| **Name(s)** | **Project Number** |
|---|---|
| **Olivia K. Maglieri** | **J1713** |

**Project Title**

## Investigating the Contamination Level on Coins Exposed to Various Environments

**Abstract**

**Objectives/Goals**

The purpose of my science fair project is to compare the effect of different environments on the contamination level of coins. The reason why I am doing this research is because if I see a coin lying on the ground, I usually pick it up. Most people think that finding a coin and picking it up is lucky but it could actually be very unlucky if the coin has harmful bacteria on it.

I will have a better understanding of which environment has the most contamination on coins.

**Methods/Materials**

I will take samples of lake water, grass from a park, and backyard soil. Sterilize coins with rubbing alcohol. Then I will place coins in the samples for 24 hours. Next 10 sterilized coins will be placed on a street heads side up for 24 hours. I will have ten students at an elementary school handle ten coins for 60 seconds each. Afterwards I will swab coins with sterilized Q-tips onto Petri dishes. Then I will observe bacteria growth. After 48 hours I count bacteria colonies. Then I will compare the bacteria count on a table. Lastly I will graph the results.

**Results**

I compared the data on a table. The results will answer the question, which environment has more germs or bacteria. The coins tested in the lake water had the most bacteria. The results prove that picking up random coins found in these environments will leave the same bacteria on your hands.

**Conclusions/Discussion**

After completing my investigation on the contamination level on different environments, I found that the coins tested in the lake environment had the most bacteria. I found that my hypothesis was incorrect. My hypothesis stated that the students hands would have the most bacteria. The lest amount of bacteria was found on the coins tested in the street environment.

The lake had an average of 964 bacteria colonies and the park had an average of 912 bacteria colonies. The backyard sample had an average of 300 bacteria colonies. The least amount of bacteria was found on the coins tested in the street and the coins tested from students hands.

In conclusion picking up a coin from a street has less bacteria than a coin found near or in a lake environment.

**Summary Statement**

My project is about determining which environment contains the most bacteria.

**Help Received**

Mother helped type and sister helped cut paper for board.