



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Olivia K. Maglieri	Project Number S1513
Project Title Investigating the Bacteria Contamination Levels on Different Coins Exposed to Various Environments	
Abstract Objectives/Goals The purpose of my experiment was to test various metals on blocking bacteria. Coins consist mainly of copper, zinc, and nickel. I intended to test which metals inhibited bacteria from growing in various environments. The environments that I tested included lake water, soil, and student's hands. Methods/Materials The method that I followed in my experiment consisted of placing coins in the different environments for 24 hours. I tested the coins in two different ways. I swabbed coins onto petri dishes, and I placed coins directly onto the agar. After a 48 hour period, I was able to determine the amount of bacteria that was either repelled or had grown. Using a centimeter grid placed on the agar dish, I was able to count the bacteria colonies following a mathematical process. Then I compared the collected data to determine the most effective metal. Results My results showed that the pennies in the hand environment which were swabbed had the least amount of bacteria growth. Conclusions/Discussion I was able to determine that different metals in coins limit bacteria growth. I had thought the student's hands would have the most bacteria, but I found that the lake water had the most bacteria. The properties of metal limit bacteria growth and therefore metal surfaces are used in hospitals and medical labs.	
Summary Statement Testing metals in different environments against bacteria growth.	
Help Received Mr. Whittington checked final drafts.	