



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

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<b>Project Title</b> Bacteria at Prep and What Cleaning Agent Best Inhibits Its Growth	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of the "Bacteria at Prep" project is to discover what bacteria lives in the Flintridge Prep environment and where this bacteria is commonly found within the school. Then perform tests to see which cleaning agents are most effective in inhibiting the growth of these bacteria.</p> <p><b>Methods/Materials</b> For this experiment, I collected seven samples from six high-traffic locations at Flintridge Prep, which I believed would have the highest concentration of bacteria. Then, for each location, I allowed one Petri dish to grow as a control. The other six plates from each location were exposed to one of the following cleaning agents; bleach, hydrogen peroxide, Lysol, Purell, Simple Green, and Vinegar. This procedure was repeated for all six locations. After 72 hours, I observed and recorded how much bacteria had grown through the different cleaning agents.</p> <p><b>Results</b> My hypothesis is that bleach will stop the growth of the most bacteria, because bleach contains a chemical called hypochlorite, which attacks the essential proteins in bacteria, and without these proteins, the bacterial cell will die. This hypothesis proved to be correct because bleach prevented the most bacterial growth out of all the cleaning agents.</p> <p><b>Conclusions/Discussion</b> This project is very important because there are many different kinds of bacteria present in school environments, some of these strains of bacteria, in addition to being very dangerous, can be extremely contagious as well as drug-resistant. As a result it is vital to find the best way to detect, and ultimately to prevent the growth of harmful bacteria that live in schools.</p>	
<b>Summary Statement</b> How to locate where bacteria is found in a school environment and what cleaning agents best prevent its growth.	
<b>Help Received</b> Consulted with uncle on how to formulate experiment.	