Chemistry 11/12 Laboratory Report instructions

Date:_____ Name:_____

TITLE Partner(s):_____

(centered and underlined) Blk:_____

OBJECTIVES:

Objectives are numbered statements describing the intended learning outcomes of the lab.

PROCEDURE:

The procedure is to be in the form of a **FLOW CHART** with a series of **boxes** which point progressively from one step to the next. It starts and stops with an action in a **circle.**

DATA AND OBSERVATIONS:

1. Data is entered into a DATA TABLE that is either computer generated or drawn with a ruler
2. Observations are recorded without INTERPRETATION
3. Data and observations are recorded as they occur
4. You will usually use the suggested table given in your lab text or handout
5. Be sure to include enough space to record all data and observations in the data table.

ANALYSIS:

Detailed calculations are performed to satisfy the previously stated objectives.
The calculation method may be obtained from three possible sources:

a. "Questions" or "Questions and Calculations" from the lab text
b. Calculations given to you by your teacher

Here are some sample ANALYSIS calculations:

1. Determining the **mass** of an object:

Combined mass - mass of empty container = mass of object

97.46 g - 95.34 g = 2.12 g

2. Calculating **volume used** during an experiment:

Final volume – initial volume = volume used

10.7 mL - 5.3 mL = 5.4 mL

3. Determining **average volume used** during an experiment:

(Volume 1 + Volume 2 + Volume 3) ÷ 3 = average volume used

(2.12 mL+ 2.25 mL + 2.02 mL) ÷ 3 = 2.13 mL

NOTICE THAT *ALL CALCULATIONS* PERFORMED ON THE DATA MUST BE INCLUDED IN THIS SECTION. THE CALCULATION FORMAT IS FIRST DESCRIBED AND THEN THE VALUES ARE MANIPULATED. THE ANSWER IS ALWAYS GIVEN WITH THE APPROPRIATE UNITS AND TO THE CORRECT NUMBER OF SIGNIFICANT FIGURES. SHOW ALL YOUR WORK!

DISCUSSION:

1. Answer "Follow- up Questions" taken from your Lab text (if told to do so).
2. Or answer any other “questions” given to you by your teacher.

Please note: Answers must be written so that the question being asked is clear OR you must write out the question first!

SOURCES OF ERROR:

1. Indicate how uncontrollable events can affect your results by at least 2%

YOU MUST LIST FOLLOWING ERRORS FOR THE EQUIPMENT USED IN GATHERING DATA DURING THE EXPERIMENT

FOR EXAMPLE:

Centigram Balance	± 0.001 g
Electronic Scale	± 0.01 g
Graduated Cylinder, 10 mL	± 0.2 mL
Graduated Cylinder, 25 mL	± 0.3 mL
Graduated Cylinder, 50 mL	± 0.5 mL
Beaker, 100 mL	± 5 mL
Beaker, 250 mL	± 10 mL
Beaker, 600 mL	± 20 mL
50 mL Burette	± 0.10 mL
10 mL Pipet	±0.01 mL
Thermometer	± 1 $^{\circ}$C

2. **Do NOT** include mistakes made by yourself or your partner. If you know that you have made a mistake, you must go back and correct it.

CONCLUSION:

1. Include **a brief paragraph(s)** that answers the objectives of the lab…be sure to state the most important **QUANTITATIVE RESULTS** taken from your ANALYSIS (if the lab involved numerical data)
2. Include in your conclusion include an explanation of how this lab somehow relates to every-day life.
3. Provide a reference for this explanation using ACS (American Chemistry Society) style https://www.concordia.ca/library/guides/chemistry/acs.html