



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Alexander J. Mule	Project Number 22670
Project Title The Five Second Rule: To Eat or Not to Eat?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to determine if a piece of food that is dropped on the floor will collect significantly less bacteria if it is retrieved in 5 seconds or less versus more than 5 seconds and whether or not there is a difference if the food is wet or dry.</p> <p>Methods/Materials Cultures were taken with sterile, dry swabs and wet swabs (created by dipping dry ones in Trypticase Soy Broth) and touched for 2, 5 or 30 seconds to the same brick of a kitchen floor on four separate days. The controls were 0 second (not touched to the floor) swabs that were plated for all four trials. Cultures were plated on blood agar, incubated at 36-38 degrees Celsius for 48 hours, read, and charted.</p> <p>Results Colony counts for all controls were low. Average colony counts from dry swabs were 56 and 58 after 2 and 5 seconds of contact with the floor respectively, but 416 after 30 seconds. Wet swabs averaged 281 colonies after 2 seconds, and were too numerous to count after both 5 and 30 seconds.</p> <p>Conclusions/Discussion There are significantly lower counts on a clean, dry object after it contacts a dry, contaminated surface for 5 seconds or less. A clean, wet object has significantly higher bacteria counts than a dry one after any contact time. Therefore, it is probably safe to pick up and eat a dry piece of food that has been on a dry surface for 5 seconds or less. It is probably never safe to pick up and eat a piece of wet or sticky food or food that has been dropped on a wet surface.</p>	
Summary Statement The project is about testing the validity of the so called, Five Second Rule; that is, whether or not a piece of wet or dry food that is dropped on the floor and picked up quickly will collect significant amounts of bacteria.	
Help Received My dad helped me with the experiments, my mom with the display, the Director of Microbiology at Anaheim Memorial Hospital with materials and information, and my science teacher with guidance.	