

CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

Name(s)

Asia B. Black

Project Number

J1707

Project Title

Hey, I Did Not Order That!

Objectives/Goals

Abstract

The purpose of my project is to make people aware of the germs they might be ingesting if they dont clean the outside of the cups they receive at fast food restaurants. I wanted to investigate if a person could contract bacteria from the outside of a cup even if they were to wash or sanitize their hands first. I conducted a survey of 240 people. From the 240 people, 164 of the ordered beverages while dining at a fast food My hypothesis was correct. Group B, which was the group with the cups received directly from the cashier had the highest average rate of bacteria. Group C came in second place. Since Group C was pretty high in bacterial containment this shows that a person can contract germs even if they do wash or sanitize their hands but don't wipe their cup. Group D was third and finally the control group was the cleanest. I believe with this project I have proven that people should always wipe their beverage cups 53% of them sanitized or washed their hands. Out of that, only 4% wiped or cleaned the outside of the cup therefore, 96% did not wipe the outside of the cup.

Methods/Materials

10 Fast Food restaurant locations, 40 Petri dishes (100x150mm), Beverage cups, Closet (80°F or incubation), Computer, Cotton swabs, Clay, foam and paint (for the models), Digital camera, Disinfecting wet wipes, Disposable gloves, Large sterile plastic container, Locations for conducting survey, Microscope 150X, 450X, 750X with a projector, Nutrient agar, Purified water, Spreadsheet, Survey (and survey takers 240 in total).

Results

I found significant differences between the wiping the cup and washing your hands and just washing your hands. Once all of the CFU numbers where entered into a spreadsheet I created some graphs to illustrate my results.

Conclusions/Discussion

My hypothesis was correct. My results proved that people should always wipe their beverage cups before they eat and after they sanitize their hands.

Summary Statement

Germs can be transmitted from the cashiers hands to the distributed cups onto your hands, even if you washed your hands.

Help Received

My mom helped me collect my tests specimens, surveys, and photography.