



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

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| Name(s) Kimberly Chwalek; Elizabeth Sullivan | Project Number J2108 |
| Project Title Cleansers vs. Bacteria: Which Will Win? | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our science fair project tested to see if kitchen cleansers and hand sanitizers really kill 99.9 percent of bacteria like they claim.</p> <p>Methods/Materials We tested seven different kitchen cleansers and hand sanitizers. The names of these kitchen cleansers are Lysol, Clorox, Fantastik, Windex and the hand sanitizers are Purell, CVS pharmacy sanitizer, and Kroger sanitizer. In the first experiment of our project, we cultured different sections of our kitchen counter top. Then we treated each section with a specific product using it like people generally would, spraying the product then quickly wiping. We then re-cultured each section. After 48-72 hours, we compared the number of bacterial colonies on the blood agar plates of each section to their specific controls. In the second experiment, we used each product's specified contact times. We repeated the experiment but made sure the product stayed on the kitchen counter for its specified contact time. We then recultured each section. After 48 hours we compared the bacterial colonies and made an estimated percentage of how much each product killed.</p> <p>Results Our overall results show that Lysol came in 1st, killing 90-96% of bacteria, while Fantastik came in last killing 20-25% of bacteria.</p> <p>Conclusions/Discussion Our results show that none of these kitchen cleansers or hand sanitizers met their claims by saying they killed 99.9% of bacteria. Some of these products had an advantage because they had longer contact times. For instance, Clorox had a contact time of 2 minutes. Usually the average person doesn't leave the product on the surface for two minutes, they quickly spray and wipe.</p> | |
| Summary Statement Our project tested if kitchen cleansers and sanitizers really kill 99.9 percent of bacteria like they claim. | |
| Help Received Dr. Deb Robertson supplied us with blood agar plates and sterile q-tips and taught us how to inoculate culture plates. | |