CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J1335

Project Title
Gesundheit

Abstract

Objectives/Goals
To see if germs from one sneeze could contaminate an entire room.

Methods/Materials
Prep Procedures a)Create temperature-controlled environment; b)Create map showing placement of each petri dish on graph paper; c)Spread drop cloth on floor; d)Mark locations from graph paper onto drop cloth; e)Hang another drop cloth over doorway.
Control, Tests 1 & 2 Procedures a)Label set of petri dishes; b)Place petri dishes in designated locations on drop cloth; c)Take lids off dishes & note time uncovered; d)Sneeze (Test 1 & 2 only); d)Expose dishes for 1hour; e)Cover dishes & place in incubator; g)Repeat steps a-e for each Control, Test 1 and Test 2 dishes
24-hour, 48-hour, & 72-hour Observation Procedures a)Take out one set of dishes; b)Take picture of all dishes together; c)Observe each dish; d)Take a picture of each dish by itself; e)Repeat steps a-d for Test 1 and Test 2 dishes; f)Repeat steps a-e for 24 hour, 48 hour, and 72 hour
Disposal Procedures a)Tape all dishes closed; b)Place dishes in a plastic bag; c)Place bags in bio-hazardous waste bags; d)Deliver bags to disposal service

Results
There were more types of germs in the room after the sneeze. On average a control dish had 2.2 different colonies, a Test 1 dish had 3 different colonies, and a Test 2 dish had 2.8 different colonies. This shows control dishes had less types of germs than Tests 1 & 2.

Conclusions/Discussion
Germs from a sneeze can contaminate a whole room. My hypothesis was correct because the dish farthest from the sneeze had germs in it that weren#t on the dish in the control. This shows that other germs from the sneeze traveled to the back of the room. One thing that was strange is how Test 1 and 2 had more fungus. A person cannot sneeze fungus. Since there was one small fungus in the control, I think that fungus was in the room to begin with. A problem I had is that fungus took over some dishes, which stopped other bacteria from growing. If there hadn#t been any fungus I would have been able to see more bacteria. My results may have been different if I had more petri dishes to test and to see if bacteria landed between the dishes I had. I could have had more accurate observations if I had a microscope. When I was observing and taking pictures each day I opened the lid therefore a few bacteria may have entered each dish. This explains why the control had a few more small colonies. Sneezes contaminate a whole room.

Summary Statement
My project is about the distance germs spread from one sneeze.

Help Received
Mother helped set-up and Grandpa helped review results