



# CALIFORNIA STATE SCIENCE FAIR 2011 PROJECT SUMMARY

<b>Name(s)</b> <b>Julian E. Andrade</b>	<b>Project Number</b> <b>J0202</b>
<b>Project Title</b> <b>Solar Energy</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of this experiment was to determine if the 2.5 inch solar panel would produce more electrical power to the rechargeable battery than the alkaline non-rechargeable AA, C, and D batteries.</p> <p><b>Methods/Materials</b> Use one 2.5 solar panel, 4 Miniature screw-base lamp (2.47 volts) and 4 lamp holders. 3 battery holders. Measured the voltage on the 3 alkaline non-rechargeable batteries AA, C and D. and the AA rechargeable battery with a voltage meter. I Took the red (positive) and black (negative) electrical wire, from the battery holders and connected the positive and negative connections to the light bulb lamp holders to the non-rechargeable batteries. I repeated the same procedure with electrical wires from the solar panel to the AA rechargeable battery. The solar panel with rechargeable battery was placed to an exposed sunny area. The voltage of the batteries were checked with a voltage meter, the data was recorded and logged for 9 days.</p> <p><b>Results</b> I recorded the voltage for each battery for 9 days. After 9 days of observation. By the 4 day AA non-rechargeable battery voltage dropped from 1.48 volts to .66 volts lost its potency. The C non-rechargeable dropped from 1.60 volts to 1.29 volts and 6 day dropped to .04 volts lost its potency. The D non-rechargeable dropped from 1.59 volts to .09 volts on the 9 day lost its potency. By the 9 day, the AA rechargeable battery with solar panel continue to have potency, varied from 1.23 volts to 0.96 volts. The AA rechargeable battery continue to recharged because the solar panel produce more electrical power to it while being exposed to daily direct sunlight.</p> <p><b>Conclusions/Discussion</b> I accept my hypothesis that the 2.5 inch solar panel produced more electrical power to the rechargeable battery compared to the alkaline non-rechargeable AA, C, and D batteries. It is amazing and exciting to see how technology for using Solar Power Energy can help the world have a healthier environment. This experiment with Solar Energy can be related to the world because Solar Energy is recycling energy that comes from the sun's rays and is everywhere the sun shines. It is free, clean and quite. Why not go green and recycle with Solar Energy and save the earth from air pollution.</p>	
<b>Summary Statement</b> My Science Projec is about Solar Energy and Batteries.	
<b>Help Received</b> My parents helped me with gathering all my materials, check my grammar and supervise. My science teacher review my project.	