



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Adam A. McDonald	Project Number J0624
Project Title What Is the Effect of Sugar on Memory?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals</p> <ol style="list-style-type: none">1) Identify the effects of sugar on memory2) Identify all the effects of sugar <p>Methods/Materials</p> <p>MATERIALS pens, 2 different laminated pictures, 2 different tests regarding the pictures, consent forms, water, 1 bag of sugar, 6 oz. cups, timer.</p> <p>PROCEDURE Prepare water and sugar water for testing. Have all subjects complete a consent form. Give each subject a cup of water (control sample) to drink. Randomly select one of the test pictures that will be used for the test. After 10 minutes, display the selected picture to the subjects for fifteen seconds. Have each subject complete the questionnaire which corresponds with the selected picture. When the questionnaires are complete, have each subject drink a cup of sugar water (test sample). After 10 minutes, display the second picture to the subjects for fifteen seconds. Have each subject complete the questionnaire which corresponds with the second picture. Score each test and log the results.</p> <p>Results The results of the study show that sugar does NOT improve memory. In fact, sugar appears to worsen memory. The test scores in nearly every gender and age group were lower after drinking sugar water. The only group with higher test results after drinking sugar water was people over 45 years of age. The 18 to 30 year old group showed the best memory overall before drinking sugar water. Ages 5 to 17 had the second best memory. The average test score for males was slightly higher than for females in both the test and control groups. The consumption of sugar had a slightly greater negative effect on males than on females. The test scores for males were on average 14.8% lower after drinking sugar water, while the test scores for females were on average 13.9% lower after drinking sugar water.</p> <p>Conclusions/Discussion The hypothesis of this experiment is, #Sugar improves memory.# Based upon the data, the hypothesis is rejected.</p>	
Summary Statement To determine the effects of sugar on memory.	
Help Received My mother helped with the organization. My father helped with the graphs. My Science teacher Mrs. Taylor guided me.	