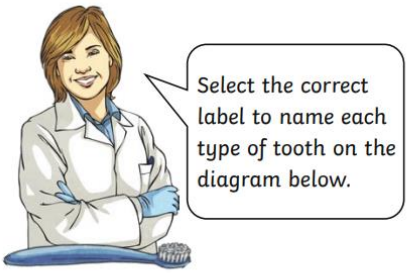
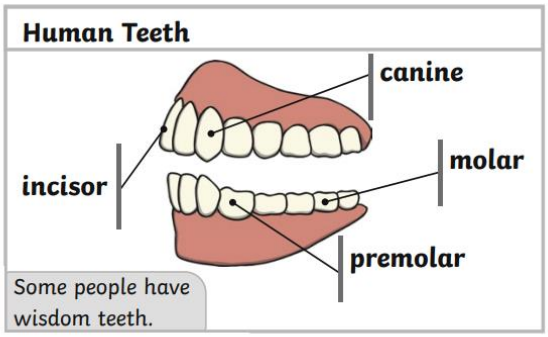
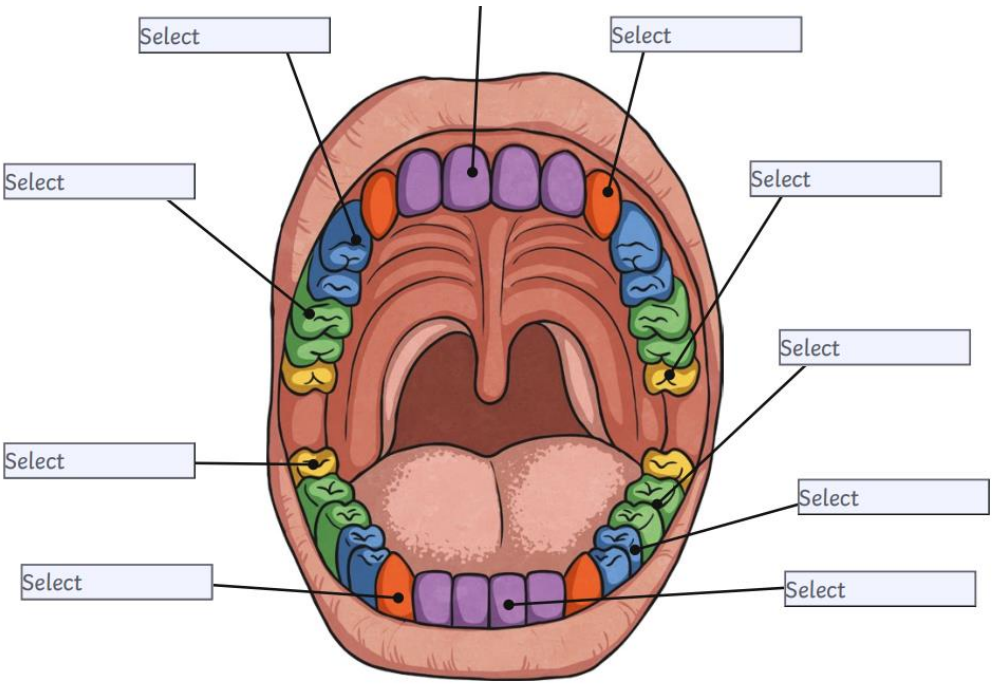
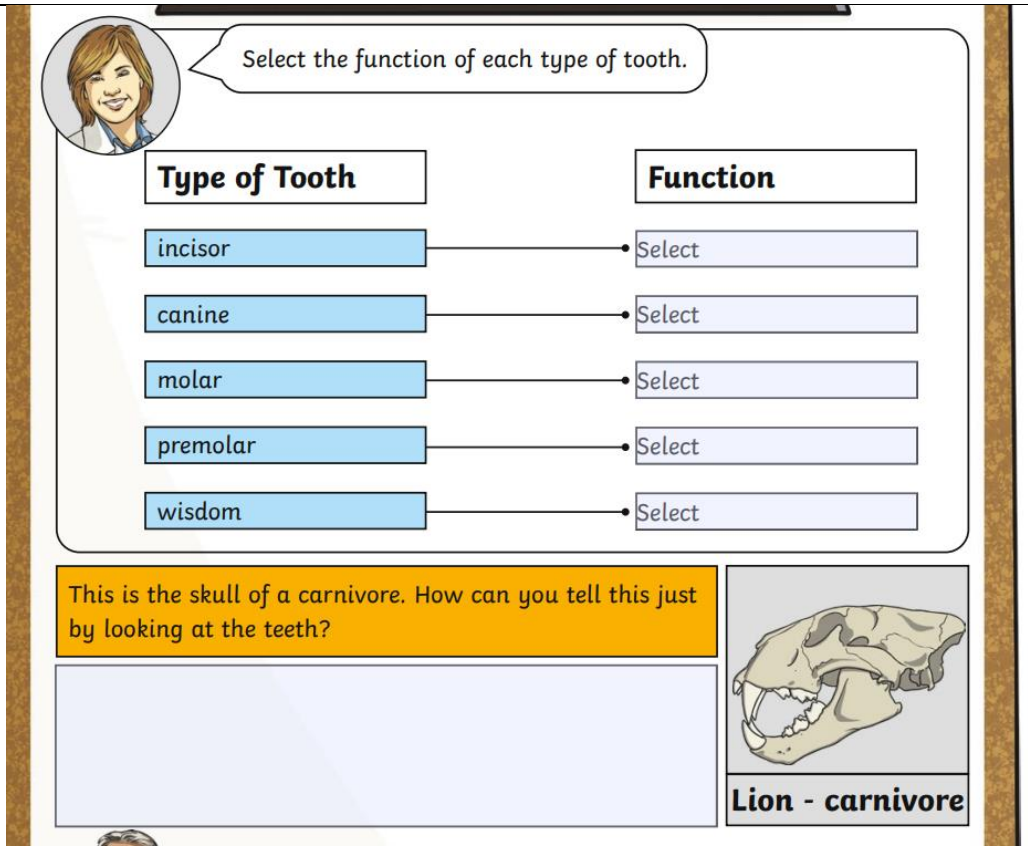
SCIENCE	TEEEEEETH The other week I had to have my wisdom teeth removed. It was not a pleasant experience, but all went well. Funnily enough it happened whilst we were exploring teeth. I will show you them when you get back.

