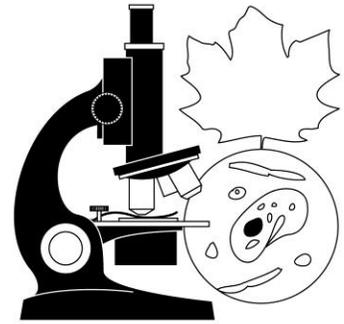


Writing a Lab Report- Biology

Tips before you begin:

- Read the entire laboratory investigation over again. It may seem redundant, having already completed the lab, but it is important to thoroughly understand why the data was collected before it can be properly interpreted.
- Have all paperwork and data (including charts, graphs, pictures, etc.) organized and readily available.
- Develop a concise and explanatory title that is reflective of the entire experiment.



I. The Introduction

Typically only a paragraph, the introduction is important to prepare the reader for the information that will follow without going too far in-depth into the particulars of the experiment. Explain the question that is being asked, what led to its formation (what was observed), and provide citable background information from reputable sources that can elucidate the reason for the experiment. Perhaps the most important component of the introduction is the hypothesis and prediction. Clearly state it. For example, "It is hypothesized that..." and avoid using "I" or "we."

II. Methods and Materials

The purpose of this section is to allow the reader to accurately replicate the experiment exactly the same in order to test the results. It is important, however, not to dedicate too much space to this paragraph. Be clear, include all necessary materials and procedural steps, but do not add "fluff." This is not the place to explain any of the outcomes.

III. Results/ Data

Any and all data tables, well-labeled graphs, and diagrams should be included in this section, but save the interpretations for the following paragraphs. Describe the data and be sure to include all units and labels where appropriate. Relevant calculations and observations should also be provided here. All graphs, charts, and tables are expected to have formal and descriptive titles, as well as labeled axes and legends.

The choice of graph for data is very important! In general:

- Bar graphs compare single data categories (I.e. a single independent variable) between multiple groups under a set environment or time. Comparison data is best organized in this manner.
- Scatter plots (with or without a line of best fit model) can show trends and relationships among multiple groups or within the population of a single group. The basis here is individual data points.
- Another common graph for biology is the box-and-whisker plot. These allow for the best spread of data distribution for interpretation by giving the maximum and minimum values as well as the standard deviation and average values.

IV. Conclusion

The main component of the conclusion is to allow for the interpretation of the data. Explain what the graphs and charts show and whether or not this is supportive of the initial hypothesis.

Summarize the data that you provided in the previous paragraph, but do not repeat it verbatim.

- Rewrite it in your own words, and tell the reader why you feel the hypothesis was or was not supported while giving further details into the meaning of the collected information. Could errors have occurred? If so, where and why? Could the errors be attributed to human error (having taken place within the measuring or in regard to a controlled variable), or did uncontrolled variables have a significant influence? Were there confounding variables? Be specific!

V. Discussion

This is another area where reputable sources should be cited.

- How can the scientific literature explain what was observed?
- Why might the results differ from expectations that arose from the introductory or background information?
- If the experiment were replicated, how could it be improved?
- It is important for this paragraph to leave the reader feeling that the implications of the procedures completed and results obtained will allow for the better understanding of the topic and provides a basis for further investigation.

