2017-18 Formal Lab Report Guide, 10/11/17

Why write a formal lab report? Scientific papers are a little different from writing research papers in English, Literature, or History. The goal of a scientific paper or a lab report is to communicate succinctly but with enough details that your colleagues can reproduce your work in their laboratories. The ability of your colleagues to reproduce your work will enable them to either confirm or refute your findings. Remember, in order for a hypothesis to become a theory, the hypothesis must withstand multiple experiments over time.

A formal lab report must be typed neatly, follow all spelling, and grammatical rules. The paragraphs must read logically so that they are easily understood.

Expectations

1. Title of Experiment, Name and Date all centered at the top of the page.
2. Divide the lab report into 5 sections: Introduction, Methods, Results, Conclusions, References. **Label each section with the appropriate title in bold: Introduction, Methods, Results, Conclusions, and References.**
3. The introduction will contain at least one paragraph which will explain the background information and any interesting information behind the experiment. These paragraphs should lead the reader to why you did the experiment which will be a single "purpose" statement. A single sentence which will include "The purpose of this experiment is to…."
4. The Methods section should consist of at least one paragraph (more paragraphs if needed) explaining what was done. Remember not to use "I" statements. No list of materials is required but you should include what was used in your explanation of the procedure so someone else could replicate your experiment.
5. The Data section includes all results of what you have done. **Numbered list of sentences are acceptable here.** There should be no interpretation of the the results here! This might include charts, graphs, tables, etc. This section must be represent the data clearly so that it is easily understood by the reader. **What did you observe with your five senses: touch, see, hear, smell (not so much taste!) This may include some numbered sentences, some charts, tables, or graphs as needed.**
6. The calculations section is the section where you use the data collected to demonstrate scientific principles. Show all work here! **Label what the calculations are. This is where you plug in the results into an equation in order to obtain an answer.**
7. The conclusion section is where the data and resulting calculations are interpreted. This is where an explanation is given for the data and results that occurred and how they either support or refute the purpose. This should be **at least two paragraphs**. This area should also include any potential errors or ways to improve the experiment if any exist.
8. Always reference your book in **the APA format!!**

Example below:

Experiment 10.2 Titration of a Base
Mrs. Tracy Beasley
2/14/18

Introduction

One to two well written paragraphs explaining the pertinent chemistry concepts explored in this experiment. The last sentence should include the purpose statement.

Methods

Number the changes that were made or simply indicate that there were no changes.

1. No Changes were made in the procedure. OR
1. The amount of acid used was 50 ml instead of 10 ml.
2. A cup was used instead of a beaker.

Data/Results

List by number the data or results obtained. Draw pictures, charts, or graphs as needed.
No paragraph needed.

Calculations

This should not be measurements but should be calculations used based on the results. For example, if you measured the mass and the volume of a substance in an experiment, the mass and volume would be listed in Data section. If you need to calculate the density, this is the section to show the work for that equation.

Conclusions

Two well written paragraphs explaining the results. Discuss things that may impact the experimental data and how it would impact the results.

References

APA format for your textbook.