



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Mandy L. Greene	Project Number 35326
Project Title Wash Your Hands	
Objectives/Goals My hypothesis is to prove which drying method, towel or air drying, works better to remove bacteria after washing your hands. I think drying your hands with a paper towel would produce fewer bacteria spores, because you can dry your hands instantly instead of blowing the water away with air. Research claims that air drying your hands produces less bacteria spores because it blows all the bacteria away, which I have a hard time believing. Abstract Methods/Materials First, I acquired my materials for my experiment and headed to the kitchen to start the process. I started by washing my hands and towel drying them. Then I riffled through my school backpack, touching books, pencils and other items within my backpack. Then I washed my hands with soap and water then dried my hands with paper towels. After drying my hands, I swabbed them with the cotton swab to get samples of any bacteria that was present. I then took the cotton swab and rubbed it around the inside of the petri dish and closed the lid. I repeated this process two more times, drying by paper towels and three times drying with air. 6 Petri dishes, my school backpack, bargain brand soap & paper towels, blow dryer/air, water/sink and cotton swabs Results After washing my hands I swabbed my hands and placed the bacteria into the petri dishes. At this point nothing was visible in the dishes and then within one month I started to see a hazy cream coloring within the dishes. This haze started covering the bottom of the dishes in one degree or another. Then within the next two weeks black bacteria spores became visible on the surface of the haze. Apparently these spores are called fructo-oligosaccharides which are a type of pathogen. In one of the dishes I saw strange long swirl shapes like a sea creature, and in other dishes some resembled worms on the move or slugs leaving a trail of slim behind them. Near the end of the experiment I started to smell a putrid odor around the area of the dishes. The smell was like an old pair of socks soaked in sweat that haven't been washed in a long time. Conclusions/Discussion My hypothesis was correct; drying your hands with paper towels produced fewer amounts of bacteria than by drying your hands with air, as visible in the pictures of the petri dishes on display. So, remember in order to have fewer bacteria growing on your hands, wash them and dry them with a paper towel regularly.	
Summary Statement My project is to prove which drying method, towel or air drying, works better to remove bacteria from your hands after washing.	
Help Received	