



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Taylor V. Borges; Madeleine T. Kinder	Project Number J1505
Project Title The Effect of Sports Drinks on Blood Pressure and Heart Rate as a Measure of Athletic Performance	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project was to study the effect of electrolyte sports drinks on seventh grade students by measuring blood pressure and heart rate. It was predicted that the electrolyte drink would help maintain a lower blood pressure and heart rate than water alone.</p> <p>Methods/Materials 30 participants were randomly divided into 3 equal groups: a water group, an electrolyte group and a control group with no liquid. Each participant was administered their drink which was identified by a number so that neither the participant nor the test administrator was aware of which drink contained what liquid. After each participant consumed their drink they were instructed to sit for 10 minutes allowing time for each drink to enter the body and do a set amount of exercise. Testing was staggered in 5-minute intervals to allow time for each participant to have their blood pressure and heart rate measured immediately after exercise. Testing was repeated three consecutive days to establish validity of results.</p> <p>Results Blood Pressure measurement: Subjects who drank water had a 38% increase (systolic) and a 6% increase (diastolic) vs. subjects who drank electrolytes had a 5% increase (systolic) and a 7% decrease (diastolic). Heart Rate measurement: Subjects who drank water had a 73% increase vs. subjects who drank electrolytes had a 43% increase.</p> <p>Conclusions/Discussion The hypothesis was correct, the electrolyte sports drinks did help to maintain a lower blood pressure and heart rate. Though the results proved the hypothesis, the large difference in the blood pressure and heart rate was unexpected. Given that the results revealed such a significant difference in the consumption of electrolyte sports drinks vs. water, we hope to continue with this research to see if the results remain consistent.</p>	
Summary Statement The purpose of this project is to study the effect of electrolyte sports drinks on seventh grade students by measuring blood pressure and heart rate.	
Help Received Leah Stamper helped us continue our research and revise our board. Dave Kinzer, an athletic trainer, helped us think of ways to improve our project. Tedda Borges, helped put together the project and Melissa Kinder, a nurse, helped by taking the blood pressure of the participants.	