



# CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

<b>Name(s)</b> <b>Matthew T. Shepherd</b>	<b>Project Number</b> <b>J2128</b>
<b>Project Title</b> <b>Goodbye Germs!</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of my project is to learn if antibacterial soap does or does not inhibit the growth of bacteria and to find if regular soap stops bacteria from growing as well. My hypothesis was: If I grow bacteria in a petri dish and then add antibacterial soap to it, then the bacteria will cease to grow or die.</p> <p><b>Methods/Materials</b> To test my hypothesis I devised a procedure that required 1 cup of spoiled milk, an inoculation rod, a gas burner, antibacterial soap, regular soap, water, 20 prepared petri dishes and a camera. I first inoculated 15 petri dishes (leaving 5 for control) and let the dishes sit in my computer closet (which was heated to about 100 degrees fahrenheit) for 40 hours to grow bacteria. I then, treated 5 dishes with diluted anti-bacterial soap, 5 with diluted regular soap and 5 with water to see what would happen to the continued growth of the bacteria. To record my results at somewhat regular intervals I photographed all the petri dishes. After 141 hours counted up all of the noticeable bacteria colonies and graphed them.</p> <p><b>Results</b> The data made it clear that although the antibacterial soap did not stop all of the bacteria from growing, it was the most effective liquid to inhibit the growth of the bacteria.</p> <p><b>Conclusions/Discussion</b> From this project I have learned that if you wash your hands with antibacterial soap, then there will likely still be some live bacteria on your hands. The antibacterial soap does, however, slow the growth of bacteria on your hands. I have also learned that when you add liquid soap to a petri dish with growing bacteria, then the soap will bleach all of the nutrients within the perimeter of the liquid soap's spread. I find it very interesting that all of the sheep's blood in the agar on the petri dishes was bleached when I added the soap to the petri dishes.</p>	
<b>Summary Statement</b> My project tests the killing capability of antibacterial soap on milk bacteria.	
<b>Help Received</b> My father helped take the pictures and supervised me when I used the gas burner.	