Name: _____ Section: _____

Mini-Report 6 – Discussion / Conclusion

The "discussion / conclusion" section of an experiment report is the only section in which a scientist communicates his or her opinions of the experiment performed. For example: Did the experiment work well? What should have been done differently? How does the scientist know whether or not the experiment was successful? These are all considerations that the scientist must make when writing the concluding section of the report.

There are basically three parts to this section: (1) Interpretation of the results – the author must explain how the theory (discussed in the "background" section of the report) allows for the numeric and observational results to be interpreted and must use the theory to draw conclusions about the experiment (was it successful, what were the identities of unknown substances or numeric quantities, etc.). Be sure to address any questions asked in the lab manual! (2) Discussion of error – no experiment is perfect. In fact, most experiments have some minor (or perhaps major) errors involved. The author must interpret these errors to determine their source and significance. Common (minor) errors include transfer loss (each time you transfer a substance from one container to another a small amount is left behind), equipment calibration (for example, a graduated cylinder is only accurate to ~0.5% of the total volume), estimation of "significant figures" (since you estimated the last digit, this digit could be inaccurate by a small amount), etc. Less common (major) errors result from things like incomplete reaction (you didn't allow the reaction enough time to reach its conclusion), "wet products" (you were weighing a wet solid, so the extra mass is from your solvent), spillage (you spilled part of your product, so you got less than you expected), etc. A scientist must interpret the accuracy of the results and account for any errors with logical reasoning. For example, if you have a 50% yield, this is probably NOT due to transfer loss (you "accidentally" left half of your product behind?!?!) but MIGHT be due to incomplete reaction. (3) Room for improvement – a scientist's job is never complete. If you were continuing to study this reaction, what would be done next? You should propose ways to improve the experiment and may also wish to suggest future experiments that could be conducted.

Instructions:
Write a discussion / conclusion section for the lab that you just completed. It must be double spaced, 12 point font, and should have your name on it. If you use any references to write your discussion / conclusion section, they should be cited in a separate "references" section.