



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Jennifer Duncan; Rachel Nuno	Project Number S0504
Project Title Are Your Clothes Really Clean?	
<p style="text-align: center;">Abstract</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Conclusions/Discussion The Tide proved to be the best overall detergent (comparing Tide, Cheer, Oxy Clean, and Store Brand) at removing stains from cotton.</p>	
Summary Statement This project tested the stain removing ability of Tide, Cheer, Oxy Clean, and Store Brand detergents.	
Help Received N/A	