



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

Name(s) John Page	Project Number J1221
Project Title Got Juice? Analyzing Drinks for Athletes	
<p style="text-align: center;">Abstract</p> <p>Objectives My objective for this project was to find out which drink(s) best enhances one's athletic performance.</p> <p>Methods Indoor basketball court, stopwatch for timing, clipboard, a chart to record the suicide drill times. For each participant, they drank 16.9 fluid ounces of Propel, 14 fluid ounces of Nesquik chocolate milk, 11.5 fluid ounces of Simply Orange orange juice or 14 fluid ounces of Dasani water. I tested 13 students running suicides after drinking various liquids. On each day of testing, I gave my subjects (i) 12 ounces of water, (ii) a bottle of Propel which contains 230 mg of sodium, (iii) a bottle of Simply Orange orange juice which contains 640 mg of potassium or (iv) a bottle of Nesquik chocolate milk which contains 400 mg of calcium. Instead of giving each participant the same amount of each electrolyte being tested, each participant consumed a single bottle of each liquid as an athlete would purchase at a store or at a gym. One hour after drinking the liquids, each student ran one suicide drill. I used a stopwatch to time each drill and recorded each time on a chart.</p> <p>Results After testing all of the various sports drinks, the data supports my hypothesis that Propel best enhances one's athletic performance. Next time you wonder which sports drink to reach for during a workout, I strongly advise Propel! However, Propel is not the only drink out there and so if I could further my study, I would test more drinks such as Powerade and monster.</p> <p>Conclusions After collecting and analyzing my data, it appears that Propel produces the best athletic performance. 46.2% of the students ran their fastest suicide drills after drinking Propel, 41.7% ran their fastest drill after drinking chocolate milk, 7.7% ran their fastest drill after drinking orange juice and only one student ran his fastest suicide drill after drinking plain water. Also, 38.5% of the students ran their slowest suicide time after drinking water, 30.8% of ran their worst time after drinking orange juice, 25% ran their slowest time after drinking chocolate milk and only one student ran his slowest suicide drill after drinking Propel. After drinking Propel, the average suicide time was the lowest at 31.72 seconds. The average suicide time after drinking orange juice and chocolate milk tied with an average time of 31.91 seconds. Though very close, water had the worst average suicide time with an average of 31.92 seconds. Not only did Propel have the fastest average suicide time, but drinking Propel also improved participants running performance by an average of 84.6% as compared to water, while chocolate milk and orange juice</p>	
Summary Statement As an athlete who is always looking for ways to improve my athletic performance, I tested the liquids orange juice, Propel and chocolate milk, to determine if any of these liquids enhanced physical performance as compared to water.	
Help Received For my project, I received help from my P.E teacher to find times for my subjects to run drills in our schools gymnasium and my mother to help me purchase the drinks I tested.	