



# CALIFORNIA STATE SCIENCE FAIR 2014 PROJECT SUMMARY

<b>Name(s)</b> <b>Diya Jain</b>	<b>Project Number</b>  34837
<b>Project Title</b> <b>Does Color Affect Learning and Memory?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b>  The purpose of this project is to find out if color does affect learning and memory. It is important because it can change the way we learn. Based on my research, my hypothesis is that color does affect learning and memory.</p> <p><b>Methods/Materials</b>  I created three presentations to show to the participants, one for each school level ( elementary, middle, high). Each presentation consisted of six words that were in different colors: red, orange, yellow, green, blue, and black. The background color was white. Then I had to gather the participants. I got 30 students in total; 5 kids of each gender from elementary school, middle school, and high school. Next I showed them the presentation. Each word was shown for 30 seconds. After a five minute break, I asked each participant if they could remember the definition and try to use it in a sentence. The responses were timed. I then found the averages of the times and compared it against the control which was the black word.</p> <p><b>Results</b></p> <p>For high school, the words in black color had the fastest time with an average of 3.17 sec for memory retention and 4.9sec for creating sentences with learnt words. I think that word in black color was proven to be better because high school students are used to seeing/reading words in black color for a longer period of time and have become used to it.</p> <p>For middle school, word in red color had the fastest time with an average of 3.61 seconds for memory retention compared to the average black time which was 4.78sec. For learning, black had the best time with an average of 3.9 seconds.</p> <p>For elementary school, word in red color had the best time with an average of 1.53 seconds for memory retention and 3.92 seconds for learning. Overall words in red color also had the fastest time with an average of 3.10 seconds for memory retention and an average of 5.09 seconds for learning.</p> <p><b>Conclusions/Discussion</b></p> <p>In conclusion, color did affect learning and memory. My hypothesis was supported by the data that I gathered. The students responded quickest for the words in red, hence showing that it was the most efficient for the brain in learning and understanding.</p> <p>There were many factors that could have changed the results like the background that the interview was done in, the knowledge of the participants, and the complexity of the words.</p>	
<b>Summary Statement</b> In my project, I tried to find out if color does affect learning and memory, and based on my data it shows that color did affect learning and memory and the students responded the quickest to word in #red# color.	
<b>Help Received</b> Project Guidance was provided by a science teacher in my middle school, Mrs. Popescu. My brother helped me coordinating students in high school for interviews and elementary students. My dad helped me with printing & helping with buying items needed for the presentation board.	