A Sample LaTeX Lab Report

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I. Introduction and Theory

This is how you type text in LaTeX, it's very simple. You can make your text **bold** or *italicized* or `whatever this is`. The beauty of LaTeX is in it's formatting. Look how easy it is to insert a footnote at the bottom of the page*.

II. Methodology

The main reason I will never go back to MS Word to write lab reports is because of the dumb-easy (and beautiful) way in which LaTeX can format equations. Inline equations go in the math environment. Check it out: Gauss's Law is given by $\oint \vec{E} \cdot \vec{da} = \frac{Q_{enc}}{\epsilon_0}$ and states that the total electric flux out of any closed surface is proportional to the charge enclosed by the surface divided by the permittivity. It seems a little clunky at first, but you can't deny the elegance of typesetting a derivation:

$$\begin{aligned} v_c &= \frac{1}{C}\int idt \\ &= \frac{I}{C}\int sin(\omega t)dt \\ &= -\frac{I}{\omega C}cos(\omega t) \\ &= \frac{I}{\omega C}sin(\omega t - \frac{\pi}{2}) \end{aligned} \tag{1}$$

You can label equations and refer to them later in the report like this 1. This way, if you add another equation in before Equation (1), the LaTeX compiler will update the number in the body of the text. (You have to compile twice for the number to be updated, the first time searches for labels and the second time passes the arguments.) Try to keep each line of your .tex source code under 80 characters. It improves code readability and makes it easier to debug.

*This is a footnote.

III. Experimental

i. Data Acquisition

This is how you make a table. Table (1) contains numbers.

Numbers	More Numbers
0.090	1.54
0.502	9.98
1.015	20.64
1.480	29.94
1.997	40.55
2.462	50.00
2.950	60.36
3.499	70.85
3.823	80.22

Table 1: *These numbers were found with maths.*

ii. Data Analysis

It's also really easy to insert graphs and images in LaTeX using the figure environment.

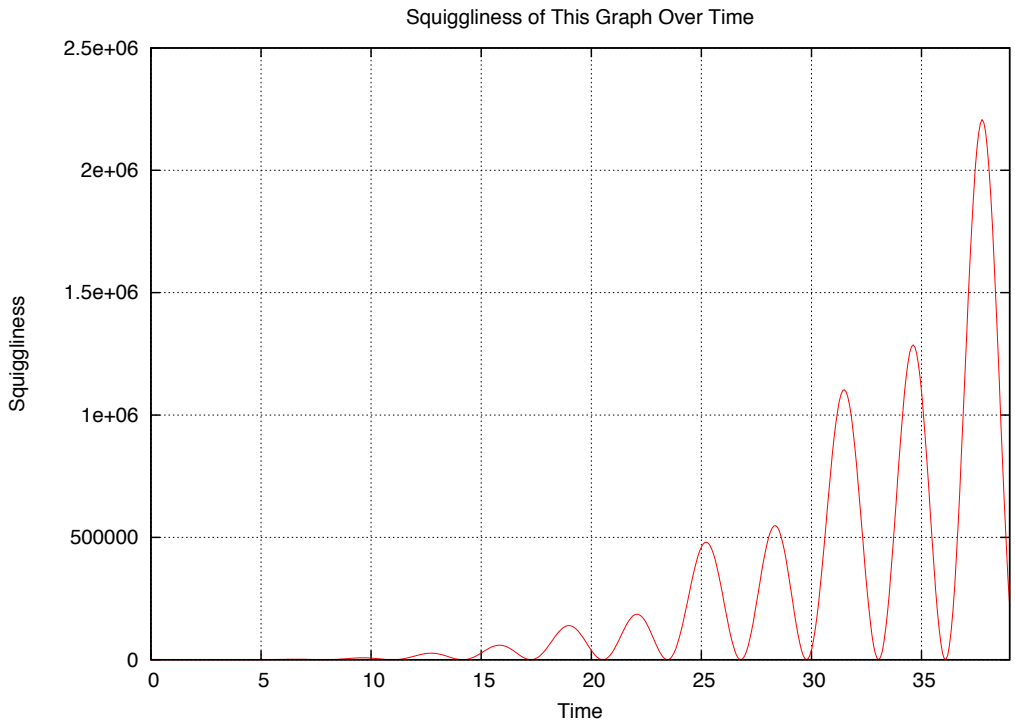

Figure 1: *This graph is very squiggly*

You can do the label thing with figures as well. We submit that the "squiggliness" of Fig (1) is related to the number of squiggles present in the graph.

IV. Conclusion

In conclusion, LaTeX is awesome! This template does not even begin to cover a snowflake on the tip of the iceberg that is LaTeX. The Google[1] is your friend. If there's something you want to do in LaTeX, chances are there's a package for it. Just try not to use too many packages or it will take forever to compile.

References

[1] http://www.google.com