University of New Hampshire
Connors Writing Center

Lab Reports

Writers can use this handout as a guide for discussing the effectiveness and completeness of a lab report. However, each course and each instructor may have different requirements; always compare this handout to the guidelines or grading rubric provided by the lab instructor. Do not use this handout as a set of definite rules for writing a lab report!

Suggested Order for Writing

- This varies, but professionals who prepare research reports tend to draft the different sections in the following order: Results, Materials and Methods, Introduction, Discussion, References (Literature Cited), Abstract.
- For "cookbook" (educational) labs or when the data require very little interpretation or analysis, students may prefer to begin with the Introduction and write straight through to the Discussion/Conclusion.
- An abstract, if required, should always be written last.

Style

- Use concise, formal language.
- Use past tense to describe the experiment.
- Unless directed otherwise by the professor, avoid the use of first person pronouns (e.g. I, we, my, our). Focus on the object, problem, or apparatus being studied, not the researcher.

Order of a Finished Report

- **Title**
  The title of a lab report gives a succinct description of the object and (if applicable) area of study.
  - Briefly describe the study in a phrase of 10 words or less.

- **Abstract (if required)**
  An abstract provides the reader with a brief, one-paragraph summary of the topic, results, and significance of the lab report.
  - Include the goal of the study, purpose, key result(s), and major discussion points.
  - Consult the rubric for word count limit.

- **Introduction**
  The Introduction describes the main issue being investigated, as well as the purpose and importance of the experiment.
  - Start with general information about the topic, then become more specific as the Introduction progresses.
  - Cite other relevant studies and relate them to the experiment.
  - Include background information about the material, organisms, equations, and equipment used.
  - State the hypothesis and how it will be tested (what do you expect to see?).

- **Materials and Methods**
  The Materials and Methods section documents experimental procedures and provides the information needed to replicate the study.
  - Identify all materials, equipment, equations, and analysis methods used.
  - Write full sentences in paragraph form (not a numbered list).
  - Describe the actual process, especially if it is different from the lab manual.

- **Results**
  The Results section is the heart of a lab report; it presents observed data and trends through figures, tables, and text.
  - Summarize data in clearly numbered and labeled figures and tables.
  - Provide captions that describe the data being presented (above tables; below graphs).
  - State key results in sentence form and discuss all figures and tables.
  - Identify trends and statistical significance.
  - Avoid explaining what the data mean, making conclusions, or identifying sources of error.

- **Discussion**
  The Discussion usually carries the most weight for readers because it interprets the data and relates the findings of the study to others in the field.
  - Begin by explaining the results of your study, then expand to a broader discussion of how it relates to previous research.
  - State whether the data support the hypothesis and the expectations that were described in the Introduction.
  - Explain conclusions that can be made from the results and the significance of those conclusions.
  - If expectations were not met, suggest reasons why this may have occurred.
  - Compare findings to published research, especially those mentioned in the Introduction.
  - Be sure to answer all discussion questions posed by the professor.
  - Don’t present findings as facts (the data “suggest,” they never “prove”).
  - If required, include limitations of the experiment and suggest follow-up studies.

- **Literature Cited**
  The Literature Cited page lists all sources referenced in the text.
  - Refer to the lab handout for the proper format and citation style.
  - Make sure that citations match those in the body of the report (if a source is listed in the Literature Cited, it should be referenced in the text, and vice versa).
  - In-text citations are paraphrased without quotation marks or page numbers, and they are usually identified using name-year format, such as: (Surname, 2006).

Miscellaneous

- The word “data” is plural and so requires a plural verb (“The data show…” not “The data shows…”).
- The words “significance” and “correlation” should be reserved to those instances when a statistical analysis has been performed. Be alert for other specialized vocabulary.
- Avoid using the word “you.” You are reporting on your experiment, not giving directions.
- Use acronyms only after presenting the full term with the acronym in parentheses. For example: mannitol salt agar (MSA).
- Use a space between number and units (e.g. 12 mg).
- Numbers less than ten should be spelled out; numbers greater than ten should be numerals (e.g. 150, 45.7).