



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Danielle M. Zamorano	Project Number 34649
Project Title Who Let the Germs Out?	
Abstract Objectives/Goals The objective of this experiment was to find whether the inside or the outside of bathroom door handles had more bacteria. Methods/Materials I swabbed the inside and outside of each door handle four times up and down at three separate restaurant bathrooms. My materials were forty petri dishes filled with agar, forty sterilized Q-tips, distilled water, forty micro test tubes, ziploc bags, an incubator, gloves and graph paper. Results The result of my experiment was that overall, In-N-Out Burger had the most amount of bacteria of the three restaurants tested. The petri dishes from all three restaurants showed more bacteria growth for the inside door handles than the outside door handles. Conclusions/Discussion My hypothesis was that there would be more bacteria on the outside door handles than the inside door handles because people wash their hands before leaving a restroom. This hypothesis was proven incorrect. With the information from my research collected from this experiment we can teach people about the importance of hand washing, also we can inform people of the need to wash your hands both before and after using public bathrooms. From doing this project I have learned that many germs can be transferred from surface to surface and that we need to be more aware of the dangers of getting sick from touching these surfaces.	
Summary Statement This project was to test whether there is more bacteria on the inside or outside of door handles at public restrooms.	
Help Received My father help me calculate percentages and my mom drove me to the restaurants	