CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY

Name(s)
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Project Number
J1411

Project Title
Determining Which Fabrics Will Inhibit the Passage of Bacteria

Abstract

Objectives/Goals
My project was to determine if different fabrics would inhibit bacteria from getting to the skin. I simulated a sneeze onto different types of fabrics. (clothing)

Methods/Materials
I used a nutrient broth that was inoculated with bacillus subtillus. (Bacillus was obtained from the high school) The bacterial broth was put into a sterilized spray bottle.
I then obtained different materials. (Cotton , wool, silk, and polyester) These were cut into 6in by 6 in squares. The squares were placed over a Petri Dish with nutrient agar.
I sprayed one pump of the bacillus over the material from exactly 6 in away (simulated sneeze)
Repeated for each material and control (no material over petri dish)
3 trials for each fabric. I let the bacteria grow for 7 days. I counted bacterial colonies and compared results.

Results
After1 week, polyester proved to be the material that inhibited the most growth. an average 46.67 colonies. Next was cotton with 90 colonies, then silk with 223.34, and last was wool with 263.34. These were all pretty good next to the control. The control was 606.67

Conclusions/Discussion
I learned that polyester was the best material in protecting bacteria from passing through to your skin. If you had a young child,this type of clothing could possibly help protect from direct sneezes. Cotton also helped protect the skin. Polyester is the only man made fabric that I tested.

Summary Statement
My project was to determine if the type of materials you are wearing can help protect you from bacteria.

Help Received
Teacher obtain materials and taught scientific method. Parents help supervise, and helped put board together.