

Lab Report Essentials

Title Page

Not all lab reports have title pages, but if your instructor wants one, it would be a single page that states:

- The title of the experiment.
- Your name and the names of any lab partners.
- Your instructor's name.
- The date the lab was performed or the date the report was submitted.

Title

The title says what you did. It should be brief (aim for ten words or less) and describe the main point of the experiment or investigation. An example of a title would be: "Effects of Ultraviolet Light on Borax Crystal Growth Rate". If you can, begin your title using a keyword rather than an article like 'The' or 'A'.

Introduction / Purpose

Usually, the introduction is one paragraph that explains the objectives or purpose of the lab. In one sentence, state the hypothesis. Sometimes an introduction may contain background information, briefly summarize how the experiment was performed, state the findings of the experiment, and list the conclusions of the investigation. Even if you don't write a whole introduction, you need to state the purpose of the experiment, or why you did it. This would be where you state your hypothesis.

Materials

List everything needed to complete your experiment.

Methods

Describe the steps you completed during your investigation. This is your procedure. Be sufficiently detailed that anyone could read this section and duplicate your experiment. Write it as if you were giving direction for someone else to do the lab. It may be helpful to provide a figure to diagram your experimental setup.

Data

Numerical data obtained from your procedure usually is presented as a table. Data encompasses what you recorded when you conducted the experiment. It's just the facts, not any interpretation of what they mean.

Results

Describe in words what the data means. Sometimes the Results section is combined with the Discussion (Results & Discussion).

Discussion or Analysis

The Data section contains numbers. The Analysis section contains any calculations you made based on those numbers. This is where you interpret the data and determine whether or not a hypothesis was accepted. This is also where you would discuss any mistakes you might have made while conducting the investigation. You may wish to describe ways the study might have been improved.

Conclusions

Most of the time the conclusion is a single paragraph that sums up what happened in the experiment, whether your hypothesis was accepted or rejected, and what this means.

Figures and Graphs

Graphs and figures must both be labeled with a descriptive title. Label the axes on a graph, being sure to include units of measurement. The [independent variable](#) is on the X-axis. The [dependent variable](#) (the one you are measuring) is on the Y-axis. Be sure to refer to figures and graphs in the text of your report. The first figure is Figure 1, the second figure is Figure 2, etc.

References

If your research was based on someone else's work or if you cited facts that require documentation, then you should list these references.