

Writing Conclusions in the Lab Notebook Chem 101B

The last step in writing a report of experimental work in your lab notebook is the writing of the conclusion. As you progress toward higher-level courses, the conclusion section of your experiments should become more in depth and detailed. Here is a summary of the things to include in your Chem 101B conclusions:

1. Summary of your result/results. Looking back at the purpose, you should say what you found out, listing any numerical results.
2. Discussion of whether the result is what you expected based on theory. Briefly summarize the concepts behind your experiment and state whether the results are consistent with the concepts.
3. If your results are not consistent with theoretical expectations, attempt to explain why. This could involve experimental error—specify which error/errors were made, and how it/they would produce the unexpected result. Or, the problem might be a false assumption that was made in the design of the experiment. Here again, briefly explain why the assumption wasn't valid under the conditions of the experiment.
4. Discuss at least one possible error that could occur in carrying out the experiment *or* one possible error in any assumptions, whether or not the error showed up in your results. State and explain how the error would affect the calculated or observed result.

For example, in a titration experiment to determine molarity of an acid, air in the base solution buret tip that comes out after recording the initial buret reading will cause the calculated volume of solution delivered to be greater than actual, since the measured volume will include the air. This will make the calculated number of moles of base higher than actual, leading to a higher number of moles of acid than actual. When the inflated number of moles of acid is divided by the volume of acid solution delivered, the calculated acid molarity will come out higher than actual.