

Features of a Sample Report Format

Title of Experiment/Report

Author's Name
Partner's Name(s)

Date of Experiment
Lab Assistant's Name

Abstract:

Provide a brief description of what you determined in this experiment. Obviously, you won't be able to write this section until you have completed the experiment and have a good grasp of the concept that was developed as a result of interpreting the data. Usually there is (1) a statement of the purpose/problem, followed by a (2) very brief statement of method, a (3) brief statement of results, and finally the (4) conclusion/implications. Write the abstract **LAST**.

Introduction:

This section sets the table for the sections that follow. Describe the theoretical foundations of the experiment and introduce the theories and/or procedures you will be using in the experiment. What's the purpose of the experiment? The Introduction often mirrors/previews the Conclusions for the experiment.

Experimental:

[Draw a labeled diagram of the experimental set up **if necessary**, not trivial items like lonely test tubes]

Give a description of the actual technique used in the experiment. As appropriate, use a labeled **diagram** to describe the experimental setup. This section should be written in past tense and passive voice. For example, "When HCl was added to the solution ..." Not "Now I add HCl to the solution". Indicate the equipment used and all quantities you measured (refer to tables as necessary for quantities). Do not duplicate the procedure as written in your lab manual; summarize or paraphrase. Avoid stating procedures you can assume the reader of the report knows, e.g., "*The spectrophotometer was calibrated by first turning on the power switch...*" Mention should be made either here or in the results/discussion of the purpose of steps in the procedure that are not self evident. For instance, the nesting of two beakers inside each other is a critical step in one lab. It helps to reduce a certain kind of error, and by stating the reasoning for these steps, you will achieve a higher grade.

Results and Discussion:

This section will generally include all **observations, data and calculations involving data (including graphs) obtained from the laboratory and answers to any questions in the laboratory manual**. All graphs should be clearly labeled with proper axis labels (and units), names of authors, etc. All data and calculations should be presented in an organized fashion. Tabulate (put in an organized table, rather than listing on a single line) data whenever possible. When generating graphs, make sure that the graph and the associated legends etc. are large enough to clearly show the data and any trends. For some experiments, a relatively small graph embedded in the text is sufficient; for other experiment, the amount and complexity of data presented in the graph make it difficult to present clearly unless the graph is on a separate page. If a graph is on a separate page, it should cover at least 75% of the page. All data and results should indicate proper significant figures! Sources of error (often a result of a limitation in the procedure) should also be included in this section. This shows a reader the limitations of the techniques employed and identifies areas that could be improved in the future.

The questions in the laboratory manual should be addressed in this section in narrative form (not "Yes, No, Blue, 10°C" but rather "as the central atom of the polyatomic ion moved to the right on the periodic table, an overall trend in increasing pH was noted, consistent with notes presented in lecture"), referring back to the experimental results you have obtained. The question number (in parentheses before the discussion statement) may be indicated for clarity. These questions are designed to guide you through the important features of the laboratory exercise and to demonstrate to the instructor that you have understood the principles involved.

Conclusions:

This section should reflect the overall results of the experiment. What does it all mean? Ask yourself, what did I learn; what is the final/overall result from the experiment? This section should be short! If you find yourself writing extensive amounts in this section they should probably be written in the discussion section! Some summarized data should be presented, in many cases it will be the same bit of data that will be included in the abstract. Refer back to the theories, procedures and techniques mentioned in the Introduction and how the Experimental and Results & Discussion sections explored those theories, procedures and techniques.