Intro Notes:

-describe the question tested by the experiments  
 described in the paper

-explain why this is an interesting or important question

-describe the approach used in sufficient detail that a reader who is not familiar with the technique will understand what was done and why

-very briefly mention the conclusion of the paper.

Method

-what was actually done   
-what techniques were used  
-any special conditions   
-anything of note that caused the method to be changed (especially from established procedures)

Results and Analysis

-the results of the experiment  
-graphs and tables (where appropriate)  
-comments on uncertainties  
-initial discussion/analysis

Table and Figures

-support the text (no padding)  
-be referenced in the text (before being shown)  
-Be correctly labelled with a GOOD explanatory caption  
-Be correctly formatted

Conclusion

-contain your conclusions and interpretations of the results (not just a restatement of the results; that is not enough)  
-state how did the results compare with what was expected (where appropriate)  
-Identify what further predictions can be gleaned from the results  
-Suggest improvements (if appropriate)  
-Not draw unsubstantiated conclusions  
-Not make cop-out statements like “..we could use computers to...”  
-Make the case for the ‘so what’ test...

**Introduction**

We are testing whether a system using a torsion pendulum (TP), comprised of a brass cylinder suspended from a steel wire, with the use of a variable speed motor, to provide the oscillations, will give us the same results as a theoretical model. We will compare the two systems by analysing the graphs of “Response Amplitude of an Angular Resonant System over a Range of driving frequencies for low, medium and high damping” and “Phase of an Angular Resonant System over a Range of driving frequencies for low, medium and high damping” for both our theoretical model and experimental setting.

This question is interesting because....

It is important because it shows us that mathematical rigour and theory are not always accurate. We can think of it as an example for how Physics is really a living organism, needing constant reevaluation until it converges on an accurate description of the real world. This is shown by the fact that even though some features of the experiment did match our theoretical model, others did not.

We first collected data through imposing a driving frequency on the TP, using a variable speed motor, while it was partially submerged in Oil to simulate damping. Which caused the TP to oscillate angularly. We measured the amplitude of this oscillation by using a laser to be reflected off a rotating mirror, attached to the TP, to show the motion of the TP on a larger screen. This motion is shown in the form of an ellipse, which we recorded by logging all points of significance. We measured the time period of this oscillation by recording the time taken for the TP to complete 10 cycles, and dividing by 10.

**Method**

Using the following setup…

(PICS)

**Results**

**Analysis**

**Conclusions**