



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Robyn A. Saldino	Project Number S1419
Project Title Is Green Really Clean? A Comparison of Chemical and Chemical-free Cleaning Methods	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I wanted to find out whether a microfiber cleaning cloth and room temperature tap water will remove surface bacteria from household surfaces as well as a bleach based cleaning wipe. I took cultures from three surfaces: the bathroom sink, the bathroom counter, and the edge of the bathtub.</p> <p>Methods/Materials I began by taking a control culture from each surface using a sterile cotton swab and a sterile nutrient agar plate. Then I divided each surface in half and cleaned half with a microfiber cloth and water. I swabbed this half three separate times and plated the swab three separate times. I cleaned the other half with a bleach based wipe, then swabbed and plated it three separate times. I repeated this process on each surface.</p> <p>Results 24 hours: The only plates that showed and growth were one bleach plate from the sink and one from the counter. 48 hours: All plates showed visible growth, except for one microfiber plate from the sink and one from the counter, and one bleach plate from the sink and one from the counter. 72 hours: All plates showed visible growth except one microfiber plate from the counter, and one bleach plate from the counter.</p> <p>Conclusions/Discussion I concluded my hypothesis to be correct. In fact, the microfiber cloth and water removed more bacteria than the bleach based wipe. The bleach plates showed far more bacterial growth than the microfiber plates. I would like to find out what type of bacteria grew on the plates, and I would like to find out what the least amount of bleach is that can be combined with a microfiber cloth to remove all surface bacteria.</p>	
Summary Statement I wanted to find out whether a microfiber cleaning cloth and tap water would remove surface bacteria as well as a bleach based cleaning wipe.	
Help Received Mother took pictures of experimental process. Friend at Moorpark College provided sterile agar plates and sterile swabs. Neighbor loaned me his laptop to complete graphs.	