



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Channing C. Lee</b>	<b>Project Number</b> <b>S0617</b>
<b>Project Title</b> <b>Sports Drinks vs. Fruit Juices: Which Has a Higher Conductance, Meaning More Electrolytes?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment was to test the conductance of sports drinks and juices to see which has the most electrolytes. My hypothesis stated that if I run an electric current through a variety of fruit juices and sports drinks, then the fruit juices will have a higher conductance because they contain natural ingredients, and therefore more electrolytes.</p> <p><b>Methods/Materials</b> A simple conductance sensor was made using a disposable drinking straw and copper wire wrapped around the ends. A 2 in. tail was left from each piece. The Electrolyte Challenge Kit was set up following the instructions online. I tested Gatorade, PowerAde, Vitamin Water, Body Armor, coconut water, orange juice, grapefruit juice, and pomegranate juice. Each liquid was poured in its respective bowl, at room temperature. The conductance sensor was placed in each drink, completely immersed. All liquids were tested thrice to obtain a total of three measurements each.</p> <p><b>Results</b> Fruit juices had a higher electrolyte content overall.</p> <p><b>Conclusions/Discussion</b> Overall, fruit juices had a higher current in mAs than sports drinks. Surprisingly, coconut water had the highest average current measurement among the fruit juices. Therefore, my experiment supported my hypothesis, and fruit juices had a higher conductance.</p>	
<b>Summary Statement</b> The conductance of sports drinks and fruit juices were tested to determine that fruit juices have a higher electrolyte content overall, with coconut water as the leading drink.	
<b>Help Received</b> My biology teacher taught me how to perform statistical analysis tests and how to choose the most appropriate test for my experiment.	