



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Rebecca H. Strull</b>	<b>Project Number</b> <b>J0721</b>
<b>Project Title</b> <b>Stroop Artistry: Effect of Color Aptitude on the Stroop Test</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The primary objective was to test whether people who use color artistically or practice a lot with color are able to overcome conflict between color and word. I tested this using the Stroop Test, a word reading, color naming test of how the human brain processes information.</p> <p><b>Methods/Materials</b> I had 54 subjects take three timed Stroop tests- control, word, and color. Eight of the subjects earn a living using color, such as professional artists, interior designers, and painters. In the control test, the words and the ink colors matched, and the subject read each word aloud. In the word test and color test, the words and the ink colors did not match. In the word test, the subject read the words aloud, and in the color test, the subject named the ink color of each word aloud. I collected additional information about the subject, including a rating of their artistic use of color, gender, and age.</p> <p><b>Results</b> When controlling for age, subjects with higher artistic use of color had less difficulty with the Stroop test, so therefore were able to partially overcome the conflict between color and word. On average, the difference between their times on the three tests were less than that of the other subjects.</p> <p><b>Conclusions/Discussion</b> This experiment tests the response time of the human brain in processing information, in this case words and colors. When presented with a conflict between color and word, the word comes faster to the brain than the color, because reading words is an automatic response. That is, you unconsciously (or automatically) read a word when you see it, but it takes controlled effort to name the color that you see when that color is in conflict with the written word. These results suggest that recognizing color for people who have a high aptitude for color is more of an automatic task than it is for the rest of the population.</p>	
<b>Summary Statement</b> My project is about whether people with a high aptitude for color can overcome the conflict between color and word in a Stroop test, illustrating that tasks become automatic with practice.	
<b>Help Received</b> Parents helped me learn how to graph in Excel, answered questions about research studies in science journals, helped glue papers, and proofread	