



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Julia Matthews</b>	<b>Project Number</b> <b>J1726</b>
<b>Project Title</b> <b>Ionized Water: Killing Germs and Saving the Earth</b>	
<b>Abstract</b> <b>Objectives/Goals</b> I will attempt to show that ionized water is more effective against bacteria than harsh chemicals such as bleach, lysol, alcohol, and clorox non-bleach solution. <b>Methods/Materials</b> I swabbed drinking fountains for bacteria and placed each in a separate petri dish. In four of my experiments I measured two ml of bleach, lysol, alcohol, clorox non-bleach solution, and ionized water and placed each in one of the five petri dishes. As my manipulative variable, in four experiments I used one ml of ionized water and two ml of the other chemicals. I recorded immediate results and viewed each dish under a microscope at 40x power the next day. In my other experiments I repeated this by swabbing a dog food bowl for my bacteria samples. I repeated each experiment eight times. <b>Results</b> I found that the ionized water killed all of the bacteria in four out of eight experiments and the majority of the bacteria three times. However, in one of the experiments that used one ml of ionized water, the ionized water did not kill any of the bacteria. Bleach killed all bacteria four times but did not kill any bacteria three times. Lysol and alcohol killed all bacteria two times, the majority of bacteria three times, and no bacteria three times. Clorox killed all bacteria once, the majority twice, and no bacteria five times. <b>Conclusions/Discussion</b> My experiments proved my hypothesis. Ionized water is a safe yet powerful disinfectant.	
<b>Summary Statement</b> This project is about the effects of ionized water on bacteria as compared to other disinfectants.	
<b>Help Received</b> The Sheraton Delfina provided the ionized water.	