



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Gabriella S. Lopez	Project Number J1508
Project Title The Five-Second Rule: Safe or Sorry? Is Food Safe to Eat after Five Seconds on the Ground?	
Abstract Objectives/Goals My science project is to challenge the validity of the five-second rule for dropped food. I tested this rule by using a wet food and a dry food. I used Bologna for the wet and Unsalted Crackers for the dry food. I conducted three trials with each food item being dropped, for five seconds, at the school crosswalk and the ground in front of the lunch area water fountain. For comparison, I also conducted three control trials for each food item. Methods/Materials I did my experiment by preparing Petri dishes with agar. I conducted three five-second drop tests for each food item, at each location. After picking up dropped food I swabbed the food item and transferred to prepared labeled Petri dishes. I prepared three control dishes for each food item. I put every swabbed Petri dish in a homemade incubator with a constant temperature of 90° F. At every 24-hour interval I photographed, inspected, measured and recorded the growth and quantity of bacteria colonies. Results The results of my experiment are that there is bacteria on the ground and five seconds do not protect you from those bacteria. Through my testing I was also able to determine that the crosswalk has more bacteria than the ground by the water fountain and bologna picks up more bacteria than crackers. Conclusions/Discussion My conclusion from this experiment is that I discovered that there are bacteria everywhere and it only takes a second of contact to transfer bacteria. This project could benefit the children at our school because almost all of them believe in the five-second rule. If they knew that they could get very sick from the bacteria on the ground then I know they would think twice before eating what was dropped.	
Summary Statement I challenged the validity of the five-second rule for dropped food and I discovered that food is contaminated on contact.	
Help Received Brother drove me around to test locations and helped me time the drops with a stop watch. My mother helped me type my report. My teacher, Mr Fox, provided me the petri dishes, agar and encouragement.	