Results and Discussion

Results

The results section presents the outcomes or results from the experiment in a logical sequence. You have written results similar to this in "Data and Calculations" sections in other lab reports. Data is given without any interpretation (which is provided in the discussion section of the paper). Your goal here is to present all of your data from the experiment in an organized manner without elaborating beyond the scope of reporting results.

Content

Use the following information to help guide your writing of the results section:

- Report all data, including important negative results. Do not offer any interpretation.
- Tables of data and Figures (or drawings) are good to include, but they should be done on the computer, labeled appropriately, and referenced in the text.
- Calculated values (percent yield, percent error, averages, etc.) should also be reported here.

Style

- Use the past tense. Write in paragraphs.
- Report, don't interpret data or draw conclusions.
- Label all Tables and Figures. Give them titles, but refer to them in the text as Fig. 1, Table 1, etc.
- Don't be repetitive with data! Data in tables should not be repeated in the text.
- All numbers should have appropriate significant figures and units.

Discussion

In past lab reports that you have written, this section was referred to as the "Conclusion" section. It is meant to take the data from the results section and offer the interpretation or analysis needed for drawing conclusions. Essentially the discussion section is meant to interpret and analyze data in the context of what information is already known on the topic. In this way, it serves as a combination of the introduction and the results.

Content

- Analyze and interpret the data from your results section. You may restate or reference the results as needed, but do not get repetitive with data. Also, do not introduce new results!
- Draw conclusions for the entire experiment.
- Relate your results to the principles and background information provided in the introduction.

Guiding Questions

- Do the results answer the central question/purpose of the experiment?
- What do the results mean? Why are they important?
- Do the findings agree with what others have shown (the accepted value)?
- Why do the results differ? What errors could have been present?
- What would the next step be? Is additional research needed on this topic?

Style

- Present tense is preferred (past may be acceptable as well): "The data suggests…" NOT "The data suggested…"
- Do not introduce new results! All results should be reported already. It is okay to reference or restate results that have already been included.

Outline

1. Should contain:
    a. Relationship between results and original hypothesis (the central idea)
    b. Analysis of results based on other studies (connects to the Introduction)
    c. Explanations for unexpected results, including sources for error
2. Avoid repeating the Results section. This section is for actually drawing conclusions so only repeat data that is absolutely necessary for discussion. Do not introduce new results!
3. Propose specific ideas for further study or future changes to the same experiment. What would you have done differently?
4. Finish by summarizing principal points and restating conclusions.