



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Emelia E. Maglieri	Project Number J1814
Project Title Which Material Is Better at Blocking Bacteria in a Sneeze?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Abstract The purpose of my science project is to determine which material blocks the most amount of germs when sneezing. Everyone is concerned about health and no one wants to get ill. People are buying the product Airborne and taking vitamin C to keep them from getting sick. What if using a simple handkerchief could stop others from getting infected. Simply washing your hands is not enough when it comes to sneezing. I am using seven different types of materials in my investigation. The materials are a paper towel, napkin, tissue, a cloth handkerchief, and a bandana handkerchief. I will inoculate a nutrient broth with Bacillus Subtilis. After 48 hours incubation I will pour the broth into a spray container. I plan to spray the germs in a spray bottle at a two inch distance through the seven different materials onto a Petri dish. I will repeat this 10 times per material. The Petri dish will have agar and the germs will grow for 48 hours. I will count the germs using a centimeter graph transparency and figure out which material is most effective in blocking the spread of germs. In the control group I will not use any material to block the spray of the germs. I will simply spray the germs from the same distance onto a Petri dish.</p> <p>Conclusions/Discussion After completing my investigation on the spread of germs from a sneeze in different types of fabrics, I found that my hypothesis was correct. The handkerchief blocked the most germs. When compared to the other fabrics the handkerchief had the least amount of germs in the Petri dish. The other fabrics that I tested were a handkerchief, a tissue, a paper towel, and a napkin. The tissue was the least effective in stopping the spread of germs. The handkerchief and the paper towel were fairly effective in stopping the spread of germs. My investigation showed that germs do spread when you sneeze. Bacteria in a sneeze causes colds and viruses. The Petri dish with the germs from the bandana hardly had any bacteria in it while the Petri dish with the gems from a tissue was 25% covered in germs. In conclusion people should use a bandana when sneezing to stop the spreading of germs. There is an estimated 1,000,000 people a year that get viruses. By sneezing in a bandana viruses could be cut down.</p>	
Summary Statement I tested to see which material was the best in blocking bacteria in a sneeze from spreading.	
Help Received Carl Gong answered any questions that I had regarding my experiment.	