AP Physics Lab Report Guidelines

Though there are many types of Laboratory reporting styles, I have chosen one that is typically required in the written preparation of scientific "discovery" for publication in a journal. I do not expect you to become proficient with this style immediately, so I will accept first, second, and perhaps third writings. Each time you submit your report, I expect that it will become better with the end product a polished piece of literature. There is generally no deduction for resubmitting as long as it is in a timely manner and attached to the back of the revised copy are all the other submissions so I can see your progress. Each semester you will be required to submit a complete portfolio of your polished reports for a final Lab grade.

Title

{Sometimes stated for your}

Abstract

This is a summary of your problem, methods of solution, findings and conclusions. It should be very general without using too many numbers. It should be short, about 100 words. This is a paragraph that should convince someone to read your paper. (What were you doing? How did you do this? What were you general findings?)

Introduction

This specifically describes what the lab is attempting to show (demonstrate), verified (theory) or discover (hypothesis). Often, some history of the problem or theory is included and why the lab is being conducted. This is basically the purpose of the laboratory. Use the present tense. This is a good place for Preliminary Questions to go if there are any. This should show the reader that you know what the measurements are accomplishing; that you understand the importance of the measurements; and that you have a good idea of the other practical training, which is being accomplished in the experiment. An explanation of the formulae that will be used or verified.

Materials and Methods

This is written in paragraph form and written in past perfect tense or passive voice or as a list, specific details of the equipment used and the methods of their correct sequence; include sketches and diagrams of setups. One must be able to repeat the experiment from this section. Avoid the use of "I" or "we".

Results

This section is usually written in the past perfect tense or passive voice that describes your findings, data collected, and includes data tables, graphs, general trends, derived formulas, etc. All calculations, data tables, and graphs are shown here. This just states what you found without analyzing it.

Discussion

This section describes your results in relation to other data, discusses problems associated with the lab/experiment, postulates trends in the data, predicts results

given different circumstances, suggests sources or error, etc. It is always assumed that humans make errors, so mentioning "human error" as a source of error is not acceptable; human errors should be corrected by humans before you submit your report. This is where you address questions posed in the lab instructions. Use paragraph statements that have the question within the response. Do not begin your paragraph with "Yes" or "No" – just write a statement about the question and answer.

Conclusion

This paragraph gives a summary of what was learned (this usually comes first), what remains to be learned (directions for future research), the shortcomings of what was done (evaluation), the benefits, advantages, applications, etc. of the research (evaluation) and your recommendations.

Literature Cited

A list of books, articles, etc., that you used to assist you in presenting your data and findings, written in MLA format.

Your presentation of the lab is important. Be sure it is grammatically correct and neatly typed in an appropriate font. Save and Backup your files. Be careful of tense changes within a paragraph. Graphs should be done on computers or calculators whenever possible and presented neatly. A lab report must be an individual report even though you may have worked with a partner – Do not share anything except data. Data collected during a lab must be authentic; "fudging" is unacceptable and unnecessary. The purpose of laboratories is to experience science not recreate it to fit what has already been found.