



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Sydney Burlison; Sarah Johnson	Project Number J1403
Project Title Does Caffeine Affect the Running Speed of an Eighth Grader?	
Abstract Objectives/Goals Does caffeine affect an eighth grader's running speed? We are trying to find out whether caffeine will affect the average eighth grader's running speed and how the placebo effect might affect the results. Methods/Materials We separated 18 people into three groups. Over a period of three days, each group received 300 mL of diet Coke, diet-decaffeinated Coke, or water. Each day, we had the three groups all wait ten minutes and then had each group run two laps around the All Saints' Day School field. Over the three days, each subject received each of the three liquids. Since the placebo effect might have been involved, we told the subjects that they were drinking "diet Pepsi" instead of diet-decaffeinated Coke. This could have made them believe they would run fast two out of the three days. After the three days, we were then able to analyze whether caffeine did or did not affect an eighth grader's running speed. Results In our graph we show that the average running speed of fifteen eighth graders was 2 minutes and 59 seconds when they consumed diet Coke, 2 minutes and 59 seconds when they consumed water, and 3 minutes and 6 seconds when they consumed diet-decaffeinated Coke. We concluded that the amount of caffeine in a regular soft drink does not affect an eighth grader's running speed and the placebo effect was, in this case, not a variable. These results indicate that our hypothesis was incorrect, because we believed that caffeine would affect running speed, and that there might be a placebo effect. Conclusions/Discussion Our experiment was important because it answers the question of whether a small amount of caffeine would or would not affect an eighth grader's running speed. In running a short race, it did not seem to matter much if caffeine is consumed or not. Our experiment could have a different outcome if we used marathon runners instead of eighth graders. We would then be able to determine whether marathon runners perform better during a longer race after consuming caffeine. Athletes could apply the results of this experiment to their sport.	
Summary Statement Our project was a study to determine whether or not the amount of caffeine in a regular soft drink would affect the athletic performance of an average eighth grade student, and whether or not a placebo effect is a variable.	
Help Received None.	