

Writing a lab report

Basic report: Based on the "Science Student's Handbook" 3rd edition. *Edited by Dawson Science Program, 2008. pp. 3-4. Section 2.1: Basic Laboratory Report.*

The Laboratory report starts with a COVER PAGE and should have these information:

- Title and number of the experiment
- Name of the student with the student's ID number
- Partner's name
- Course number with the Lab section
- Name of the instructor (in your case: D. Baril)
- Dawson College, followed by the date the experiment was performed

In your report, each of the following sections have to be presented and clearly indicated:

- INTRODUCTION: State the objectives of the experiment.
An outline of the basic concepts and theories used.
It should include the chemical formula used and any mathematical equation useful for the calculations.
Don't write the equation within the text. Each equation is written on a single line and the units are defined.
Do not copy the lab manual, use your own words.
- PROCEDURE: The complete procedure should not be written in the lab report.
The mention " *Refer to manual laboratory pages x to y* " is sufficient.
However, any modification to the procedure has to be written and justified.
- DATA AND RESULTS: Tabulate your data (experimental and calculated) whenever possible.
Include statistical and error analysis if required by the teacher.
- SAMPLE CALCULATIONS: Refer to your lab manual to know which sample calculation to perform. Give a short one-line title for each of calculation.
Show only one example for every type of calculation.
- CONCLUSION: Start with a short summary of the results obtained.
Were the objectives stated in the introduction achieved?
Analyze the results in terms of the theory as outlined in the introduction.
List AT LEAST THREE relevant sources of error in this experiment.
- REFERENCES: Useful information obtained from the literature like the Lab manual, web link, etc.
- ANNEX: Last section of the lab report often made-up of of several pages.
Answers to the questions specified by your instructor.
Signed Data Sheet if this sheet was not already used in the section Data and Results.
Graph obtained from the experiment. Only one curve per page. Each graph should have a meaningful title and the axes have to be correctly labeled.

Notes:

- Report must be typed or written in ink
- A laboratory report is a complete document by itself. The reader should be able to understand the theory, the purpose of the experiment and the results without having to read any other references.
- Be clear and concise. Use short sentences with no more than one idea per sentence.
- A scientific report uses a writing style that is impersonal. Avoid using words such as “I”, “me”, etc.
- It is always better to do your own table of data and to put the laboratory data sheet at the end of the lab report (Annex). However, if the laboratory data sheet is "clean" enough, it could directly be used as your table of data in the lab report. In this case, it has to be completely filled.
- Attention to the significant figures in your calculations and never forget to carry out the units.
- Double-check your data. Often, the values of the Lab Data Sheet are different from the one on the Data and Results section. Same thing with the values between the Data and Results section and the Sample Calculations. Comment any discrepancies between the Lab Data Sheet values and the one presented in the report. NEVER change a value with “Liquid-paper” in the Lab Data Sheet. If you change a value, the original one should still be readable.
- You should not mention sources of errors that are relevant to all labs. Identify the one that are specific to this lab. “Reading error”, “human error”, “calculation error”, etc. are not specific sources of error and should never appear in a report.
- A poor conclusion is a source of large penalties. Comment your results as much as possible. This is not an analysis of your abilities to do the lab, but rather an impartial analysis of the results obtained. Be critical.