CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY

Name(s)
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Project Number
J1402

Project Title
Which Room in the House is the Cleanest?

Abstract

Objectives/Goals
The goal of my experiment was to determine which room in an average house is the cleanest. Bacteria, yeasts, mold and fungi live everywhere. Yeast and bacteria live in our bodies and are part of what helps us live strong healthy lives. But these same organisms also live in and contaminate the homes inhabited by humans. Through my experiments I hoped to determine which room in the house had the least bacteria, molds, yeast and fungi.

Methods/Materials
I used the following method for my experiment:
1. Prepare agar and Petri dishes
2. Collect samples from three different homes by swabbing the selected surfaces and transferring to the agar plates: a. Bedroom, 2 samples; b. Lavatory, 3 samples; c. Living Room, 2 samples; d. Kitchen, 3 samples; e. Laundry Room, 2 samples
3. Label and seal lids on agar plates, place each one in an individual zip top storage bag
4. Incubate each sample at 90 degrees F for three days
5. Make observations
6. Sterilize each plate with bleach and dispose in a hazardous waste container

I used the following materials: 36 petri dishes, Luria Bertani nutrient agar, 36 sterile cotton swabs, surgical grade face masks (enough for each researcher and assistant), surgical gloves, an incubation system, bleach, rubbing alcohol, selected surfaces for experimentation, and a sterile working (collecting) surface.

Results
After identifying the colonies, I counted each one and documented my findings. From this experiment, one can interpret more information about the cleaning maintenance of individual homes, than the cleanliness of average rooms. In order to get the information I was seeking, I would need to gather from a larger sample of homes.

Conclusions/Discussion
Before conducting my study, my hypothesis was that the cleanest room in the average house is the kitchen. I also hypothesized that the dirtiest room would be the lavatory. Through analysis it seems as if the lavatory is the dirtiest room and the laundry room is the cleanest. However, as I dug deeper, I saw that the number of bacteria that make the lavatory stand out is from only one source. So, in fact the bathroom may not be the dirtiest room. Results were inconclusive. In order to see this through, I would have to test

Summary Statement
I attempted to determine which room in an average house has the least bacteriea, mold, yeast and fungi.

Help Received
My father helped type the report, and acted as my lab assistant. My mother made suggestions about the layout of the board, asssisted in counting the colonies, and sterilization and disposal of plates.