

Soda effects on teeth



C68



PURPOSE & HYPOTHESIS

What effect does soda have on your teeth? Is soda good or bad for your teeth?

I have learned that most carbonated drinks are not good for your teeth. We will be finding out which one is worse on your teeth.

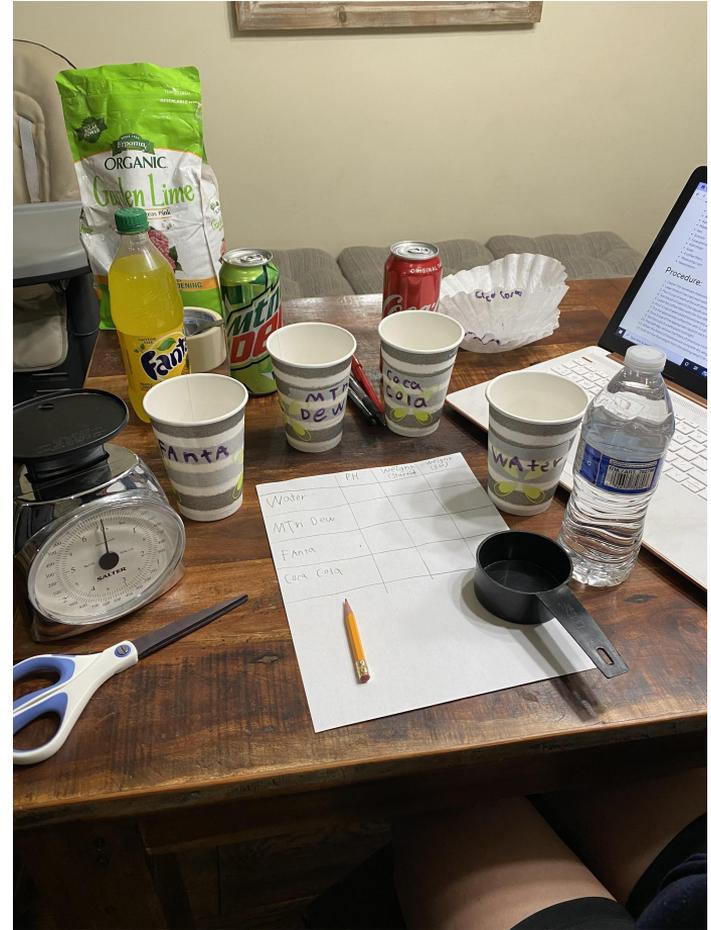
My hypothesis is that Mountain Dew has the strongest effect on teeth out of Fanta Pineapple, Coca cola and water.

RESEARCH

The American Dental Association recommends that drinking sugary carbonated drinks, like soda, are bad for your dental health. My parents have taught me that drinking too much soda is also bad for you and your teeth. I also learned from an article on the internet that a sip of soda starts a 20 minute attack of acid on your teeth that can lead to cavities, tooth decay, teeth sensitivity or pain. I want to keep my teeth for as long as I can and doing this experiment will teach me how much of an effect drinking soda will have on my teeth. I have to learn about this because like most people, I like to drink soda.

MATERIALS

- 3 cans of different carbonated soft drinks
- Water
- 4 plastic cups
- Masking tape
- Pen
- Scissors
- 1 cup granulated limestone
- 4 pH strips
- Scale
- 4 coffee filters
- Measuring cups
- Newspapers

