



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> Oscar Aviles; Manuel Gonzalez	<b>Project Number</b> <b>S0701</b>
<b>Project Title</b> <b>Photo-Voltaic Cells</b>	
<b>Objectives/Goals</b> The objective of the project was to conduct research and laboratory experimentation to study photo voltaic cells and their practical applications.	
<b>Abstract</b> <b>Methods/Materials</b> Experiments were done to determine the following: A:Do similar PV cells produce similar electrical output? B:How does light intensity affect the electrical output of a PV cell? C:How does the angle of the PV cell to the light source affect the electrical output? D:How does the distance from the light source affect the electrical output of a PV cell? E:How does placing part of a PV cell in Shadow affect its electrical output? F:How does the color of the light affect the electrical output of a PV cell? G:How does combining PV cells in parallel affect the electrical output of the PV cells? H:How does combining PV cells in series affect the electrical output of the PV cells?	
<b>Results</b> a: Similar PV Cells produce almost similar electrical output. b: More the light intensity, greater the electrical power output. c: Electrical output is maximum when the light source is at right angles to the PV cell and reduces as the angle decreases. d: The power output decreases as the distance of the light source increases. e: Electrical output decreases as the area in the shadow increases. f: Since color blocks off part of the light waves, the output decreases. The reduction is least for red and the most for blue. g: In parallel, the current increases, but the voltage remains the same. h: In series, the voltage increases, but the current remains the same.	
<b>Conclusions/Discussion</b> Photo-voltaic cells are very important sources of future electrical energy as non-renewable sources of energy get depleted. At present they are very expensive. However, with more research, it would be possible to produce them more economically	
<b>Summary Statement</b> Photo-Voltaic cells are a promising source of electrical power for the future.	
<b>Help Received</b> Our teacher, Mr. Bindra procured the necessary test equipment and guided us in doing the project and helped us prepare the Project Report.	