Sections of your paper:

A. Statement of the Task: 1-2 pages briefly introducing each section of the paper that will follow. See example below.

B. Data Collection Procedure: 1-2 pages describing in detail how you will go about collecting your data and how it will help you answer your research question. Include any surveys or other artifacts you used in the appendix.

C. Data Presentation and Analysis: This will be a long section. The bulk of your mathematics will be here. Detailed explanations of procedures and calculations.

D. Interpretation of Results: What does the data lead you to conclude? Be very specific. One rich paragraph after each section of data analysis.

F. Conclusion: A summary of your findings and interpretations. A discussion of “validity.” A discussion of limitations and how you could have improved the project.

G. Appendices: Raw data, data collection forms, etc. Label as Appendix A, Appendix B, etc.

**Modeling Periodic Functions**

As a part of my grade eleven mathematics’ curriculum, I had previously studied periodic functions and typical applications of periodic functions, such as modeling tides and modeling the motion of a Ferris wheel. After having studies these basic applications, I wanted to explore the existence of other applications.

**Statement of the Task**

This project will be conducted in the form of an investigation that will examine the graph of a periodic function produced by the motion of a bungee jump.

In order to complete the project, I will use experimental data collected using a CBR device hooked up to a graphing calculator. I will be examining a specific situation of a bungee jump simulation.

From this situation I will be able to examine the graph produced by the motion that had been transmitted by the CBR. Once I have attained the graph, I will then write the equations of the periodic function for the bungee jump simulation. In order to write the equations I will follow three steps. Step one will involve finding the basic equation for the sinusoidal curve. Step two wil linvolve finding the equation for the amplitude of the curve. Finally, step three will put the equations of steps one and two together in order to determine the final equation of the sine curve produced by periodic motion of a bungee jump.

I will be examining the dampening effect of the sine curve, which occurs in the bungee jump simulation. I will be able to discuss and interpret the graphs and compare them to each other to determine the equations of the periodic functions and to examine the dampened effect.

Throughout the experiment, I will also be considering problems with the use of the method for collecting the data and errors in determining the equations of the graph. The final conclusion of this investigation will be determining whether or not the equation found actually models the data collected – how accurate is this equation?