



Water Bottles and Their Effect on Ph Balance

M7-3 CHEMISTRY

Question

- Does the material of a water bottle affect the Ph balance of tap water?

Abstract

- I chose to do this topic because when I drink water, I want to know that I am drinking it in the safest way possible. Toxins that leach out of plastic bottles say to be only harmful if they are over consumed. Metal bottles may leach a chemical called BPA. Aluminum has a very low toxic level, making it considerably safe.

Hypothesis

- My hypothesis is that if I use an aluminum water bottle, then it will release the least number of toxins because my past research seems to prove this statement.

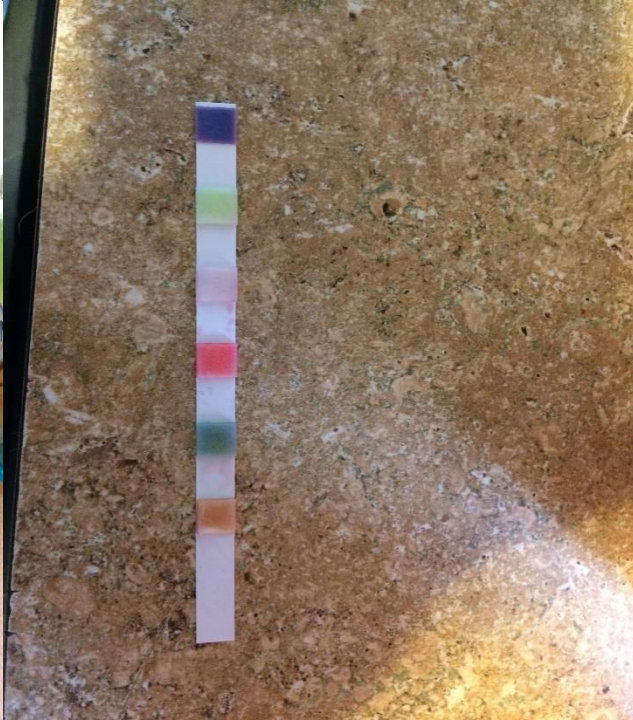
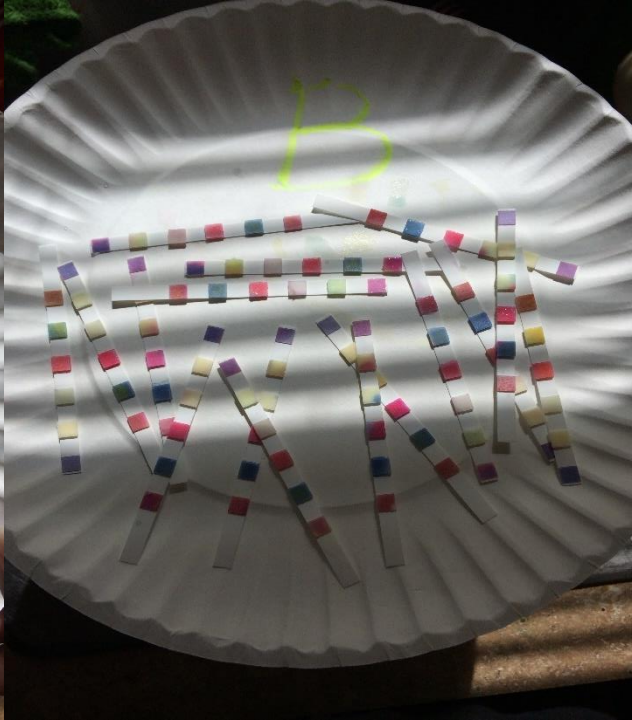
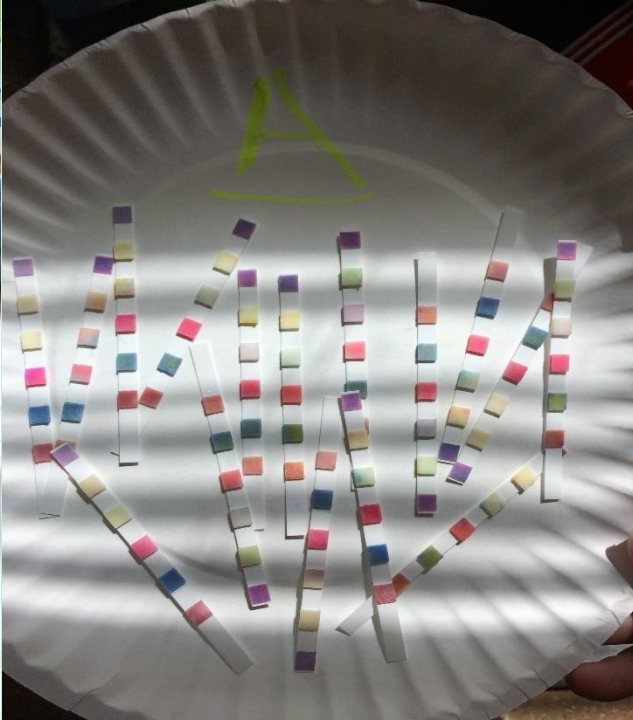
Materials

