
Length of a Book			
Width of a Book			
Length of a Laptop			
Width of a Laptop			
Length of a Lab Table			
Width of a Lab Table			
2.54 cm = 1 inch		**1 cm = 10 mm**	

Activity #6

Lab Station _____: Using a Graduated Cylinder

Instructions: Using the graduated cylinder, determine the density of a penny. Do (3) trials to determine the precision of the density.

1. Measure the mass of **(2) copper wires together**. Record the mass in grams.

2. Fill the graduated cylinder to **30mL**.

3. Drop each wire separately into the graduated cylinder.

4. Record the new volume of water displaced in the graduated cylinder.

5. Calculate the density.

6. Remember, CLEARLY SHOW ALL OF YOUR CALCULATIONS, CORRECT NUMBER OF SIGNIFICANT FIGURES and include your measurements.

	Density = Mass ÷ Volume		
	Wire #1		
Mass of Wires (grams)			
Vol. of Water (mL) **Vfinal - 30 ml**			
Density (g/mL) (3) Sig. Figs.			
CIRCLE ONE about the Density	**LOW ~ MEDIUM ~ HIGH Precision**		

NUMBERS, MATH & MEASUREMENTS IN SCIENCE: LABORATORY PRACTICAL

Activity #7

Lab Station _____: Using a Graduated Cylinder

Instructions: Using the graduated cylinder at your lab table, <u>**measure the volume of water of EACH BEAKER SEPARATELY**</u> and fill out the table. Convert your volume in milliliters (mL) into Liters (L). After recording the volumes, calculate the average volume of your items. Remember, CLEARLY SHOW ALL OF YOUR CALCULATIONS, CORRECT NUMBER OF SIGNIFICANT FIGURES and include your measurements.

Show Calculations HERE.

	Volume (mL)	Volume (L)
Beaker A		
Beaker B		
Beaker C		
Beaker D		
Average Volume (4) Sig. Figs.		

Activity #8

Lab Station _____: Laboratory Equipment

Instructions: Looking at the laboratory equipment on the table, <u>**LABEL AND DRAW**</u> each of the pieces of equipment in the table below.