



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

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Project Title Electro-Lyte It Up	
Objectives/Goals To measure the amount of electrolytes in various drinks and investigate if sports drinks has more electrolytes than daily drinks.	
Abstract Methods/Materials Materials: 1 digital multimeter; 1 foot of copper wire, bare; 1 wire cutter; 2 alligator cords, 12 inches; 1 roll of masking tape and a pen; 7 plastic containers; 1 inch of a plastic tube; ½ cup Fruit Punch+Berry Gatorade; ½ cup of Fruit Punch Powerade; ½ cup of Juicy Juice Apple Juice; ½ cup of Minute Maid Lemonade; ½ cup of Tap Water; ½ cup of Deionized Water. To Make the Conductor Sensor 1. Using wire cutters, cut two pieces of copper wire, about 6 inches long. 2. Cut the plastic tube into a 1 inch piece. 3. Wrap one piece of the wire around the tube near one end a few times, leaving about 2 inches of wire free. 4. Wrap the other piece of wire around the tube at the other end a few times, again, leaving 2 inches of wire free. There should be no contact between the 2 wires. Testing the Drinks 1. Label the 6 containers with the drinks of your choice. Label the 7th with Deionized Water. 2. Turn the multimeter on to DCA 200 microamps. 3. To complete conductor sensor attach alligator cord to copper wires on plastic tube. 4. Now place the completed conductor sensor into chosen drink with alligator cords not touching 5. Record amount of electrolytes after 10 seconds of application 6. Dry conductor sensor after rinsing in Deionized Water 7. Repeat steps 4-6 for each drink 3 times	
Results Propel Zero Gatorade Apple Juice Powerade Lemonade Tap Water Test 1 9.4 16.3 3.5 20.3 6.0 .2 Test 2 7.5 11.6 2.6 16.6 3.8 1 Test 3 7.5 11.1 2.1 12.7 2.2 .2 Average 8.13 13 2.73 16.53 4.0 .467 Numbers Refer to number of microamps	
Conclusions/Discussion Our hypothesis was correct. We proved sports drinks advertisements are correct because they can give you more electrolytes. Specifically, Powerade has the most electrolytes and tap water has the least.	
Summary Statement Measuring electrolytes in various drinks	
Help Received Father supervised experiments, Mother and sister helped with shopping and board.	