

Writing a Laboratory Report

The final step in any scientific investigation is to communicate your findings. This is done in the form of a laboratory report or, for more involved studies, a scientific paper. There is a standard format that is generally used for both lab reports and papers. The sections are:

- o Title
- o Introduction
- o Materials and Methods
- o Results
- o Discussion
- o Literature Cited

Title: The title should be brief, descriptive, and should clearly indicate the nature of the study. For example, “increased sodium level decreases enzyme activity” is better than “The effect of sodium on enzymes.”

Introduction: This section is usually just a few paragraphs long. Here you introduce the reader to the topic and spell out the problem or question being addressed, describe the hypothesis that is being tested, and the predictions of possible experimental results. Parenthetical references required.

Materials and Methods (procedure): In this section you are telling the reader how you tested your idea. After reading your Materials and Method section, the reader should be able to perform the experiment themselves. This section is written in paragraph form. In this section you identify your constants, independent and dependent variables.

Results: In this section you organize and summarize your results. Tables and graphs should be used whenever possible. These must be clearly labeled. It is alright to point out trends or oddities in the data in the Results section, but do not offer any explanations in this section. Include calculations in this section when appropriate.

Discussion: here you interpret the results and answer the question that you outlined in your introduction. If the experiment “didn’t work” offer explanations as to why not and indicate ways to fix your procedure. Suggest new questions that might be investigated based on your findings.

Literature Cited: If you referenced any other sources, they must be listed here. If you do have references they will probably be in the Introduction, although the calculation of % error in the Results section may also include references to things like the CRC Handbook or to your textbook. The standard way in which sources are cited in the scientific literature is : Last name, first and middle initial. Year. Title of article. Title of Journal. Volume:pages. For a book the publisher is listed instead of the journal title.