CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
S1508

Project Title
What Is the Dirtiest Place in the House?

Abstract

Objectives/Goals
I wanted to find the dirtiest place in my house. I chose 9 places in my house. I bought petri dishes and agar to grow samples of what actually lives at these places. By growing these samples and recording their size, I found the dirtiest place.

Methods/Materials
Method: Melt agar in microwave. Pour into petri dishes and number each dish. Cool overnight. Rinse swab with distilled water. Swab chosen areas. Swab into petri dish by making Z formation without contaminating petri dish. Place petri dishes into plastic bags under a hear lamp to replicate a homemade incubator. Each day take out all petri dishes and record their growth. Also clean bags of excess condensation. Continue for seven days.
Materials: 4 agar bottles, 40 petri dishes, 20 swabs/20 loops, gallon of distilled water, microwave, 3 gallon plastic bags, heat lamp, thermometer, clock, paper towels, measuring pies, pen, paper, gloves, kitchen mitts, and camera.

Results
I made measuring pies for the petri dishes so I could compare and contrast the growth each day. In agar bottle D all of the samples did not grow because of the agar bottle not being melted enough. I had 9 places that I recorded and a 10th petri dish that was considered my control sample. The phone had no growth. The toilet seat, TV remote, and door knob had only 5% growth. The toothbrush had 3 positive results but not a tremendous amount of growth. The computer keyboard had 2 positives but a large mold growth and possible contamination. The kitchen counter had 3 positive results with multiple types of microorganisms. Inside the microwave there were 3 positive results two of which took 25% of the petri dish and the same bacteria. The corner of the room had the most growth and variety of microorganism in each dish.

Conclusions/Discussion
The corner of the room had the most variety and biggest size of all the samples. It rejected my hypothesis that the doorknob was dirtiest. The toothbrush had 3 positive results and did not have quite as big growth as the corner of the room but the toothbrush grew exactly where I swabbed. The microwave had 2 positive results, no significant growth. The toothbrush and microwave both seemed to have bacteria growth only. If I had to do the experiment all over i would have made sure all of my problems including not boiling the agar in bottle D enough were fixed. Contamination was also a small problem in that it could change the results.

Summary Statement
My project is about what item in your house has the most organisms on it that the human eyes can not see.

Help Received
My Mom and Dad helped me with the experiment, including taking pictures and assisting me during the process.