



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Emmanuelle C. Scott	Project Number J2120
Project Title How Do the Ingredients in Nail Polish Affect Its Properties?	
Abstract Objectives/Goals To test the durability and drying time of five(5) different nail polish samples. Methods/Materials Five unique nail polishes were tested for efficiency in two related experiments. Both experiments were repeated multiple times with similar results. The first experiment was to test length of drying time by checking whether a nail polish sample is still wet at ten second intervals. The second experiment was to test durability by measuring how long it takes to wear away a patch of dry nail polish when being sanded with a small electric hand sander. Results Through my experiments I was able to find that Sally Hansen's "Insta-Dri" Nail Color was overall the most efficient in terms of durability and drying time. It was the first to dry and the second most durable. The most durable was Revlon "ColorStay" bonding color, but it was one of the last to dry. The least efficient overall was Orly "Instant Artist" Water-Based Nail Paint. It both was the first to be worn away, and the second last to dry. Both Essie Nail Lacquer and Wet 'n Wild "Wild Shine" Nail Color were mid-range in both tests. Conclusions/Discussion The experiment was successful, I did get results, but there were limitations. Because each polish is made with a different procedure that is usually not published for consumer use, I was not able to find a direct correlation between the ingredients and the properties. If I were to continue my research, I would attempt to find more information on the ingredients and manufacturing procedures.	
Summary Statement To find more information about the efficiency of different nail polish samples, I tested unique samples for durability and drying time.	
Help Received Father helped proofread report, held sander in place for part of durability test, and helped me to come up with ideas; Mother helped to print board elements, and glued some board elements.	