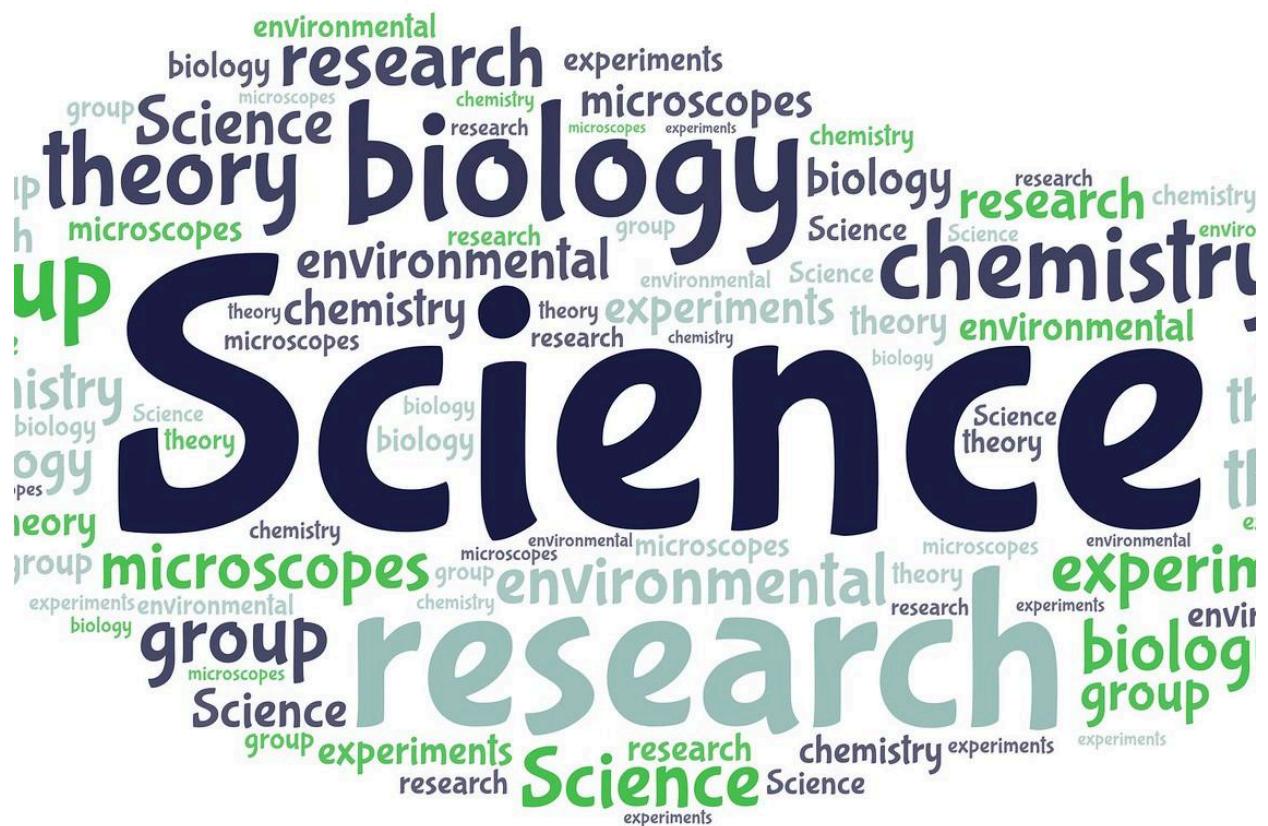


SCIENCE CBA 1



Arisha Mahmood

2.2

INTRODUCTION

For my CBA, I decided to see what cleans old and dirty coins quickly and easily. I chose this because I had a lot of old coins at home and I could barely see if they were 5 cent or 2 cent coins so I thought this was a good idea. I did some research and found out that acids are better cleaners than bases/alkalis as they have a higher pH.

