

Chem 1710 Research Presentation

- Poster Display
- Written Paper (The material may be similar to poster display but should not be exactly the same. The poster and class presentation are condensed versions of the research paper.)
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- Class presentation (12 minutes) This should include Powerpoint, transparencies, demos, or whatever to enhance the presentation. It can be organized in a similar fashion to the poster. All members of the group should participate.

The paper/poster should include the following items (clearly identified with headings):

Title

Abstract (Summary - less than 250 words)

Introduction/Purpose

Procedure

Results (Tabulated Form of all Recorded Data, graphs)

Conclusions (or Discussion

References

Further information for writing the research report and assembling the poster

- The *Introduction* should include background for the experiment as well as the purpose. First, the problem to be studied and its significance is discussed. In the paper put a good deal of detail; on a poster presentation summarize this and shorten. You may wish to comment on the types of methods available for addressing the problem. The theory behind data interpretation, equations used to calculate a quantity, and chemical equations for reactions involved in the experiments are all examples of information that goes in the introduction section. The introduction should end by leading into the objective or purpose of the experiment which may be summarized in two or three sentences. Do not discuss results in this section. Note - The *Purpose* may be a separate heading for a poster presentation.
- The *Procedure* section should detail how you performed the experiment. The procedure should be written as you actually did the experiments. Be thorough but concise. In the

paper please write in complete sentences, organize the material into paragraphs, and avoid just listing the steps. (Listing is OK for a poster presentation but not a written report.) Pronouns are not used, and the procedure is in past tense of passive voice. (The test tube was heated – not, we heated the test tube.) Make sure you have enough information that someone could reproduce exactly what you did. This means that you need to indicate what type of measuring instruments were used. Sometimes the location and time of the experiment is also important.

- The *Results/Data* section reports your data from the procedure. If possible your data should be presented in table format. Use SI units if possible, but there are times when English units are appropriate. If the data can be graphed, this should be done. This makes it easy to read and interpret. Choose the type of graph carefully. (Generally never use the option of “line graph”. It’s not what you think.) Include any qualitative observations. If you use math equations to calculate a quantity, make sure to show a sample calculation including all units involved. You do not have to show a calculation for the same type of problem over and over. Good research projects often need some type of statistics to prove that there is a relationship between two or more variables. You might consider consulting me or another science teacher about this.
- The *Conclusion* section (also called the Discussion section) allows you to reflect on what you did and what you saw during the course of the experiment. It involves an interpretation of data and discussion of it. You should answer the purpose stated in the introduction section, discuss errors and how they would affect your results, and indicate the significance or application of the experiment. Errors are classified into 2 major areas – errors of design and how the data points varied (if you repeated the experiment). This will affect the conclusions you will be able to draw. The amount of variability of the data can be quantified using statistics.
- The Reference section is used to note papers or books cited or consulted in the rest of the report. References must be present in the paper, and they must be cited.