



**CALIFORNIA SCIENCE & ENGINEERING FAIR  
2019 PROJECT SUMMARY**

<b>Name(s)</b>  <b>Alison Togami</b>	<b>Project Number</b>  <b>J0215</b>
<b>Project Title</b>  <b>Dye-Sensitized Solar Cells Made with Fruits</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> The objective of this experiment was to see if using different fruits to make dye-sensitized solar cells affected the amount of voltage the solar cells produced.</p> <p><b>Methods</b> A Nanocrystalline Solar Cell Kit from the Institute for Chemical Education provided the basic parts of the solar cells. Commercial raspberries, blueberries, and cherries were purchased to obtain the dyes used in the fabrication of the solar cells. Three solar cells were made for each fruit. Using a digital multimeter measured voltage of different cells under the light source.</p> <p><b>Results</b> Each solar cell was tested three times. The solar cells made with raspberry dye consistently had the highest voltage output, while the solar cells made with the blueberry dye consistently had the lowest voltage output.</p> <p><b>Conclusions</b> Solar cells dyed with raspberries produce the highest voltage and significantly produced more voltage than cells dyed with cherries or blueberries. While all of the solar cells produced measurable amounts of electricity, the type of fruit used has a major role in how much electricity they produce.</p>	
<b>Summary Statement</b>  I tested dye-sensitized solar cells made with three different fruits and found they produced varying amounts of electricity.	
<b>Help Received</b>  Based on internet research I modified the fabrication of the Nanocrystalline Solar Cells from Institute for Chemical Education Naoncrystalline Solar Cell Kit.	