Simple Pendulum Lab Report

Title
Purpose
Description
Measurement
-no sample calculations needed in this section
-Five tables like the following:
Length 1

	Length (cm)	Time for 10 Swings (s)	Period (s)
Trial 1			
Trial 2			
Trial 3			
Average			
Standard Deviation of the Mean			

-One table summarizing results

Length (cm)	Error on Length (cm)	Period (s)	Error on Period (s)	(Period)^2 (s^2)	Error on (Period)^2 (s^2)
Five entries here					

- Error on Length (cm) use standard deviation of the mean
- Error on Period (s) use standard deviation of the mean
- Error on (Period)^2 (s^2) use $\dfrac{P_{max}^2 - P_{min}^2}{2}$

Analysis
-plot (Period)^2 (y-axis) versus length (x-axis) with error bars, label axis.
- show calculation and give units for all the following calculations
-find the slope
    -draw a "best fit" line through the data
    -read the coordinates (x,y) for two points on the line which are reasonably far apart.
    -slope=$\dfrac{y_1 - y_2}{x_1 - x_2}$
- find g from the slope
-find the slope of the steepest line you could draw and the flattest line you could draw.
-find g_{max} and g_{min} from the flattest and steepest slopes

-error on g is $\dfrac{g_{max} - g_{min}}{2}$

Discussion& Conclusions
-state the final result with units and error.
-comment on how "good" the value is (i.e. how close to real value given the error).
-give at least one assumption made in the lab
-give at least one suggestion to reduce the uncertainty of the final result.