



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Lindsey B. Gribas</b>	<b>Project Number</b> <b>J2217</b>
<b>Project Title</b> <b>Which Detergent Cleans Best?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of this experiment was to test four brands of detergent to see which cleaned the best. The four brands being tested were Tide, Cheer, Melaleuca and Kirkland (Costco Brand). The hypothesis was that Tide would do the best because its advertisement says it cleans better than clean. It had also won a VIP award. I also wanted to know if it was worth the cost.</p> <p><b>Methods/Materials</b> Materials: paper, pencil, white cotton material pieces, stains (ink, lipstick, oil, grass and dirt), permanent marker, timer or clock, detergents (Tide, Cheer, Melaleuca and Kirkland), scissors, sink or bucket to wash the material</p> <p>Method: I cut out 40 pieces of white cotton material and put 5 different stains on them. The stains were lipstick, oil, grass, ink and dirt. I then washed each piece for 10 minutes and soaked them for 3 minutes. I did this process twice.</p> <p><b>Results</b> The results were the same both times. The lipstick did not come out of the material for any of the four detergents, but came out better using Tide and Cheer. The oil did not come out at all with any of the detergents, and none did better. The grass, ink and dirt came out completely with all four detergents. Using the cost of Tide at \$.14 an oz., Cheer at \$.11 an oz., Melaleuca at \$.31 an oz. and the Kirkland brand at \$.09 an oz., you would get the best buy for your money using Costco's Kirkland brand.</p> <p><b>Conclusions/Discussion</b> The data gathered through this experiment does not support the hypothesis that Tide is the best detergent for getting the five stains out of the cotton material that was used. The data shows that all the brands did essentially the same except for the stain of lipstick. With the stain of lipstick, Tide and Cheer did the best---neither getting it out completely. This data would suggest that you could use any of these detergents and feel confident that they would work for getting out common stains. Therefore, the cheapest brand, Kirkland, would be the best choice for your money. You can not always believe advertisements. Paying more money does not guarantee you better cleaning power.</p>	
<b>Summary Statement</b> Which of these detergents ,Tide, Cheer, Melaleuca and Kirkland , cleans the best for your money?	
<b>Help Received</b> My family helped with typing and advice on my board.	