# CALIFORNIA STATE SCIENCE FAIR
## 2017 PROJECT SUMMARY

**Name(s)**
Ella M. Wedderburn

**Project Number**
**J1614**

**Project Title**
# The Ugly Side of Beauty: To Evaluate the Microbial Contamination of Specific Cosmetic Products

**Abstract**

**Objectives/Goals**
For my project, I studied the amounts of colonies of bacteria produced from used makeup. It was hypothesized that if the same brand of makeup is given to five different test subjects then, the makeup will produce different amounts of bacteria no matter the test subjects. This experiment can benefit makeup users by seeing the amounts of bacteria and realizing that there is a better solution to keep makeup clean.

**Methods/Materials**
I first gave three test subjects an Elf Cosmetics face brush and face powder and instructed them to apply it twice a day for seven days. I also had one brush and face powder compact that was never used so that I could see the difference between the two. The next step was swabbing each of the products and applying it on the Petri dishes. I let the Petri dishes sit in a shoebox at an average room temperature for one week. I documented each day by taking pictures and counting a number of colonies in each dish.

**Results**
My experiment resulted in large amounts of colonies of bacteria in the dishes. The number of colonies ranged from none to almost ninety. Although there was only a small number of colonies in some dishes, that doesn#t mean that the coverage of the dish is less. From my research, I discovered colonies that look similar to images of Staphylococcus which guided me in making some estimates on what types of bacteria could have possibly been in the dishes.

**Conclusions/Discussion**
My hypothesis was if the same brand of makeup is given to five different test subjects then, the makeup will produce different amounts and types of bacteria no matter the test subjects. My hypothesis was correct because each person provided a different amount than the rest. This experiment can apply to people who want to be aware of what they put on their faces and how to prevent it. If people see how much bacteria can live on faces, they may want to prevent that and revise the way they take care of their makeup. They may look into investing in brush cleaners to help eliminate the bacteria on brushes.

**Summary Statement**
A number of colonies of bacteria were counted to determine the amounts of bacteria transferred from the human face, using face brush and face powder.

**Help Received**
My science teacher proofread my essays and provided me with a space in her classroom to do my experiment.