



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> Arielle A. Czerwinski	<b>Project Number</b> <b>J0505</b>
<b>Project Title</b> Watt Lights Up?	
<b>Abstract</b> <b>Objectives/Goals</b> My objective is to see which of four local water samples (tap water, rainwater, ocean water, and river water) and distilled water will conduct the most electricity. To help interpret my results, I will test water with different concentrations of salt, iron, acidity and alkalinity. My objective is to see which of four local water samples (tap water, rainwater, ocean water, and river water) and distilled water will conduct the most electricity. To help interpret my results, I will test water with different concentrations of salt, iron, acidity and alkalinity. <b>Methods/Materials</b> I collected water samples and put them into jars with 2 stainless steel electrodes. The electrodes were used to complete a 12-Volt circuit lighting a light bulb. In this circuit, I measured voltage, current, and resistance with a volt-meter, amp-meter, ohmmeter, and a mega-ohmmeter. <b>Results</b> My results, in order from most conductive to least conductive, were: ocean water, tap water, river water, rainwater, and distilled water. The ocean water was by far the most conductive and the distilled water was almost nonconductive. I found that as the amount of salt, iron, acidity, and alkalinity increased, so did the conductance. <b>Conclusions/Discussion</b> My conclusion is that the salinity of the water sample plays a great role in the conductance of the water sample based on my experiment with various concentrations of salt in the water. Water with higher salt concentration conducted more electricity. I was surprised that our tap water conducted more electricity than the river water. It was because our tap water comes from the same river and has chlorine and fluoride added to it. The rainwater still conducted some electricity because of its# impurities and acidity.	
<b>Summary Statement</b> My project is to find the conductivity of four local water samples compared to distilled water.	
<b>Help Received</b> Dad lent me the electrical test equipment and showed me how to use it; Mom helped me type my report.	