



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Kai E. Marshland	Project Number S0319
Project Title The Effect of Disk Number on Tesla Turbine Efficiency	
Abstract Objectives/Goals The project examined Tesla turbines to measure how changing the disk number changed the efficiency of the device. Methods/Materials A Tesla turbine was constructed, using bearings, a dowel, and old CDs. Powered by a vacuum blowing out air, the turbine rotated, lifting up a weight, which was timed. The turbine was reassembled with a different number of disks, and the experiment was repeated. Results More disks allowed the Tesla turbine to raise the weight faster, therefore giving it a greater efficiency, up until seven disks, where the device was wider than the vacuum nozzle. Conclusions/Discussion More disks dramatically increase Tesla turbine efficiency, likely due to a greater surface area to utilize air flow.	
Summary Statement This project measured how changing the number of disks on a Tesla turbine changed its efficiency.	
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