CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY

Name(s)
Francesca P. Ricapito

Project Number
J1432

Project Title
Bacteria vs. Clorox Disinfectant Wipes

Abstract

Objectives/Goals
This experiment was based on how well bacteria can be cleaned from different surfaces. I predicted that the smoother the surface, the more bacteria the Clorox wipe will clean away. The more rough and bumpy the surface, the less the wipe will clean away. It is much easier for bacteria to get stuck in nooks and crannies on the surface you are testing than a smooth straight surface.

Methods/Materials
Materials:RODAC Agar plates,Clorox disinfectant wipes,Porcelain,Wood,Formica, Protractor,Sharpie pen
Methods:
A. Perform this procedure for each surface to be tested (wood, porcelain and Formica)
B. Clear a 6 inch x 8 inch space on the surface.
C. Take triplicate RODAC samples prior to disinfecting.
D. Take triplicate RODAC samples post disinfecting.
E. Let RODAC plates sit at room temperature or 72 hours.
F. After a minimum of 72 hours, count the visible bacteria colonies on each plate.
G. Record data on data sheet.
H. Data Analysis
i. Calculate the average positive control count and average test sample (post disinfecting) count for each surface tested.
ii. Calculate the reduction efficiency in percentage. Formula:
[1 # Avg number after cleaning÷ Avg number before cleaning] x 100

Results
The porcelain surface had the highest bacterial reduction, measuring 82%. The Formica surface had a calculated reduction of 64%. The wood surface was the most difficult surface to clean with a reduction of 39%.

Conclusions/Discussion
My hypothesis stated that the smoother the surface the more bacteria the Clorox wipe will clean away. This experiment confirmed that my hypothesis was correct. Porcelain is the smoothest surface tested and the calculated bacterial reduction for it is the highest at 82%.The Formica surface is much bumpier than porcelain and has calculated bacterial reduction of 64%.The wood surface was the most difficult surface to clean with a reduction of 39%.This is likely due to all the nooks and crannies in the wood surface.

Summary Statement
Whether the type of surface affects how much bacteria is wiped away using a Clorox disinfectant wipe.

Help Received
Mother helped obtain test materials and with test design and graphs; Brother allowed the use of his room and computer