



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

<b>Name(s)</b> Yasmine Baker	<b>Project Number</b> <b>J0703</b>
<b>Project Title</b> <b>Does Color Affect Comprehension?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this study was to determine which text color has the greatest positive impact on comprehension. I hypothesized that red will have the most considerable impact as previous studies have demonstrated that this color generates feelings of excitement and intensity.</p> <p><b>Methods/Materials</b> A printer, paper, pen, and test subjects were needed to complete this project. In order to control for individual comprehension ability within a sample, I gave students a ten question comprehension quiz, then selected those who scored between three to eight. Then, a pre test on a certain topic was given to see how much information they knew about the topic. Next, the subjects were given a short essay on that topic in one of four selected colors. After that, the subjects took a post test to see how much information was gained. This phase was repeated with three different colors and groups, and to confirm the results, another phase was completed, this time, with another topic.</p> <p><b>Results</b> In my experiment, I discovered that red and black affected comprehension the most (its average improvement for phase 1 was 3.46). The next most effective color was green at 3.15, then blue at 2.46. In phase 2, black affected comprehension the most, at an average improvement from pre-test to post-test of 1.83. The next two most effective colors were red and blue with an average improvement of 1.58, then green at 1.50. I also looked at many others characteristics that would control for them.</p> <p><b>Conclusions/Discussion</b> The final data supported my hypothesis. The colors red and black are best for comprehension. Students should implement the results from this project to determine what color text facilitates their learning. The experiment expands our knowledge about comprehension by demonstrating that different colors affect students differently. This project is extremely important because these results need to be taken into consideration in academic settings to help student achieve optimum comprehension. Future experiments include figuring out other variables that affect comprehension.</p>	
<b>Summary Statement</b> I tested middle schoolers to see which text color would positively affect comprehension the most, and found that red and black colored text help facilitate optimum comprehension.	
<b>Help Received</b> I designed, performed, and analyzed the data by myself. The only help I received was with my science teacher who gave me a couple of ideas on ways to analyze my data.	