



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Matthew G. Austin	Project Number J1001
Project Title Are Dogs Colorblind?	
Objectives/Goals Purpose: To determine if dogs are colorblind. Hypothesis: Dogs are able to see at least some shades of color.	
Abstract Methods/Materials 1. Take black and white pictures of an assortment of colored construction paper to determine which colors appear to have similar and dissimilar degrees of brightness and shade. 2. Cover two jars with different colored construction paper that share a similar shade when photographed with black and white film. Cover the third jar with another color whose photograph shade is distinctly different from the other two jars. 3. The dog will be trained to go to one of the similar shaded jars from the differently shaded jar. When the dog chooses the correct jar reward it with a treat. 4. Replace the different shaded jar with the similar shaded jar. The dog needs color vision to distinguish between the two jars, since with complete color blindness the two colors would appear to be the same shade. 5. Switch positions of the jars and test the dog 25 times each trial. If the dog is correct, reward him with a treat. Chart the number of correct and incorrect responses. Materials: Colored construction paper, Camera, 3 glass jars, 2 dogs any breed, sex, or age, dog treats	
Results Yellow and violet were chosen as similar colors in the black and white photos to test the dogs for color blindness. The dogs chose the correct yellow jar in 72% of the trials.	
Conclusions/Discussion In the first part of my experiment, I trained Max and Sam to recognize the yellow jar as a treat jar. The next step in my experiment tested if Max and Sam could pick the yellow jar from the red jar. In the first trials Sam chose the correct yellow jar 52% of the time while Max chose the correct yellow jar 84% of the trials. Sam was retested several days later and chose the yellow jar correctly 76% of the trials. The second half of my experiment tested if Max and Sam could distinguish between a yellow jar and a violet jar. Even though yellow and violet appear to be similar shades in black and white photos, the dogs were able to choose the correct yellow jar 72% of the trials. This data supports my hypothesis that dogs can see some shades of color.	
Summary Statement I wanted to determine if dogs are in fact completely colorblind, as many people including many veterinarians believe.	
Help Received Mother helped take pictures and record data. Dad kept one dog occupied while the other dog was being tested. My teacher, Ms. Kavern, taught me how to write the report and keep a journal.	