



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Ariana N. Rupp	Project Number J2123
Project Title The Effect of Mascara on Contact Lens Disinfection	
Abstract Objectives/Goals To determine if contact lens disinfecting solutions will work as well if mascara comes in contact with the solutions during use. To evaluate the activities of three different disinfecting solutions against two bacterial skin isolates in the presence of two different mascara products. Methods/Materials For each solution and mascara, two different bacteria were spread onto the surfaces of separate agar plates. Metal penicylinders were then placed on the plates and were filled with either contact lens disinfecting solution, contact lens disinfecting solution containing 0.1 mg/mL mascara or 0.1 mg/mL mascara (control). Plates were incubated until bacterial lawns were formed. Clearing around the penicylinders indicated that disinfecting solutions prevented growth. The clearing produced circular zones which could then be measured. Results for disinfecting solutions with and without mascara could then be compared to each other and to results for mascara alone. Results Test results indicated that both mascaras decreased the activities of the disinfecting solutions that contained either 0.0001% polyhexamethylene biguanide or 0.001% polyquaternium-1 and 0.0005% myristaidiopropyl dimethylamine. Test results indicated that both mascaras did not have an effect on the disinfecting solution containing 3% hydrogen peroxide. Differences could be seen among the disinfecting solutions and differences were seen when testing the 2 bacteria. The hydrogen peroxide disinfecting solution displayed the greatest amount of activity against both bacteria. Conclusions/Discussion Mascara can adversely affect some contact lens disinfecting solutions. Therefore, users should take special care to rub and rinse their lenses to remove any traces of mascara.	
Summary Statement The project examines the effect of mascara on contact lens disinfection.	
Help Received My teacher (Mrs. Harbison) and my parents provided guidance.	