

OPHS - How to Write a Quality Lab Report

General Guidelines

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| *Times New Roman or Arial (size 12) | *Be concise - avoid flowery language |
| *1" margins | *Avoid qualitative phrases ("The results were quite close") |
| *Double-spaced | *Do not copy material without citing the source |
| *Always write in third person (no I, me, we, etc.) | *Computer generated data tables and graphs only |
| *Use complete sentences & proper English | *Check spelling |

Specific Guidelines

1. *Heading:* Left side - Lab Title, Name, Partner's Name; Right side - Class Name, Teacher, Date
2. *Introduction:* Provide the reader with **background** information that will help them to understand the experiment you did and the **underlying scientific concepts/theories** of the lab. This section should also include any **unfamiliar terms** that might be used to clarify ideas for the reader. Cite sources used.
3. *Objective:* The objective is a concise statement outlining the **purpose** of the experiment.
4. *Hypothesis:* Explain what you think will happen during the lab using an **"if, then, because" statement**. Your hypothesis should be testable and reflect your background information. Your independent and dependent variables should be evident in your hypothesis.
5. *Materials:* Using **bullet points**, list all **equipment**, **reagents** (chemicals), and **computer programs** used to complete the experiment. Include **how much** of each material was used in the experiment. If the equipment will be arranged in a complex set-up, **a drawing (computer-generated) of the set-up** should be included.
6. *Procedure:* **DO NOT SIMPLY COPY THE PROCEDURE GIVEN IN THE LAB.** This section may be written in either **paragraphs or numbered steps**. Pictures and diagrams may be helpful in recreating the procedure. The procedure is a **detailed statement (step by step)** of how the experiment was performed, such that the experiment could be repeated using your report. **Safety precautions** that were followed should be stated in this section. The procedure must be written in the **impersonal (3rd person) past tense**.
 - a. **EXAMPLE:** The temperature was taken every two minutes. NOT...We were taking the temperature every 2 minutes.
7. *Data/Observations:* This section of your lab report should include all of the observations gathered during the experiment(s). Be sure that any **charts/data tables** are digital (no hand drawn tables/charts) and **appropriately titled** and sized. All columns should have headers including **units of measure**. Do not report data as fractions. If data is qualitative, make sure descriptions are detailed and specific. Photographs/sketches should be in color and appropriately labeled. **REMEMBER:** Data is in tables/charts NOT graphs.
8. *Equations/Calculations:* All calculations should be **labeled**, and **typed**. **Show all work/steps**. Include the **equation** for solving the problem BEFORE the calculation.
9. *Graph:* Use Excel/Numbers/Sheets to create a **digital version** of your graph. If multiple sets of data were collected, create one graph to show trends and make comparisons easier for your

reader. Make sure your graph has an **appropriate and descriptive title**, and **label axes** with units of measure. Include a **legend** when appropriate.

10. *Analysis*: A quality analysis starts with a **claim** about the trend(s) in your data. This is a concise, one-sentence statement. Support your claim with **evidence** from your data and calculations. You do not need to report all data, just the data/calculations that support your claim. Follow your evidence with **scientific reasoning** explaining your data. Finally, indicate any **error/uncertainty** that affected your data, and specifically state how your data was affected. NO HUMAN OR HYPOTHETICAL ERROR!
11. *Conclusions*: This concise paragraph should begin, “**Our data supports/does not support our hypothesis that...because...**”. Restate hypothesis. Refer back to your **purpose** and relate back to important **background information** that helps explain your results. Include how you might **improve** upon the lab to better your data the next time.
12. *Works Cited*: Use **MLA format** to cite all sources of information.