



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Andrew S. Izzo</b>	<b>Project Number</b> <b>J1012</b>
<b>Project Title</b> <b>A Drink from the Sun</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The goal of this project is to see if light can be manipulated and utilized to make the desalination process faster and more efficient. By varying levels of light penetration to the desalination rigs this research will assess that whether a darker film will produce more fresh water than a clear one. <b>Methods/Materials</b> Using multiple shades of window tint ranging from 100% Visible Light Transmission to 5% VLT, several measuring devices, and 4 plastic containers, desalination rigs will be constructed and the experiment will be conducted using ocean water. The rigs were placed in the testing area for 48 hours and once the testing period was over the amount water was measured and compared. <b>Results</b> In Trial 1 the 100% VLT produced the greatest volume at 22.4 mL. The other darker VLTs produced less than this in percent changes ranging from 51% to 72%. In contrast, in Trial 2 the 100% VLT produced only 13.3 mL significantly less than trial 1 but still greater than the darker VLTs which ranged from 36% to 62%. Trial 3 was similar to Trial 1. <b>Conclusions/Discussion</b> Based on this experiment the most effective light filter for desalination is none at all. The control (100% VLT) produced more desalinated water than all the others in all three trials. The darkest light filter (5% VLT) produced the least. One potential explanation of this is that the light filters used all reflected approximately the same amount of heat and light, and this reflection prevented heat conduction into the rigs.	
<b>Summary Statement</b> My project is about finding a better way to harness light to speed up the desalination process to make fresh water.	
<b>Help Received</b> Parents helped edit all papers, Father helped build display board	