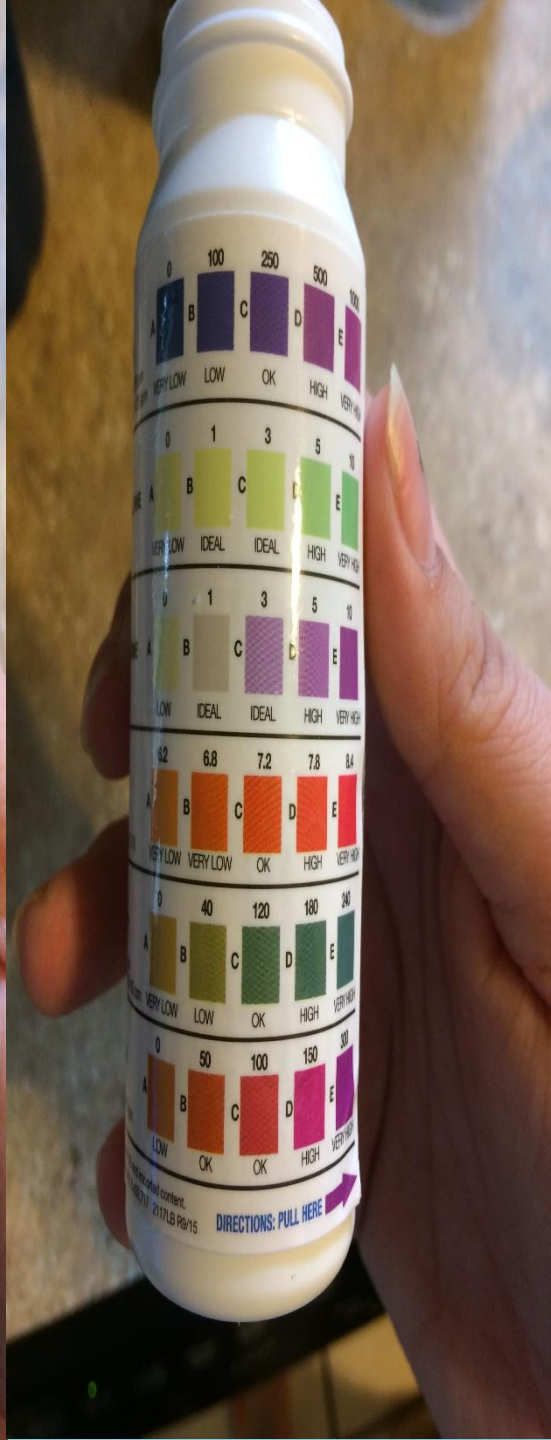
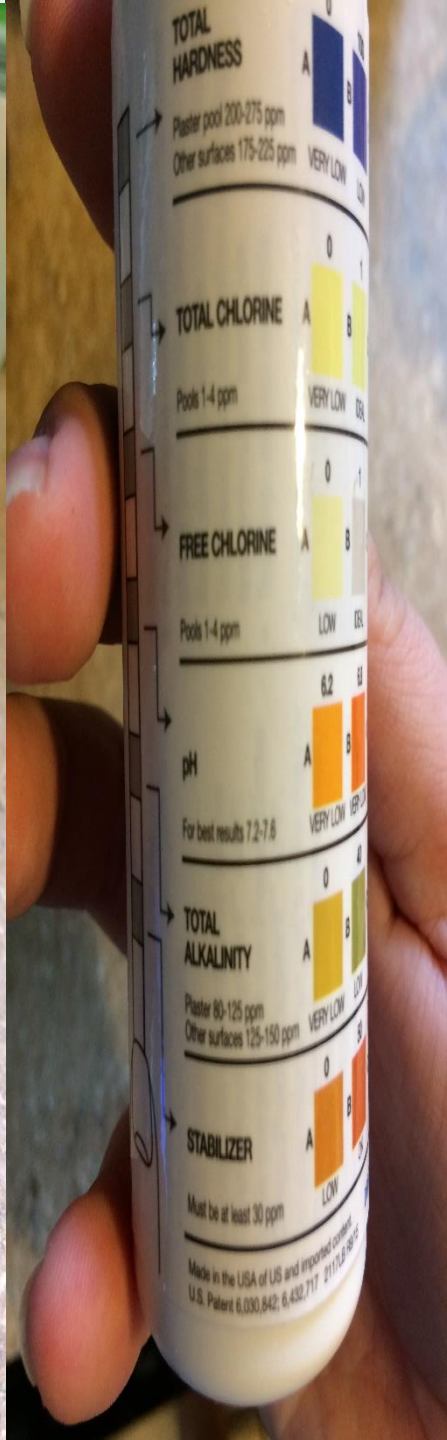
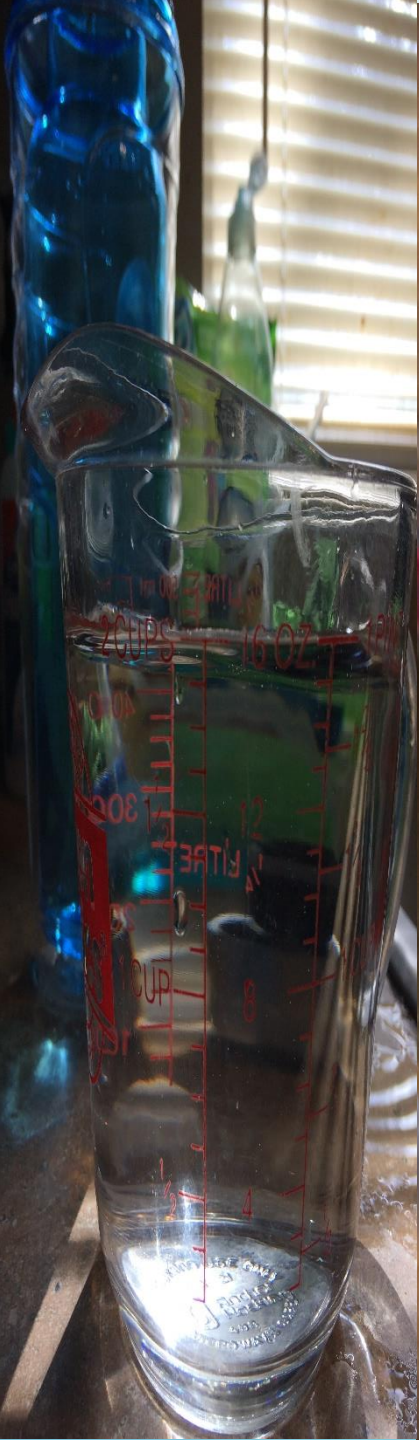
- plastic water bottle
- aluminum water bottle
- stainless steel water bottle
- 120 cups of tap water
- a measuring cup
- a PH balance tester

