



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Faith E. Blake	Project Number J1102
Project Title The Toothpaste that Whitens Stains the Best: Aquafresh, Rembrandt, Tom's, or Ultra Brite	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of the experiment was to find out of the four whitening toothpastes - Aquafresh, Tom's, Rembrandt, and Ultra Brite - the one that could whiten three distinct stains the best. The toothpastes used different ingredients for whitening. Ultra Brite was predicted to whiten the best, because it used tough abrasives to scrub stains.</p> <p>Methods/Materials The materials included each of the four toothpastes, a toothbrush for each, 15 pieces of tile (to test on), 1 8-oz. can of concentrated grape juice, 1 box of tea bags, 3 cups of coffee, and 3 pots for soaking. Stains were applied to separate tiles, and soaked for 8 hours. The procedure consisted of brushing the unpolished sides of the stained tiles for one minute each. They were then compared to one another and ranked by whiteness, and averaged at the end of the ten-day experiment per toothpaste.</p> <p>Results The toothpaste with the highest average ranking was Aquafresh. Rembrandt was second, Ultra Brite third, and Tom's last.</p> <p>Conclusions/Discussion After the experiment, the author researched to find why exactly the different toothpastes had the results they did. Aquafresh had an ingredient called Triclene that broke up the bonds of stains so they could easily be brushed away. Ultra Brite and Tom's used abrasives, and were the two worst whiteners. Rembrandt used Alumisil, but was not found to break up particle bonds. The experiment proved that abrasives are the least effective method for whitening teeth, and ingredients that break up the bonds of stains are what customers should look for in a whitening toothpaste.</p>	
Summary Statement This experiment was to find the whitening toothpaste that whitened stained teeth the best.	
Help Received Mother helped to time brushing, and proofing logbook. Sister helped time brushing.	