



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Gabriel Keith	Project Number J1816
Project Title Eddy Current	
Abstract Objectives/Goals The purpose of my experiment is to demonstrate the properties of eddy currents, explore the power of eddy currents, and discover things for myself. Methods/Materials The materials I used when I created this mechanism were: <ul style="list-style-type: none">* clear acrylic* screws* washers* vice* clamps* camera* timer* hard drive bearing* hard drive magnets* clear tape <p>I did four experiments for each conductor, each experiment had 10 trials I did each trial and each experiment exactly the same except for the conductor. if the pendulum hit the side I re-ran the experiment. For the distance tests I also moved the magnets closer or farther away.</p> Results I got accurate results that followed my hypothesis. Since I did ten trials for each experiment my data is too large to show in this abstract so see my results below. Conclusions/Discussion My data has definitely shown that the conductors that are solid conduct the best. I see a pattern in my data which is that the fastest trial is the solid conductor then the cut or silted conductor then the trials with no magnets. I also see a pattern in my time distance graph. this pattern looks like exponential growth meaning eddy current increases exponentially as the distance between magnets decreases.	
Summary Statement My project demonstrates properties of eddy currents, showing the effect of conductor shape and magnet distance on eddy current strength.	
Help Received My Father helped with the construction of the experamental equipment.	