



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Grace Park	Project Number J0122
Project Title How Wind Direction Affects a Wind Generator	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals A Wind Turbine is a powerful machine that plays a big deal in helping our environment during this type of economy today. And what powers a Turbine? A Wind Generator. Using a wind generator I will find which degree angle will produce the highest amount of voltage compared to other angles.</p> <p>Methods/Materials My project consists of positioning a wind generator in different angles in front of a high-speeding fan. The experiment is the testing on the variety of voltages (electricity) the different angles produce. The Angles are included: 0 degrees, 30 degrees, 45 degrees and 70 degrees, all on the left side since if I were to test it on the right side, there will be absolutely no voltage because the back side of the wind generator is blocked by its frame so the wind cannot get through.</p> <p>Results The experimental results proved my hypothesis correct with the Zero Degree having the highest amount of voltage (1.2, 1.0, 1.0). This is the angle degree having the Generator facing its whole front side to the fan.</p> <p>Conclusions/Discussion The reason I chose this experiment is because wind can come from all directions, and I was wondering which angle would produce the most voltage from the wind. Such real-life examples of wind having different direction would be the Sea Breeze and Land Breeze and their cycles. Wind direction can be differed by the topography of the Earth. This fact led me thinking to wind turbines and windmills and then eventually to my Question: WHICH ANGLE DEGREE WILL PRODUCE THE MOST VOLTAGE FROM A FAN SET UP ON HIGH SPEED TO A CONNECTED WIND GENERATOR?</p>	
Summary Statement My project is testing a wind generator direction from multiple degree components and see which angle will produce the most electricity.	
Help Received	