

Class 3's Home Learning, Science

w/b 22.6.20, Tooth decay experiment with egg shells

Source: Science Sparks

(<https://www.science-sparks.com/how-to-keep-teeth-healthy/>)

As we can't experiment on our own teeth, we'll be using eggs instead because the shell of an egg is made of a similar substance to tooth enamel.

What you will need:

- eggs (x5)
- jars/glasses (x5)
- water
- tea/coffee
- fizzy flavoured drink
- vinegar
- toothpaste



Instructions:

1. Pour the same amount of fizzy drink, vinegar, water and tea/coffee into your jars/glasses.
2. Make observations about the colour of each egg shell. Take pictures if you are able to.
3. Add a whole raw egg still in its shell to each jar/glass.
4. Cover an extra egg with toothpaste and also place in tea/coffee.
5. Make predictions - what do you think will happen to the shells of each of the eggs? Write these predictions in your book.
6. Leave for approximately three days.

After three days:

1. Remove the eggs from the jars/glasses.
2. What do you see? What do you notice? Is anything the same? Is anything different? Write your observations (also known as results) in your book.
3. Rinse the egg kept in vinegar and rub gently until the shell comes away.
4. Write your observations/results of the egg that was in vinegar in your book.

What you should see is written under this picture.
Try not to peek until after you have done all of the above.



What you should see:

- Staining on the fizzy drink and tea/coffee eggs.
- The egg that was covered in toothpaste stained less than the non-toothpaste covered egg.
- The vinegar completely dissolved the eggshell, leaving just the membrane behind.

Now that you know what you should see, is there anything you would do differently if you were to repeat this experiment again? Write your ideas in your book.

Why do teeth stain?

- Tea has tannins in it which stain teeth if they're not cleaned properly.
- Fizzy drinks and cola are acidic and they also contain staining products.
- Vinegar, which is acidic, dissolves the calcium carbonate in the shell, leaving just the membrane intact.

Something fun:

- Try bouncing the egg on a counter or table. What happens?
- You may want to do this in a place where surfaces can be easily cleaned, just in case!