



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> Melody N. Tehrani	<b>Project Number</b>  22876
<b>Project Title</b> Liquid Conductivity	
<b>Objectives/Goals</b> To determine which solutions will conduct electricity the best, and why. <b>Abstract</b> <b>Methods/Materials</b> 1 miniature lamp holder; 1 9-volt battery snap connector; 1 9-volt battery; 1 9-volt screw based lamp; 2 flexible coated 13-inch wires; 1 cup with a 3-inch diameter and 2.3 inch depth; 2 small metallic 3x1 inch metallic weights; glue gun/glue; 3 small screws; 1 small washer; 1 soldering gun, 1 12x3.5in wooden plank; 1 tablespoon; 1 volt meter; water; salt; vinegar; baking soda; baking powder; lemon juice; cranberry juice. After setting up the electric circuit, I connected the voltmeter to it. From there, I poured in the different solutions, recorded all observations, and recorded the reading of the voltmeter. I repeated the procedure for all of the solutions. <b>Results</b> Water did not conduct very much electricity. Baking powder was able to conduct more electricity with a direct current of 147mA. <b>Conclusions/Discussion</b> I came to the conclusion that tap water alone can conduct electricity, but not very well. Acidic solutions were not the best conductors of electricity; baking soda was. This was because of the molecular bonds of the baking powder solutions. Because it had more ions, it created a greater amount of electric charge.	
<b>Summary Statement</b> I determined what solutions (if any at all) were able to conduct electricity best and what caused them to do so.	
<b>Help Received</b> Parent soldered the wires to the metallic plates.	