



CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s) Amelia M. Whittaker	Project Number J1136
Project Title Stain Remover Experiment	
Objectives/Goals The objective of my project is to determine which stain remover works best on white cloth.	
Abstract Methods/Materials The stain removers I chose were Soilove, Oxiclean, and Spray #n Wash. The stain I used was Aqueous Annatto Extract. I placed one drop of the stain on the center of the white cloth (same size cloth). I waited an hour before applying the stain remover. I applied # ml of stain remover on the stain. I waited 1/2 hour before processing the cloth through the washer and dryer. I took pictures of each stage: #Before# (plain white cloth); #With Stain# (stain on the cloth); #After# (after the stain remover was applied and the cloth was washed and dried). I tested all three stain removers four times.	
Results I used Adobe Photoshop # PS to see which stain remover removed the most amount of stain. I used the #Mean# to measure how much stain each stain remover removed. The #Mean# is based on the electromagnetic spectrum 0-255 (0 is really dark and 255 is white). Example of #Mean#: 174.99 (Before-#Mean#). The stain remover that removed the most amount of stain looking at the color spectrum: #Colors# was Spray #n Wash with an average of 61.14%. Oxiclean came in second place with an average of 49.89%. Soilove came in last place with the average of 35.16%. I also separated the Color Spectrum into three distinctive colors: Red, Green, and Blue to measure amount for each color. The equation I used to determine how much stain was removed was: Percent Change. The equation is #After-mean# minus #With Stain-mean# over #Before Stain-mean# minus #With Stain-mean# then multiply by 100.	
Conclusions/Discussion I found Spray #n Wash removed the most amount of stain. Spray #n Wash worked best, because it had enzymes when no other stain remover had. When the stain remover is going through the steps to remove a stain the two other stain removers didn't have enzymes to eat the stain. Enzymes speed up the process of oxidizing agents. Since Soilove and Oxiclean didn't have enzymes it would take longer to eat the stain. Adobe Photoshop # CS generates graphs based on the electromagnetic spectrum. The electromagnetic spectrum goes from 0-255. 0 being really dark, and 255 being pure white. This means the stain was removed partially and you can see the difference in the graph. I found Spray #n Wash removed the most amount of stain.	
Summary Statement My project is about product testing of stain removers.	
Help Received Mother helped with software and provided help for grammar and punctuation; Father helped with photography and printing of pictures; Science Teacher helped with research.	