



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Jennifer Duncan; Rachel Nuno	Project Number 23593
Project Title Are Your Clothes Really Clean?	
Objectives/Goals The objective is to determine which laundry detergent (comparing Tide, Cheer, Oxy Clean, and Store Brand) removes stains from cotton the most effectively. Abstract Methods/Materials Twelve Hanes white 100% cotton t-shirts were put through a rinse cycle to remove any manufacturing residue. The t-shirts were then stained with 15ml of grape juice, mustard, spaghetti sauce, and grass; and were then hung for 5 hours to dry. The t-shirts were then washed one at a time in 120ml of each type of detergent (Tide, Cheer, Oxy Clean, and Store Brand(generic)). They were then hung until dry. Results In each of the three trials, Tide eliminated stains more efficiently than each of the other brands of detergent. In Trial #1 on a scale of 1-5 with 1 being whitest, Tide ranked a 3 in grass, 2 in spaghetti sauce, 3 in mustard, and 2 in grape juice. In Trial #2 Tide ranked 2 in grass, 3 in spaghetti sauce, 2 in mustard, and 1 grape juice. In Trial #3 1 in grass, 2 in spaghetti sauce, 3 in mustard, and 2 in grape juice. The overall average of Tide is 2.16 in whiteness. Conclusions/Discussion The Tide proved to be the best overall detergent (comparing Tide, Cheer, Oxy Clean, and Store Brand) at removing stains from cotton.	
Summary Statement This project tested the stain removing ability of Tide, Cheer, Oxy Clean, and Store Brand detergents.	
Help Received N/A	