



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Jonathan L. Arenson	Project Number S0302
Project Title What Are the Effects of Different Colors on Short-Term Memory in Humans?	
Abstract Objectives/Goals The purpose of the experiment was to observe the effects of different colors on short-term memory. I hoped to prove that colors have a greater impact on short-term memory. Methods/Materials The independent variable for the experiment was the color of the images while the dependent variable was the qualitative score that the person received on the test. I tested 20 high school students (10 females and 10 males). The subjects were shown four images consisting of twelve alphabet letters each. Each image contained twelve letters of the same color but each of the images was a different color. After five seconds, the image was removed and they were asked to recreate the image to the best of their ability. Results The blue images received the highest mean score with 3.05 and the green images came in second with 3. The red images received an average score of 2.85 and the black images received the lowest with 2.35. Conclusions/Discussion I used a t-test to compare the mean qualitative scores that the subjects received with the colored images to the mean qualitative score that the subjects received with the black images. The results of the t-test showed that there is not a significant difference between the mean score of the colored images and the mean score of the black images. I used a 95% confidence level to determine whether I would reject my null hypothesis which stated that the mean scores of the colored images were not statistically significant from the mean scores of the black images. Their standard deviations showed that there is not much variation between the different data sets. Therefore, the blue, red, and green images were not remembered any more clearly than the black images. My hypothesis was not supported by my data.	
Summary Statement The project tests the effects of different colors on short-term memory in humans.	
Help Received	