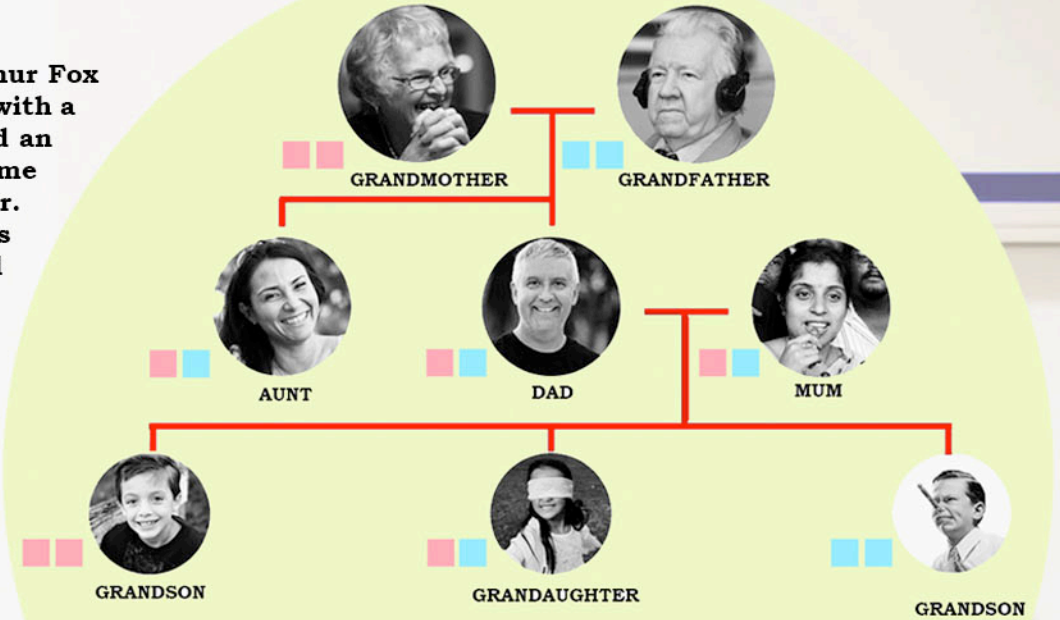
B4 TASTE : TASTE and INHERITANCE

STORY STARTER

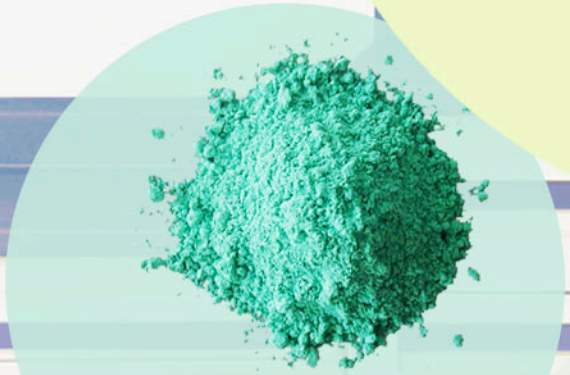
In 1931, a chemist called Arthur Fox was working in his laboratory with a powder called PTC. Arthur had an accident and spilled some powder which blew into the air. Another scientist who was working with him complained that he could taste a strong bitterness in the air. Arthur, on the other hand, could taste nothing. Being good scientists and naturally curious, Arthur and his colleague asked lots of other people to taste the powder. Some tasted nothing at all; others found it very bitter indeed, with the rest finding it only slightly bitter. Fox was extremely puzzled by this and decided to investigate further.



Version of the gene that means PTC has no taste

Version of the gene that means PTC tastes bitter

A pairing of both genes means that PTC has no taste



RESOURCES

In Kit

- PTC paper strips

FLAVOUR SENSNATION SCIENCE:

PTC testing is a method used to test for a genetic trait. People who have the dominant gene can taste PTC (phenylthiocarbamide) and people who have the recessive gene do not taste PTC. This trait is passed genetically from parents to their children so that if a person has the trait, then at least one of their parents will have the trait as well.

OUTCOMES AND IMPLICATIONS:

Scientists believe that our ability to taste PTC and other bitter tastes may have evolved as a way to protect our ancestors from eating poisonous plants. About 75% of people across the world can taste PTC and whilst PTC is not found in the food we eat today, there are a number of similar compounds found in some vegetables including broccoli, cabbage and Brussels sprouts. You could try telling this to your parents as scientific evidence the next time you don't want to eat your greens... but on the other hand, everyone can taste some type of bitter things and lots of adults seem to have learned to like coffee and dark chocolate, so maybe you will learn to like your greens if you just keep on trying them!