



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Alexa C. Dell	Project Number J1305
Project Title Do Sponges Clean or Spread Bacteria?	
Abstract Objectives/Goals To determine the amount of bacteria in a kitchen sponge, and if using them spreads bacteria. If so, can they, and how often should they, be sanitized. Methods/Materials Three different sponges were cultured after being used for one, two, and three weeks for regular kitchen use. (Used for scrapping dirty dishes, for cleaning dishes in soapy water, and for wiping coutertops.) The cultured agar plates were placed in an incubator and checked at 24 and 48 hours. After determining which created a more bacteria-free countertop (bleach, Soft Scrub, or Lysol Anti-bacterial Kitchen Cleaner) each sponge was used on the countertop, and the countertop was then cultured, incubated and checked at 24 and 48 hours. The three week sponge was then cut into four pieces and each piece was used to determine the best method to reduce the amount of bacteria in the sponge: microwave, dishwasher, clothes washer, or bleach/water soak. These were also cultured, incubated and checked at 24 and 48 hours. Results The kitchen sponge quickly builds up a large amount of bacteria such as Salmonella, E. Coli, Bacillus, Listeria, Staphylococci, and Streptococci. The one, two, and three week sponges all contained large amounts of bacteria. The cultures proved that the sponge does spread bacteria. Soaking the sponge for five minutes in bleach proved to be the best way to reduce the amount of bacteria, and bleach was also the best countertop cleaner. The microwave proved to be a quick easy way to reduce the bacteria in a sponge. Conclusions/Discussion My results did support my hypothesis, kitchen sponges do harbor bacteria, and can spread bacteria. Information from this project is valuable for everyone to know. Care must be taken in order to prevent food poisoning. There is also the possibility of a bacterial infection through an open wound. Precautions should be taken to help limit the amount of bacteria in the home and workplace.	
Summary Statement The bacteria sponges contain and spread, and how to limit them.	
Help Received Used the incubator at Santa Barbara Cottage Hospital.	