



CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

Name(s) Emiliano J. Vela	Project Number 38535
Project Title The Five Second Rule	
Abstract Objectives/Goals The objective of this study is to test the validity of the Five Second Rule. This rule states that food dropped on the ground will be safe to consume and not covered in germs as long as it is picked up within five seconds. This experiment evaluates whether there is any truth to this theory. Methods/Materials 10 petri dishes with agar, homemade incubator, 5 slices of lunch meat, 5 cookies, sterile swabs, sterile gloves, face mask, timer, kitchen floor, carpet. I created 18 trials by dropping each food item individually, swabbing each time, then transferred the swabbed samples to the labeled petri dishes. Results The results of the experiment showed that no matter how many seconds each food item was on the ground, less than or over five seconds, nearly all contained some bacterial growth in various quantities. Both swabbed food items and the control food items showed evidence of bacterial growth. Conclusions/Discussion In the experiment, the original question asked if picking up food from the ground within five seconds prevents the transfer of bacteria. The answer is no. My hypothesis was incorrect. The experiment shows that no matter how many seconds a piece of food is on the ground, bacteria will grow on it. This can potentially cause illness or infection especially if pathogenic bacteria contaminates the food item when dropped then consumed anyway. This experiment debunks the popular myth that food can be consumed safely if it is picked up within five seconds.	
Summary Statement If a piece of lunch meat and cookie are dropped on a kitchen floor and section of carpet, then they will contain no transfer of bacteria if they are picked up in less than five seconds.	
Help Received None. I researched and carried out the experiment independently.	