

Name: _____ Formal Lab Planning Outline/ESS 2015

Before starting each lab, this form must be filled out and signed off on by Mrs. Ahmed. The more in-depth work you do here, the more efficient and productive you will be in writing up your final lab report. (This form is on the wikispace. You may take it from there and type on it, just be sure to complete all of the parts.)

Planning

A. The question I wish to answer is: (What is the effect of X on Y?)

B. Hypothesis:

a. The hypothesis for this lab is:

b. I think this because (What are you basing this idea on?):

C. Independent Variable

a. The Independent variable is:

b. It will be manipulated by: (show the math!) This needs to be well explained. Why did you choose the levels that you did?

D. Dependent variable

a. The dependent variable is:

b. It will be measured by:

c. The precision of the instrument is:

E. Controls

a. List ALL of the conditions and techniques you will control in the experiment

b. Describe how you will control each.

What is controlled?	How is it controlled?
<i>Size of containers</i>	<i>Used 250 mL beakers for each sample</i>

F. Materials

- Make a specific list of all materials and equipment you will need for your lab. (including quantities!)
- Note any materials that are not available and must be purchased.

G. Methods

- List specifics of how, when and where data was collected. (This could be pulled from lab data book)
- Step by step process should be written BEFORE the lab is performed. May be revised if necessary once it is completed. (may include as an attachment) This should include any steps you took to ensure measurements were accurate, such as calibrating the instrument.)
- Number of replicated: _____ How was this deemed sufficient? (Why did you choose the number and types of data points that you did.)

DC P

H. Data

- Generically list what data you expect to display in this section.
- List all calculations that you will display in your report. (Be sure you use calculations that will help you answer your question.)

- c. Generically sketch the graph that you will use to present your data. Label axes and choose the best type for data display. Don't forget to number and title your graph! You should ONLY graph processed data that leads you to the answer to your question.

DEC

- I. List sources for background information (use little in background/more in discussion)
 - a. X
 - b. X
 - c. X

Be sure to discuss everything you need to discuss. (observations, calculated data, statistical analysis, significance)

Find a **case study** that relates to your lab. List the source here. (Why do we care? Is it consistent (or not) with what has been found elsewhere?)

Evaluation section should be well thought out and carried through.

Do not forget to include specific data values in your conclusion.

Be sure to read through the formal lab report handout and make sure you didn't miss anything that should be included.