



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Olivia G. Petty</b>	<b>Project Number</b> <b>J0217</b>
<b>Project Title</b> <b>The Effect of Water Cooling on Solar Panels</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment was to see if cooling the surface of a solar panel with water would increase its energy output. <b>Methods/Materials</b> I used two solar panels, two volt meters, and two 60 watt lights. Tubing, a glass pane, a water container and a water pump were used to build the water system. The water is pumped over the surface of the panel between it and the glass pane affixed on top of it. I cooled one solar panel with the water system and measured the energy output compared to the uncooled panel. <b>Results</b> The solar panels were placed under the lights and their energy outputs measured at 5 minute intervals. The results showed that as time passed, the energy output of the uncooled solar panel decreased from 19 volts to 17 volts while the energy output of the cooled solar panel increased from 19 volts to almost 20 volts after 15 minutes. <b>Conclusions/Discussion</b> After several trials of testing the energy outputs of the cooled and uncooled solar panels, I concluded that using water to cool solar panels does increase its energy output while the uncooled solar panel's energy output decreased as the surface temperature increased. This experiment demonstrated that using water on the surface of a solar panel to keep it cool will help it create more energy.	
<b>Summary Statement</b> For this project I developed a surface water cooling system for solar panels and found that it increased the panel's energy output.	
<b>Help Received</b> I designed the water system and conducted the experiment by myself and my dad helped me to build it.	