

Each lab must be written formally into your graph paper notebook. Use complete sentences and complete ideas. Identify every lab report with your name, date, class, hour, and title. Neatness and readability are important. Use section headings for each section in the lab.

Purpose

State the purpose as a question that you are investigating in the lab.

Hypothesis

Answer the purpose question based on your background knowledge. Do not change your hypothesis after you do the lab. No one expects that the hypothesis is correct all of the time. This is a way for you to see your progress in learning.

Background/Safety

If there are chemical equations, or math equations, or accepted values that will be used in the calculations, list them in this section. Also list any safety concerns that need attention during this lab. If this does not apply, then skip this step.

Procedure

If the procedure is already written, skip this step. If this is an inquiry lab where you are asked to develop your own procedure, then write it here. When writing your own procedure, it must be clear and detailed. An independent person should be able to read your procedure and do the lab without any other instructions.

Data

A) Qualitative Data: Make relevant observations about what you see happening in lab. These may be things that you will address in sources of error in your conclusion. Write in complete sentences.

B) Quantitative Data: Make measurements and organize into vertical data tables. Make tables ahead of time and label with headings and units. Use correct significant figures and units when measuring.

Data Analysis

Show mathematical calculations for all work. Write equation, substituted numbers, and answer with correct significant figures and units. Label what each calculation is for. Calculate per cent error whenever possible.

Make large graphs (1/2 to full page in size) with title, labels and units. Don't forget to put circles around the data points on science graphs to show the uncertainty in the measurement. Draw the best average straight line or smooth curve to show the relationship on the graph. Find the equation for the graph, if possible.

Look for patterns in your data.

Questions

Answer questions with complete sentences and complete ideas. Don't write "it got bigger." The reader can't tell what you're talking about. Instead write "as the time increased, the temperature also increased." This shows exactly what you mean.

Conclusion

Write the conclusion in a paragraph format - actually 4 short paragraphs makes this easiest to read. The four sections in the conclusion are Main Idea, Evidence, Reliability, and Application. Here is where you show that you really understood the whole lab.

Main Idea: This is one or two sentences that answer the purpose question and tells what you found out in your lab.

Evidence: This is the evidence from your lab that supports your main idea. The graph and % Error are good places to look for supporting evidence. Look for patterns in your data that show you have a correct main idea.

Reliability: This is where you discuss sources of error in the lab results. Try for three areas where problems caused your answers to not be correct. Do not write general things like "human error." Be specific like "as we poured out the water, some of the copper may have also poured out." Do not put things that you can control like "measured wrong." You should know how to measure now. Tell how the error affected your measurements. Did it make your measurements too large, too small, or inconsistent?

Application: Describe who needs to know this main idea in their job. Be specific and think of your own example. Don't write "doctors need this." Instead explain "for doctors to get the right dosages of medicine, they must understand how to calculate concentrations of chemicals."