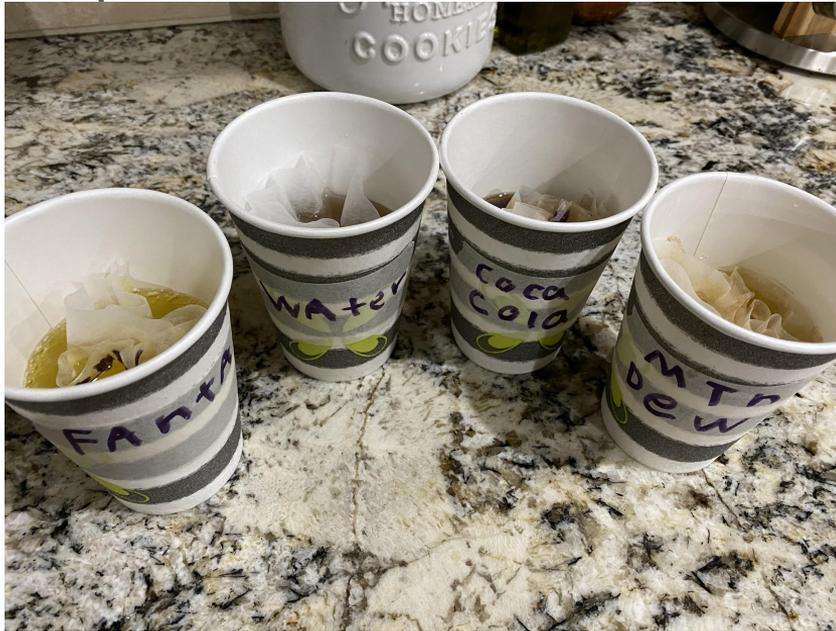


EXPERIMENT

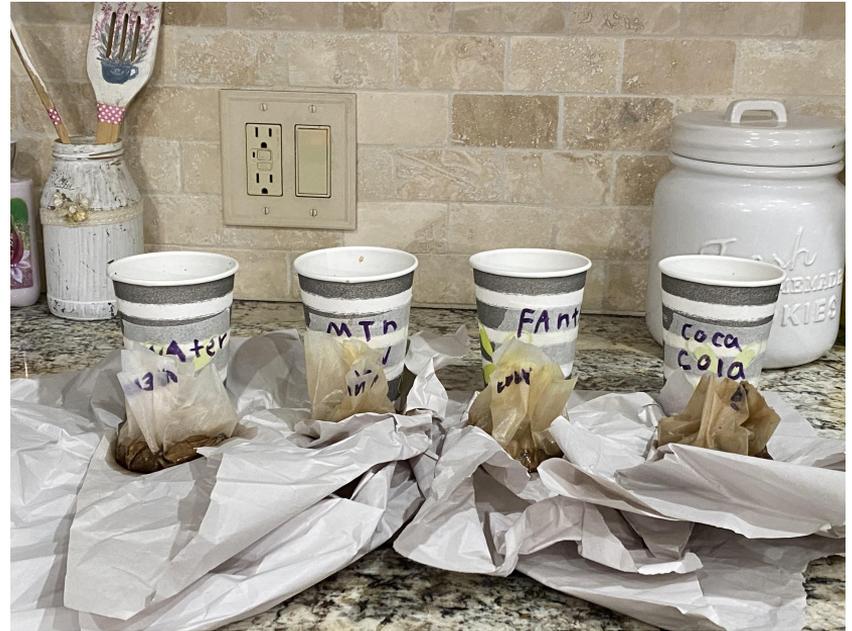
1. Gather the necessary materials.
2. Label three of the cups each with one of the different names of soft drinks being used. Label the fourth cup "Water."
3. Pour $\frac{1}{2}$ cup of each of the soft drinks and the water into the appropriate cup.
4. Test the pH of each of the liquids using pH strips. Record the information.
5. Label the coffee filters with the four different liquids.
6. Pour $\frac{1}{4}$ cup of granulated limestone into a coffee filter. Weigh the filter with the limestone. Record the weight.
7. Put the appropriate coffee filter with $\frac{1}{4}$ cup limestone in the appropriate cup.
8. Pour $\frac{1}{4}$ cup of the appropriate liquid in each cup.
9. Set the cups in a safe place overnight.
10. The next day, remove the filters of limestone from each cup and set them on some newspapers to dry completely. The drying process may take a couple of days.
11. When the filters of limestone are complete dry, weigh each one again and record the weights.
12. Subtract the final weight from the starting weight for each filter of limestone. Compare the weight of limestone to the pH levels to each of the liquids.

PHOTOS

Steps 7 and 8



Step 10



PHOTOS

Step 11



ANALYSIS

LIQUID	PH	Starting Weight	Ending Weight
Water	7.20	3 oz.	3 oz.
Mountain Dew	3.22	3 oz.	2.1 oz.
Fanta	2.79	3 oz.	2.1 oz.
Coca Cola	2.52	3 oz.	2.5 oz.

- Water is neutral and had no change in the weight of the limestone.
- Coca Cola was the most acidic according to the PH.
- Mountain Dew and Fanta had the greatest change in weight.

CONCLUSION

In this experiment the limestone represented the enamel on our teeth. On a pH scale, the lower the number, the more acidic that it is. The more acidic the liquid is the more it should have eaten away at the limestone. We tested 4 different liquids: water, Mountain Dew, Fanta Pineapple and Coca Cola. I thought my hypothesis was going to be wrong when I saw the PH of Coca Cola. I thought Coca Cola was going to have the greatest change in weight because it was the most acidic. Overall Mountain Dew and Fanta Pineapple had the greatest change in weight so my hypothesis was partially correct because Mountain Dew had the same change in weight as Fanta Pineapple.

REAL WORLD CONNECTION

Dental health is very important to all of us. Dental health is also known to be associated with our general overall health. If a person fails to include good oral hygiene to their regimen their teeth and health will most likely be compromised. We all want to be able to use our teeth and enjoy good health for the rest of our lives. Nobody want to lose a tooth and will try their best to protect their teeth and body they have. I think this was very important information as now it will make me more aware of what I am doing to protect my own teeth. This information is useful as it can help me tell my friends and family about the potential risks of drinking too much soda and how it relates to the health of their teeth.

WORKS CITED

www.ada.org

www.dornindentalcenter.com

www.education.com

www.sciencebuddies.org