

Lab Report Format

Sample for IHS Physics

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Abstract—Science teacher Dan Fullerton has been trying to teach his students how to create a proper lab report. This is a sample lab report demonstrating proper technique and formatting. Students will probably hate it.

I. INTRODUCTION

This demo file is a “starter file” for IHS Physics lab reports produced under \LaTeX using TeXPad.

I wish you the best of success.

II. METHODS / PROCEDURE

Document your experimental procedure in enough detail that someone else could repeat your work. This should include a list of all materials used, a diagram of the lab setup if appropriate, and the steps taken to accomplish the lab (paragraphs preferred, but organized, ordered lists of instructions are acceptable with list items in complete sentences.)

A. Materials

List all materials used.

- meter stick
- ruler
- mass spectrometer
- mass balance
- voltmeter
- ammeter
- protractor
- (2) 9-volt batteries

B. Diagram of Lab Setup

Show schematic of experimental setup where necessary. Insert image of experimental setup

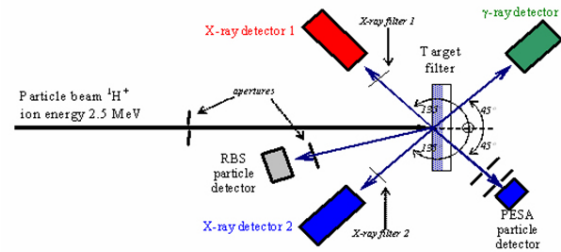


Fig. 1. X-Ray Detector Setup

C. Steps Taken

Provide enough information that another student could easily replicate your work.

- 1) Here is where I would describe what I did in step 1. If it gets a little long, that’s OK, it will all still work out just fine. I’m continuing to write to demonstrate how well formatted a long step 1 can be.
- 2) This is step 2. It’s shorter.
- 3) Bet you never guessed this would be step 3.
- 4) This isn’t step 3.
- 5) And this is our final step

III. RESULTS / DATA

Put your data into tables and graphs which are appropriately labeled and explained. Review your tables and graphs to determine the key findings from the lab exercise. Write a paragraph explaining each table and graph including its key result and other salient details. Arrange the results section in an organized fashion.

Here I’m going to add another line of text for the purpose of checking formatting and spacing between sections and other issues with the layout. Here I’m going to add another line of text for the purpose of checking formatting and spacing between sections and other issues with the layout. Here I’m going to add another line of text for the purpose of checking formatting and spacing between sections and other issues with the layout.

A. Data Tables

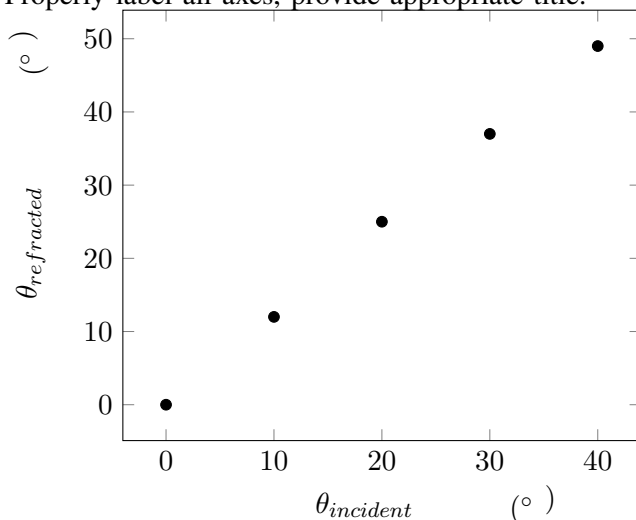
Organized and labeled with units.

TABLE I
INCIDENT AND REFRACTED ANGLES

Incident Angle	Refracted Angle
0 °	0 °
10 °	12 °
20 °	25 °
30 °	37 °
40 °	49 °

B. Graphs

Properly label all axes, provide appropriate title.



C. Explanations

The key relationship from each table or graph is described in a separate paragraph with appropriate supporting details.

IV. DISCUSSION / ANALYSIS

Open with a statement of key findings, and clearly reference those findings with data from the lab. Provide logical explanations for all statements. Discuss other appropriate findings of interest. Make sure you have answered all analysis questions, and you have answered your research problem as posed in the introduction.

As an example, I would probably want to find the slope of the line from my graph. I'll do that here.

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{48^\circ}{40^\circ} = 1.2 \quad (1)$$

Equation (1) demonstrates that the slope of our plot is 1.2. Note that this value is actually meaningless, as is the data I plotted, as I've made up nonsense data and quantities for the purpose of demonstrating the lab report format.

V. CONCLUSION

Summarize what you learned in the lab, with specific references to the scientific concept under study which you detailed in the introduction. Describe potential sources of error (don't say human error). Critique the lab and describe opportunities for further / future work. Did you learn anything else from the lab, such as use of lab equipment, procedures, analysis methods, etc.?

ACKNOWLEDGMENT

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REFERENCES

- [1] M. Carter, E. Weiebe, and M. Ferzli, *LabWrite*, https://www.ncsu.edu/labwrite/index_labwrite.htm, NC State University, 2004.
- [2] D. Fullerton, *APlusPhysics*, http://www.aplusphysics.com/courses/regents/lab_ 2016.
- [3] B. Cross, *Irondequoit High School*, 2016.