Teeth









Hopefully you have been reading the newsletter and you will have seen that we have been concocting an experiment. The aim was to find out the different effects of liquids on our teeth.

Tooth Decay Experiment with Egg shells (science-sparks.com)
PowerPoint Presentation (forsyth.org)

This is a similar eggspeirment to the one we did

Tooth enamel is tough but can be eroded by sugar in your beverages and acids in your mouth. Sugary beverages are not good for teeth as they stick to the surface and bacteria then break down the sugar to make acid, which can damage teeth. When tooth enamel is exposed to acidic beverages or acid generated by sugary beverages, it softens and loses some of its mineral content. Saliva helps neutralize the acid, restore the mouth's natural pH balance, and slowly harden the tooth enamel again. However, because the tooth's recovery process is slow, if the acid exposure happens frequently, the tooth enamel does

not have the chance to repair. This can cause tooth sensitivity and lead to the need for dental treatment to protect the tooth and the dentin underneath.

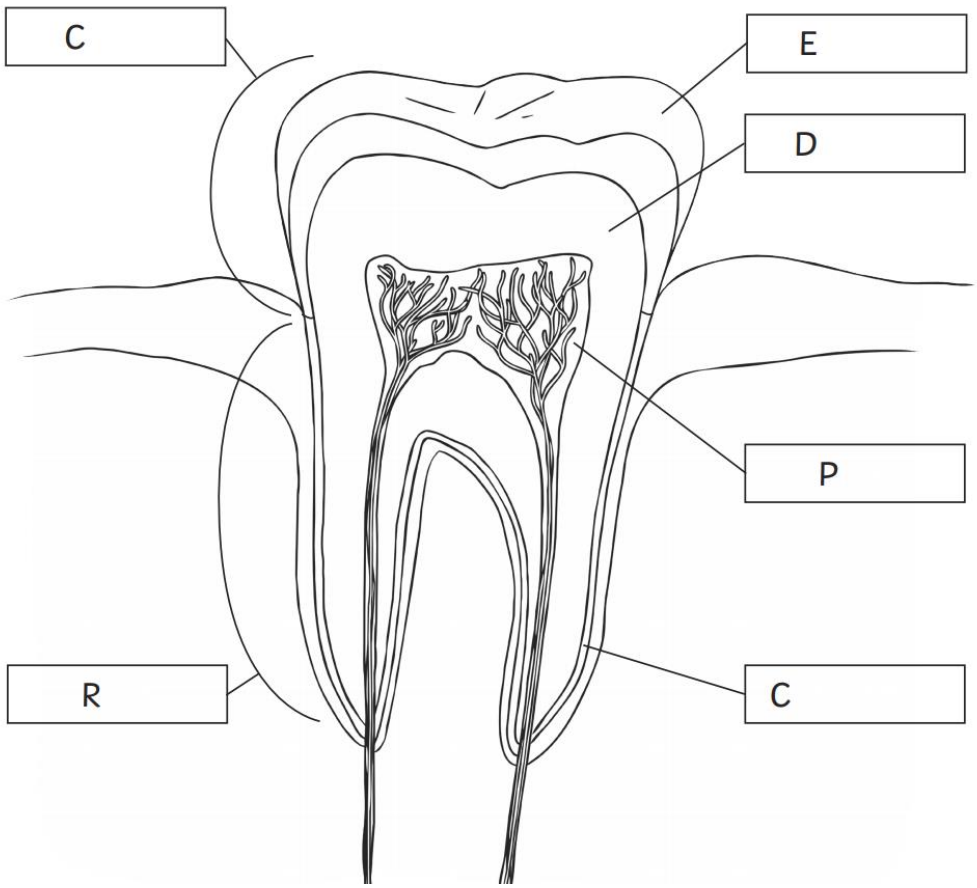
Materials Procedure 1. Label each cup with the liquid and carefully add a hard-boiled egg to each cup. Optional: include cup and put some tooth paste on a small area or whole egg before soaking.
2. Pour 1 cup of each type of drink into its own cup. Make sure to include one cup with water (control). Soak for 48 hours at room temperature or refrigerator
3. Take out soaked hard-boiled eggs and make observations about its colour and texture. Compare each experimental eggshell to the “control” eggshell that was just soaked in water.
4. Can you brush off the stains using tooth brush?
5. Record your observations and any conclusions you make about how the sweetness or acidity of drinks affect teeth.

Questions • Beverages: sugary - Soda, energy drink (e.g. Red Bull), sports drink (Gatorade), Juice; acidic - vinegar, orange juice, water (control), milk (control) • Clear cups or glasses (one for each drink) with covers or pieces of foil or plastic wrap and rubber bands to cover • Hard-boiled eggs • Extra toothbrush • Toothpaste Research Question: Can sugary or acidic beverages really weaken teeth? Objective: Since egg shells are similar to tooth enamel, examine hard-boiled egg shells soaked for 2 days in various beverages to see if the acid weakens tooth enamel. 1. The enamel of your tooth is similar to the egg’s shell. What happened to the egg shells that were soaked liquids that are sugary? Why? 2. What happened to the egg shells that were soaked liquids that are acidic? Why? 3. If you used toothpaste what was the effect? Why? 4. Based on what happened to the eggshells in your experiment, which drinks do you think are BEST for your teeth? Why?

This was our result. We will not give too much away though! We did not boil our eggs first, I suggest you do so as one of ours popped! Remember to make a prediction first!

HLTA	F	TA	I
LO: to record observations about our scientific enquiry			
I can	Record observations over a period of time		
I know	that the dependent variable in this enquiry is the appearance		
I understand	What I am looking for when observing the egg's appearance		

HLTA	F	TA	I
LO: to create a scientific conclusion			
I can	use my prediction to compare against what we found		
I know	How to use scientific words		
I understand	How to present our findings		



	Root Pulp Cementum Dentine Enamel Crown