



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> <b>Fiona Hall-Zazueta</b>	<b>Project Number</b>  31325
<b>Project Title</b> <b>The Effect of Screen Background Color on Reaction Time</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment is to determine the effects of screen background color on computer users' reaction times.  I hypothesized that when a green background is displayed computer users will have faster reaction times and when a red or yellow background is displayed computer users will have slower reaction times. <b>Methods/Materials</b> A program was written using the Scratch 1.4 programming environment on a Macbook Pro. The program displayed F and J on various colored backgrounds and recorded the time it took test subjects to type the appropriate letter. 35 test subjects from the Orchard View School community ranging in age from 8 to 75 participated in the study. <b>Results</b> A black background resulted in the slowest or second slowest reaction time for more than half of test subjects. A yellow background resulted in the fastest or second fastest reaction time for more than half of test subjects. Reaction times for all other colors were within 20 milliseconds of each other. <b>Conclusions/Discussion</b> My hypothesis was shown to be incorrect, however screen background color does have demonstrable effects on computer users' reaction times. One potential source of error was the learning curve of the program. Some users clearly became more proficient at using the program as the test progressed.	
<b>Summary Statement</b> My project shows the effect of six different background colors on the reaction times of computer users.	
<b>Help Received</b> Mother taught me to use pivot tables in Microsoft Excel. Both mother and father offered programming suggestions and helped with debugging. Father proofread summary.	