CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
W. Douglas Liu

Project Number
J0218

Project Title
Windmill Blade Efficiency

Abstract

Objectives/Goals
My objective is to determine which number of blades on a windmill would generate the most electricity. I will test the windmill with 2, 3, 4 blades.

Methods/Materials
Build a stand to support the homemade windmill heads of 2, 3, 4 blades respectively. Take the two blade head and put it on the stand. Connect the multimeter to the motor. Put a box fan 0.6 meters away from the stand. Set the speed on the fan to mode 3 and within five seconds record the highest voltage. Do the same to the 3 and 4 blades. Repeat the experiment three times.

Results
The 4 blade windmill generated the most electricity while the 2 blade windmill generated the least electricity.

Conclusions/Discussion
My conclusion is that the 4 blade windmill generates the most electricity because it catches the most wind. The number of blades can change the output of a windmill. In windy areas setting up a wind turbine would help generate electricity. Windmill uses wind power so it does not give out carbon dioxide and is Eco-friendly.

Summary Statement
My project is to test whether different number of blades on a windmill will affect the output of electricity using 2, 3, and 4 blades.

Help Received
My mother helped me buy the materials. Mr. Rowe helped me make the windmill stand. Ms. Zephyr pointed out some grammar mistakes