



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Stephany M. Rubio	Project Number S1730
Project Title Does KaiO Make a K.O.?	
Abstract Objectives/Goals To test the effectiveness of the multi purpose cleaner and bathroom cleaner used at Pioneer Valley High School on E.Coli bacteria. Methods/Materials Petri Dishes, Micro Pipettes, Speed Sticks, LB Broth, Bleach, Flask, Beaker, Funnel, Goggles/Apron/gloves, Incubator, KaiO/Kaiblooy, Epi tubes, Microwave, Culture tube of E.Coli, Tweezers, distilled water, Test Tubes, Assay Disks, Graduated Cylinder, Agar. Results I found that the KaiO multi purpose cleaner that is used frequently on our campus is not effective towards killing bacteria. It sure leaves a nice scent and is #green sealed# approved, but that does not justify the fact that it does not do its job. The bathroom cleaner, Kaiblooy is the same situation. It smells nice and leaves the toilets shiny, but the bacteria is still present. The cleaners do kill some bacteria, but very minimal to where it safe to say that the dilutions used are ineffective. From my results, the KaiO cleaner started killing bacteria when the percentage of the concentrated cleaner in the solution was at least 10%. The Kaiblooy bathroom cleaner started killing bacteria when the percentage concentration was at least 30%. The original percentage that the company suggests is 1.56% for the KaiO! The obvious solution is to increase the concentration of the concentrated cleaner and decrease the amount of water used. Conclusions/Discussion The effectiveness of the bathroom and counter top cleaner at Pioneer Valley High School on killing bacteria is very negligible. The ratio of the concentrated cleaner to water that is used, is too minimal to actually kill an effective amount of bacteria. My hypothesis was correct because it was based off of finding that the cleaners are extremely diluted. So I came to the conclusion that KaiO and Kaiblooy cleaners wouldn't be effective enough on killing bacteria. The cleaners have the potential to kill bacteria at an effective rate, only if the concentration percentage is increased.	
Summary Statement To test the effectiveness of the multi purpose cleaner and bathroom cleaner used at Pioneer Valley High School on E.Coli bacteria.	
Help Received Used equipment in the Biology class at Pioneer Valley High School, under the supervision of Mr. Magni.	