

The Laboratory Report in the Natural Sciences

- Purpose:** To communicate what was accomplished through your research.
- Title:** Not just a label--should explain and express the significance of the experiment. The title will focus the report, and point out the direction of the research. Promise something to the reader in your title, and then go on to deliver it in the report.
- Abstract:** Write this section last! You should create it from the text of the lab report, using the most important sentences from the other report sections. This section briefly outlines what you did and what your results were, but does not go into detail. (For details, the reader will read the rest of the report.) Use present tense when telling what conclusions can be drawn from the results.
- Introduction:** This section needs to capture the readers' attention by 1) providing the context for your investigation, 2) stating the questions asked and the hypothesis tested, and 3) describing the experiment.
"Context" means that you explain the significance of the research topic. What is the history of the topic? Why does it matter? What other experiments have been done on this topic? How is your experiment different? etc.
Next, state the specific question you set out to answer. Describe your experiment in concrete terms, and explain your reasons for setting it up the way you did. Try to answer any questions your reader might have about the topic or the procedure. Outline the results you expected.
- Methods & Materials:** This section shows the reader what happened. Describe everything you did so completely that anyone can read your report and repeat the exact same experiment. You don't have to justify what you did--just describe it. It helps to divide this section into subsections (for example, "Subjects," "Apparatus," etc.) Be sure to note any differences between the procedure in your lab manual and what you actually did.
- Results:** Report exactly what happened, not what you expected to happen. Data should be written in prose (sentences, paragraphs) and any tables or graphs must have accompanying descriptions. Don't try to interpret the data or draw conclusions in this section.
- Discussion:** SAY IT--Write what you expected and why. You can use material from the introduction. THEN EXPLAIN IT--Did these results confirm your expectations? Why or why not? What is the significance of what happened? What was particularly interesting about the results? You should also mention what might have gone wrong: weaknesses in the experiment design, unforeseen difficulties. (Negative results should only be a short part of this section, however.) BE SURE TO GIVE DETAILS, EXAMPLES to show you understand the concepts. It's OK to use past tense, "we."

If the paper deals with more than one lab report, make sure to focus on integrating the reports. What do they have in common? How do they contrast?