



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

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| Name(s) Brent A. Avery | Project Number S0901 |
| Project Title Electromagnetism | |
| Abstract Objectives/Goals The objective of my project is to see if electromagnetism is a viable form of transportation. It is also to see whether weight, mass, and surface area have an affect on magnetic attraction. My hypothesis is that they definitely affect magnetic attraction. Methods/Materials A coppor wire was wrapped around the PVC pipe, put through a switch, and attached to a 12-volt battery. This was repeated three times at different points in the PVC pipe. A ferromagnetic nail or steel ball bearing was loaded at the start of the PVC pipe. To launch the projectile, the switches were turned off and on in quick succession. The results were recorded. Results The ferromagnetic nail beat the steel ball in all four trials, traveling twice the distance. Conclusions/Discussion It seems that not only is electromagnetism a viable form of transportation, but also a very efficient one. It launched a 500 gram ferromagnetic nail over 5 meters with only 36 volts of power. | |
| Summary Statement My project is about how electromagnetism can be used as a possible form of launching projectiles and a form of mass transportation. | |
| Help Received Mother gave ideas for cosmetics on the poster board; man at a winder shop taught me how to wrap the copper wire around the pipe. | |