



Writing a Lab Report

Study Development Factsheet

Writing lab reports is an essential skill within many scientific disciplines. The purpose of a lab report is to contribute to the scientific method by documenting and explaining the findings of a practical experiment. A crucial element of a lab report is that it should be written in such a way that the procedure could be repeated by someone else, so they can compare their results with yours.

What tone of voice should I use for a lab report?

A lab report should be written in an impersonal way. You should explain your aims, methods and findings in a neutral, objective tone, without using elaborate or emotive language, and avoid using the first-person pronoun (“I”). On the left-hand side of the table below are some examples of the kind of impersonal, objective language you can use in a lab report. On the right-hand side are examples of personal, subjective language you should try to avoid.

Use objective, impersonal language...

- ✓ “The primary hypothesis was that...”
- ✓ “The level of light exposure was varied...”
- ✓ “These results support the primary hypothesis”
- ✓ “A significant limitation of the study was that...”

Avoid using language like this...

- ✗ “I predicted that...”
- ✗ “I changed the amount of light shone...”
- ✗ “Clearly, I was right with my primary hypothesis”
- ✗ “A major problem I found with this study was...”



How should a lab report be structured?

The specific structure of a lab report will vary, so be sure to read your assignment brief carefully! However, most lab reports will follow the following general structure:

Title: This should be brief, but informative and specific, explaining what you investigated.

Abstract: Even though this comes first (after the title), it is generally written last. An abstract summarises the whole report and outlines the overall findings of the experiment without giving specific statistics. It should typically be less than a page (aim for around 300 words).

Introduction: The introduction explains where your investigation sits within the broader context of the field. It should explain your specific focus of research, and describe any theories, equations or scientific laws relevant to your study. An introduction should end by stating your aims, and your hypothesis for what you expected to find.

Method: This section explains the steps you took to carry out the experiment. It should be written in paragraphs (not bullet points or a table), using the past tense, and should be depersonalised (e.g. “a beaker was placed...”, not “I placed a beaker...”). It should include a description of the experimental design (e.g. within-subjects or between-subjects); the subjects of the experiment (e.g. people, plants) and how they were selected; the materials and equipment used; the experimental settings and conditions (e.g. soil pH, air temperature); and the procedures undertaken. The method section should be written in such a way that others can repeat the experiment in the future under exactly the same conditions as you used.

Results: This is where you share the outcome of your experiment in an objective way. You should display your data in a logical order, in tables or graphs as appropriate. Each of these figures should have titles and legends to briefly explain the table or graph. The data should be followed by text which explains the results, describing any statistical tests used and stating the p-values (i.e. the statistical significance) of the results. All figures should be referenced in the descriptive text, in the order in which they are displayed.



Discussion: This is where you interpret the results of your investigation. You should assess the effectiveness of the experiment in addressing your research question and compare your actual results with your expectations. You should identify any errors or limitations in the procedures and discuss how you could improve the process if the investigation were to be repeated. You should also discuss the implications or significance of your findings and how it may inform future research into the topic.

Conclusion: This should briefly summarise the findings of the investigation, identifying any limitations in the procedures and suggesting improvements for future experimentation. Sometimes, a separate Conclusion section is not needed if these reflections are covered in the Discussion section, but check your assignment brief to see what is required.

References: A complete list of sources used when conducting your research report.

Appendices: If you have any procedures, tables or graphs which are too long to include in the main body of the report, you can include them as appendices at the end instead (but make sure you refer to them within the report).

Further Reading

- You should refer to the assignment brief or your module handbook for specific guidance for your project.
- Shefter & Loban (2017), *Writing undergraduate lab reports: a guide for students*, Cambridge: Cambridge University Press.

Support: Study Development offers workshops, short courses, 1 to 1 and small group tutorials.

- Book a tutorial or join a workshop on the [Study Development tutorial and workshop webpage](#) or search 'YSJ study development tutorials.'
- Access our Study Success resources on the [Study Success webpage](#) or search 'YSJ study success.'