HYPOTHESIS

If I put coins in a liquid with a higher pH then they will clean quicker than when I put them in a liquid with a lower pH

MATERIALS

1. Coins (all 5 cents)
2. Vinegar
3. Baking soda
4. Lemon Juice
5. Salt
6. Soapy Water
7. Water
8. Graduated Cylinder
9. Petri Dishes

SAFETY

1. I wore lab jackets and glasses
2. I used a chopping board when cutting the lemon in half
3. I had adult supervision

PROCEDURE

1. I poured 10 ml of each liquid into each of the petri dishes.
2. I put two 5 cent coins into each petri dish
3. I took a picture of the coins after 5 minutes and 2 hours to compare the difference.

VARIABLES

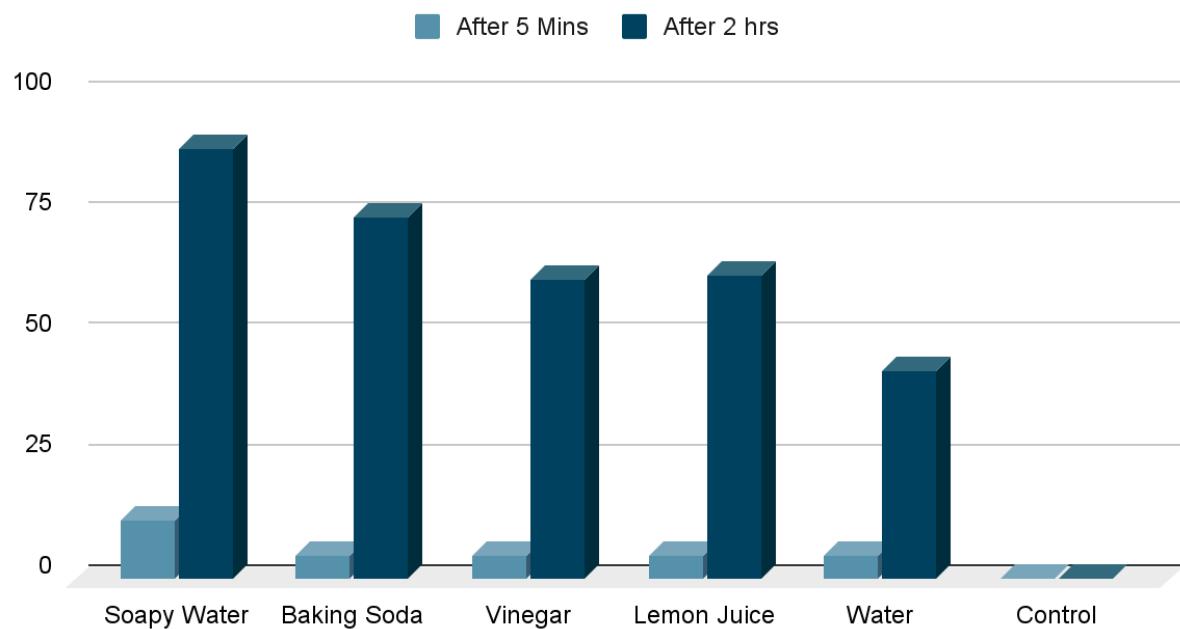
Independent variable: cleanliness of the coins

Dependent variable: the time it takes for the coins to clean

Controlled variable: the amount of coins and liquid

DATA

Cleanliness



After 5 minutes:



After 2 hours:



RESULTS

The soapy water is the best cleaner, baking soda is the 2nd best, lemon juice is the 3rd best , then vinegar, water and then letting the coins sit in an empty petri dish.

CONCLUSION

In conclusion, I found that soapy water was the best cleaner of coins, in contrast to my hypothesis and research which showed that the lemon and vinegar would have been the best cleaner as they have a lower pH.

Another example of a base that is good at removing stains and cleaning is bleach which is used to remove stains from clothes.

REFERENCES

1. <https://www.sciencelearn.org.nz/resources/3019-acids-and-bases-introduction>
2. <https://www.realsimple.com/home-organizing/cleaning/how-to-clean-coins>