



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Tammy E. Prado	Project Number S1517
Project Title Swing, Pendulum, Swing!	
Objectives/Goals In my project I intended to find out whether the length, amplitude, or weight of a pendulum affected its period of motion. Through research I hypothesized that the length, weight, and amplitude would affect the period of motion.	
Abstract Methods/Materials Procedures: 1. Assemble the pendulum frame using the diagram in appendix 1-3 as a reference. Attach the screw hook to the center of the upper wood frame. 2. According to the size of your pendulum frame, chose five different measurements for your independent variables, length (L), amplitude, and weight (W). 3. Attach your largest weight to the largest piece of fishing line that you can use. 4. When step 3 is completed attach the opposite end of the fishing line to the screw hook. 5. At this point you will bring the weight to the amplitude of (A) degrees, then release the pendulum. With a stopwatch measure the time period (P). Measure the period for twenty times. 6. After you have collected the data of the time periods, compute the average time period. 7. Repeat steps 3-6 using all different independent variables. 8. Compare and contrast all results. Ask yourself: were my hypotheses correct or incorrect? Materials: To construct the pendulum frame: Wood (View the dimensions in the diagram in appendix 1-3); About a pound of nails to make the pendulum frame; Tools to build the pendulum; Saw blade, nail gun, wood glue, hammer; Screw hook; Protractor (measure the amplitude); Small weights: 20g-100g; Fishing line; Ruler; To measure the variables: Stopwatch.	
Results The results were that as I increased the length and amplitude the period of motion would also increase in duration. The effect that the weight had on the period of motion is inconclusive.	
Conclusions/Discussion My data showed two of my hypotheses to be correct. The period of motion was affected by the length and amplitude. Unfortunately one of my hypotheses was incorrect the weight didn't necessarily affect the period of motion.	
Summary Statement My project focuses on the period of motion of a pendulum and the factors that may affect its duration.	
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