



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

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| Name(s) Phoebe G. Ng | Project Number S1413 |
| Project Title Between the Bristles | |
| Abstract | |
| Objectives/Goals My objective was to discover which method of cleaning one's toothbrush was most effective in eliminating pathogenic bacteria. | |
| Methods/Materials I chose to test the following methods: rinse with water, wash/rub with water, soak in mouthwash, soak in baking soda, zap in microwave, and no treatment/action after brush, which serves as the control. Before the start of each cleaning method, the subject toothbrush will be swiped across a #simulated mouth# bacteria bed for thirty seconds. After uniform treatment of all the toothbrushes, then the methods (the dependant variable) will be tested; samples will be then taken and transferred to nutrition agar petri dishes, which will be incubated and monitored for three days. | |
| Results Listerine mouthwash allowed no bacteria colonies to grow. The bacteria bed reached 883 colonies; Rinse with Water multiplied the bacteria colonies to an average of more than 1000 bacteria colonies. Wash/Rub with water averaged of 39 colonies. Soak in Baking Soda and Microwave 237.5 and 220.5, respectively. The control grew 2.5 bacteria colonies. | |
| Conclusions/Discussion The results of my investigation support my hypothesis that soaking a toothbrush in Listerine mouthwash is the most effective method at eliminating the number of bacteria colonies that can be grown on toothbrushes. Rinsing one's toothbrush was actually more harmful than leaving the toothbrush alone. The two #myth methods#, Soak in Baking Soda and Microwave, were proven to be un-effective because they produced over 200 bacteria colonies. | |
| Summary Statement My project is about discovering what is the most effective method of eliminating bacteria on a toothbrush. | |
| Help Received Mother and sister provided infinite moral support | |