



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Adrian Guo	Project Number 38214
Project Title Electrolytes in Gatorade	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective was to determine if different flavors of Gatorade had different amounts of electrolytes.</p> <p>Methods/Materials 3 different flavors of Gatorade were used. The flavors were; Orange, Cool Blue, and Fruit Punch. Three bowls of equal size were used to hold the liquids. A handmade conductance sensor and circuit was used to measure the conductance of the liquid by sending a electrical current through the liquid. I used the formula ($G=I/V$) to convert the results to millisiemens (a unit of measure for conductance) to show to the conductance of the liquid. Since electrolytes conduct electricity, so the more conductance, the more electrolytes.</p> <p>Results Gatorade Orange consistently had the most conductance. Gatorade Fruit Punch consistently had the the second most conductance.</p> <p>Conclusions/Discussion Gatorade is commonly drunk during intense workouts to replenish lost electrolytes. As shown in the experiment, specific flavors of Gatorade had different amounts of electrolytes. I noticed in the ingredients that all flavors had different dyes. I would like to do more research on dyes to see if it might have affected the results. Results suggest that Gatorade Orange flavor has more electrolytes compared to the other flavors, therefore being more effective.</p>	
Summary Statement This experiment is about measuring and comparing the amounts of electrolytes in different flavors of Gatorade.	
Help Received The design for the conductance circuit was found on the internet. I also modified the procedure found on the same site. I performed the experiment without help.	