



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Jarred Druzynski	Project Number J0911
Project Title Steeling the Show	
Abstract Objectives/Goals In my project, I wanted to know if the core used in a solenoid will affect the strength of the magnetic field. Methods/Materials A solenoid was constructed, allowing different cores of identical size to be inserted. The solenoid was connected to a power source, switched on and the strength of the magnetic field measured by 2 methods: how many paper clips each core/solenoid picked up, and a gauss reading using a homemade gauss meter. For each core, 5-10 readings were taken at 3v, 6v, 12v, and at both polarities. Results The steel core was the strongest. The next strongest cores were air, zinc, and water. Copper and brass were the weakest overall. Conclusions/Discussion Conductivity of the core in a solenoid has little to no effect on the strength of the magnetic field, only how ferromagnetic the material is.	
Summary Statement I tried to determine if different cores used in a solenoid would affect the magnetic field strength.	
Help Received Father helped wind coil; My teacher helped get project organized	