



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jacob R. Moe</b>	<b>Project Number</b> <b>J0915</b>
<b>Project Title</b> <b>Super-Duper Magnets: Transporting Us into the Future</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My project is to determine if perpetual motion can be achieved by using the repelling sides of magnets. I believe that perpetual motion can be achieved when stationary magnets are used against a rotating disk of magnets, thus defying the law of conservation of energy. <b>Methods/Materials</b> An engine was designed that consisted of a plastic disk that held 33 individual rectangle magnets with a pull force of 30# each and mounted on an axle in a vertical position. 4 larger, square stationary magnets of 40# of pull force each were spaced and position around the disk in an arc formation with their repelling sides facing outward towards the magnets on the disk. For the test, an electrical pull starter was used to begin the disk spinning. The spinning time of the disk was measured as soon as the starter began until the disk stopped spinning. The test was repeated multiple times with the repelling stationary magnets positioned at varying distances from the disk of magnets. <b>Results</b> The repelling stationary magnets positioned around the disk of magnets failed to keep the disk in motion at any of the tested distances. The magnets changed their polarity and went from repulsion to attraction, causing a braking action and thereby stopping the rotation of the disk. <b>Conclusions/Discussion</b> In conclusion, changing the distances of the repelling stationary magnets to the magnets on the disk could not overcome the changing of the polarity of the magnetic forces from repulsion to attraction nor could it overcome the law of conservation of energy.	
<b>Summary Statement</b> Producing perpetual motion using the repeling forces of magnets	
<b>Help Received</b> My parents helped me shop for the materials and supervised me when I used power tools and equipment	