



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Carson A. Linxwiler	Project Number J0711
Project Title The Powers of Camouflage: The Effects of Colors on the Brain	
Abstract Objectives/Goals With an ever-growing military, in which numerous casualties are reported annually, I set out to create an exceptionally more effective and cost-efficient camouflage by utilizing colors, and how they affect our perception of everyday occurrences. Methods/Materials Data was gathered from twenty-two seventh grade students who were asked to pick up as many M&M candies in nineteen seconds as they could. The M&M candies were randomly assorted into sets of five same-colored candies and were placed upon specific colored construction paper. Before a student could select an M&M candy off the paper, he or she was told to say any word in the English dictionary excluding colors, names, letters, or numbers. The colors for both the M&M candies and the construction papers included red, orange, yellow, green, blue, and brown. Results Contrasting with popular belief, the M&M candies placed upon a paper of the corresponding color background were not the hardest for the prying eyes to locate. In fact, in some cases they were the easiest to spot! Conclusions/Discussion A distinctive pattern arose in each of my tests utilizing the color wheel. For instance, my first test used a background color of red, and by comparing it to the least commonly selected color of yellow, you will see that yellow is directly across and two colors to the left of red on the color wheel. This pattern occurred in every subsequent test. This new-found knowledge of color perception could allow our military to create a more effective camouflage.	
Summary Statement By investigating color perception and its effects on our brain, I conducted an experiment, in which I discovered that samples, when placed upon a background of the same color were not the most difficult to see.	
Help Received Mother helped glue my board; classmates became subjects for my experiment	