

Chem 2 – Formal Laboratory Report Guidelines Overview (Guideline is Specific to Writing a Synopsis of 3-5 pages.)

*****IMPORTANT:** EACH STUDENT MUST PRODUCE THEIR OWN ORIGINAL REPORT. DO NOT COPY TEXT, TABLES, GRAPHS, ETC. FROM LAB PARTNER(S) NOR FROM ANY OTHER STUDENTS CURRENTLY OR PREVIOUSLY IN CHEM 2. ***

Format

Paper – 8 ½ by 11 white, print to one side, staple top left

Font – Times New Roman 12 point font

Spacing – Double Spaced

Paragraphs – Indent ½ inch, do not put blank line between paragraphs

Margins – 1 ¼ inch margins (Microsoft Office Word default.)

Page Numbers – Top Right Along with Last name

1. Go to Insert - Page Number- Choose Top Right
2. Go to View – Header / Footer – Type Name to the left of the page Number

Outline (for specifics see “Sections” on the next page)

Title Page

Introduction

Experimental Methods (Procedure)

Results and Discussion

Conclusions

References

Appendices

Editing

Spell-check / Grammar check – In Word under Tools there is a tab for “Spelling and Grammar...”

1. Always run a spell-check/grammar check before submitting a paper; however, do not rely on spell-check/grammar check to catch all errors. Sometimes it is easier to have a friend or your lab partner read over the paper to catch any mistakes.
2. Parts of the paper may be written in the passive voice. Grammar check will try and convince you that this is incorrect. Do not believe grammar check. Leave the passages in the passive voice.

Autocorrect – In Word under Tools there is a tab for “Autocorrect Options”. Turning off the following options often makes it easier to type a chemistry report.

1. Correct TWo INitial CAPitals – that way it won’t alter HCl to Hcl
2. Capitalize first letters of sentences
3. Capitalize first letters of table cells
4. Correct accidental usage of cAPSLOCK

Autoformat – Also under Autocorrect Options. These may or may not affect your typing.

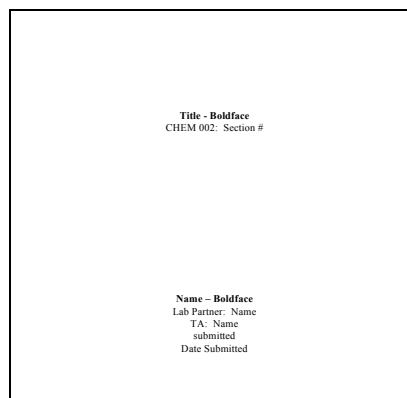
1. Automatic bulleted lists
2. List styles
3. Other paragraph forms

Sections

Title Page

Information should be centered left to right. Title of the report should give a brief description of the work. Your title page will look similar to the format on the right.

Title - Boldface
 CHEM 002: Section #
13 spaces
Name – Boldface
 Lab Partner: Name
 TA: Name
 submitted
 Date Submitted



Introduction:

This is where you explain why someone would want to do this experiment. *Why is this cutting edge work? What do the authors hope to learn? What is the purpose of this work?* You must reference whatever information you use. If you actually cite the information, then you must note this in the text. *See References.*

Experimental Methods:

This is where you describe the hypothesis and the procedure that was followed. *What previous works were used as models? What variables were altered / controlled? How was the data collected? What methods were used to ensure that the data was valid?*

Results and Discussion:

This is where you need to include information about the figures and the textual results. The discussion needs to include any descriptions of physical properties; any discrepancies in the data; any anomalies noted in the graphs; and, any errors that could be avoided the next time the experiment is performed.

Conclusion

This is where you explain how well the experiment went. *Did the authors test what they intended to test? Do you feel their conclusions were valid based on the evidence they presented?* Explain why you think the experimental data was acceptable or not. Finally discuss any suggestions you have for future experimenters. These conclusions need to be supported by the data/information provided in the article.

References

If you actually cite the information, then you must note this in the text with quotation marks around the cited material. If you paraphrase information, you must cite it as well unless it is considered common knowledge. Common knowledge is generally considered information that can be found in 5 or more sites. Sometimes it is easier to cite the paraphrase than it is to confirm that it is common knowledge and list the 5+ sites where you found the information. **Parenthetical notation** may be used. List the author's last name and page number. The last name then will correspond to a listing in the references section. For example:

“Prior to Guttenberg's invention of moveable type, Medieval mankind was forced to rely on a collective societal memory as a resource. The elderly were respected and revered for they had lived through significant events and their recounts of these events were relied upon as facts.” (Burke 93)

Works Cited

Burke, James. The Day The Universe Changed. Boston: Little, Brown, 1995.

References can be listed as “Works Cited” and/or “Works Consulted”. For this paper the MLA format for references is preferred. *Please see next page for proper format for how to cite various types of works.*

Paper over Articles:

Conor J. McMeniman, Roxanna V. Lane, Bodil N. Cass, Amy W.C. Fong, Manpreet Sidhu, Yu-Feng Wang, Scott L. O'Neill. "Stable Introduction of a Life-Shortening *Wolbachia* Infection into the Mosquito *Aedes aegypti*." 2009. *Science* 323: 141-144.

Andrew F. Read and Matthew B. Thomas. "Mosquitoes Cut Short." 2009 *Science* 323: 51-52.

Questions you might consider addressing:

Who is doing this study? What is their hypothesis? What is their experimental method? What is their conclusion?

What previous research is this study based on?

Why have the insecticide based eradication techniques used on mosquitoes been abandoned?

What is dengue fever? How prevalent is it? What demographics does it affect?

What common property do most pathogens share and how does altering the life span of the mosquito resolve this problem?

What type of mosquitoes specifically are being studied? Are these the only type to carry the virus? What would need to be done to study this on a world-wide scale?

What is *Wolbachia*? What affect does it have on mosquitoes?

How does introduction of *Wolbachia* in fruit flies differ from that of mosquitoes? What implications does this have for the experiment?

What is cytoplasmic incompatibility? How does it alter the life span of the mosquito?

What is fecundity? How does altering it affect the mosquito population?

How does the maternal inheritance of *Wolbachia* in mosquitoes affect the offspring population? What are the four mating possibilities and their observed outcomes?

What is the range of the control parameters for the temperature and humidity for the experiment? Why were these parameters chosen? Do they take into account climate changes?

What was the purpose of introducing tetracycline to some of the test population?

How would cutting the mosquitoes life span in half potentially affect the transmission of the dengue virus?

What would be the ecological ramifications of killing off huge populations of mosquitoes?

Even if the current dengue virus is effectively reduced, what if any are the implications of a more resistant dengue virus?

If the experimenters have successful results in the lab, does this necessarily translate to success in the field? What other factors would need to be taken into account?

Does decreasing the birthrate and the life span of the mosquito yield the expected results in population control that the experimenters desired or would it lead to too significant of a population decrease? (Your opinion vs. the experimenter's opinion.)

Any other question that you had when you read the article is a worthy question to be addressed. The purpose of this assignment is to make you think about a given topic and then communicate your thoughts. Some of the questions that are listed above are not answered in the articles (e.g., What is dengue fever?). These are simply questions that we had when we read the article and thought that you might have similar questions.