Procedure

- First I will run to the store and gather all my materials
- Then I will fill each water bottle with 2 cups of water
- Then I will let the water sit for 5 minutes.
- After that I will put it the PH balance tester.
- I will measure the alkaline levels and record them in my data notebook.
- I will repeat the process 19 more times, repeating the same steps.

My independent variable is the material of the bottle, my dependent variable is the Ph Balance, and my controls are the amount and type of water.

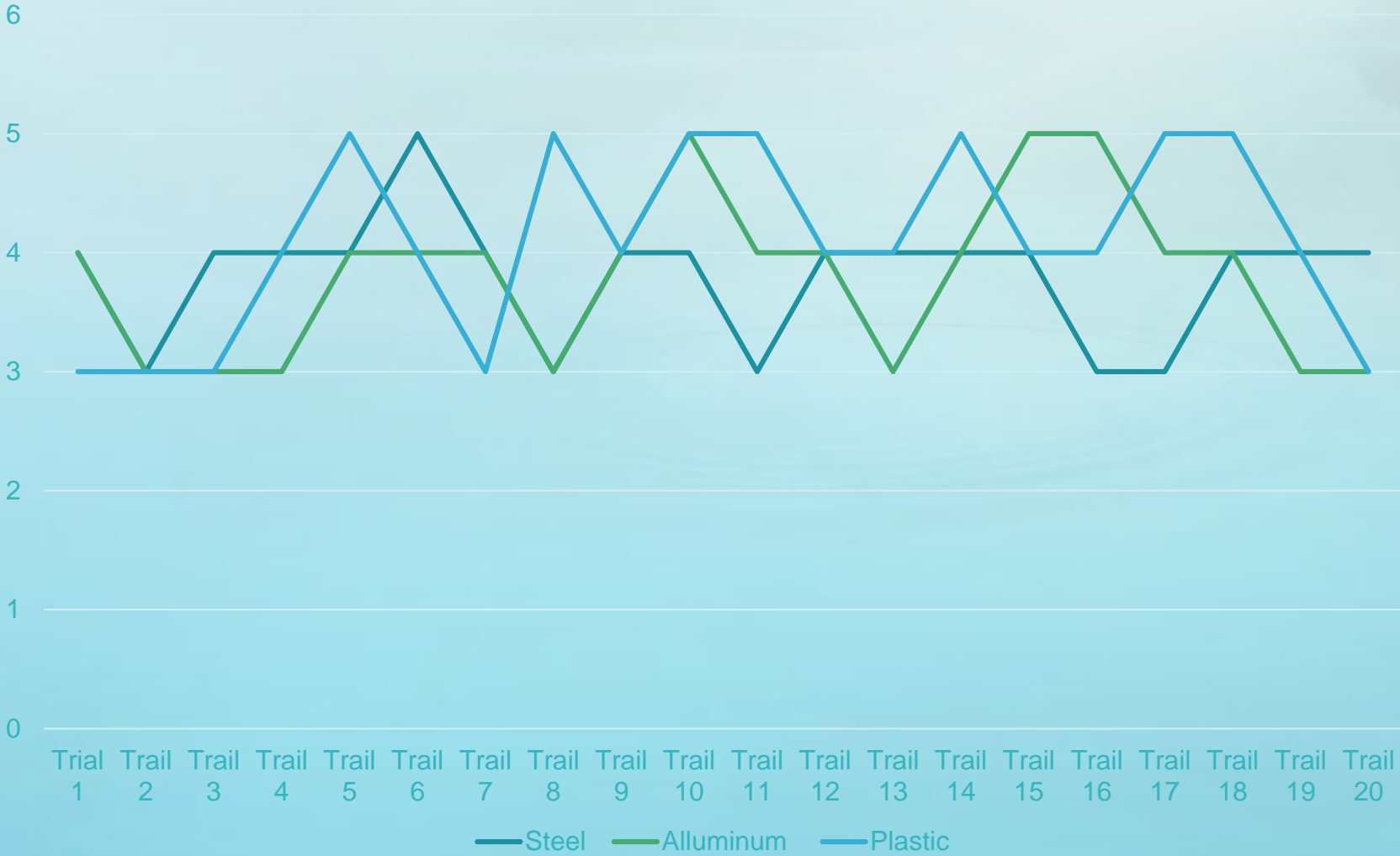




Results

Alkaline Level

- 5= Very High or 8.4
- 4= High or 7.8
- 3= OK or 7.2
- 2= Very Low or 6.8
- 1= Very Low or 6.2



Conclusion

In conclusion, I think that all of the water bottles leach large amounts of chemicals. No matter that fact, each water bottle is safe to use, because the toxins are only harmful when over consumed. But, the bottle with the highest toxicity level would have to be the plastic bottle, because the water had the highest pH level after all the trials. It had the most level 4's and 5's, and the least amount of 3's. The bottle with the least pH level would be the aluminum bottle because it had the least toxicity level after each trial occurred. My hypothesis was correct because I predicted the outcome I received