

Evolution

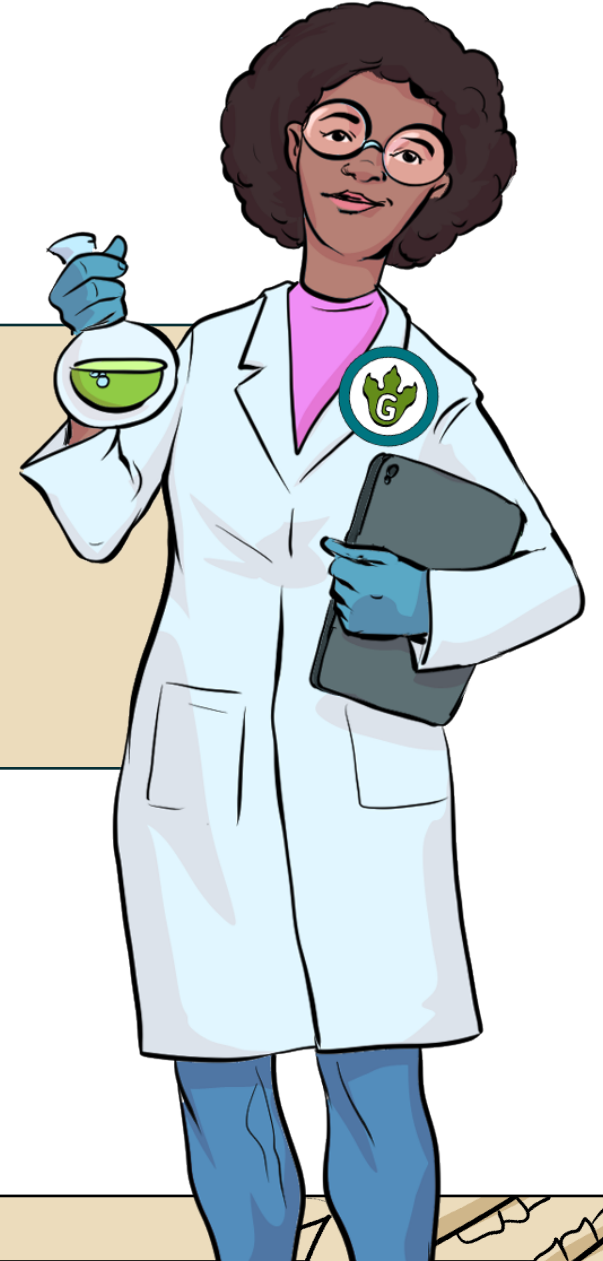
I can explain how adaptations may lead to evolution.



Thinking Time



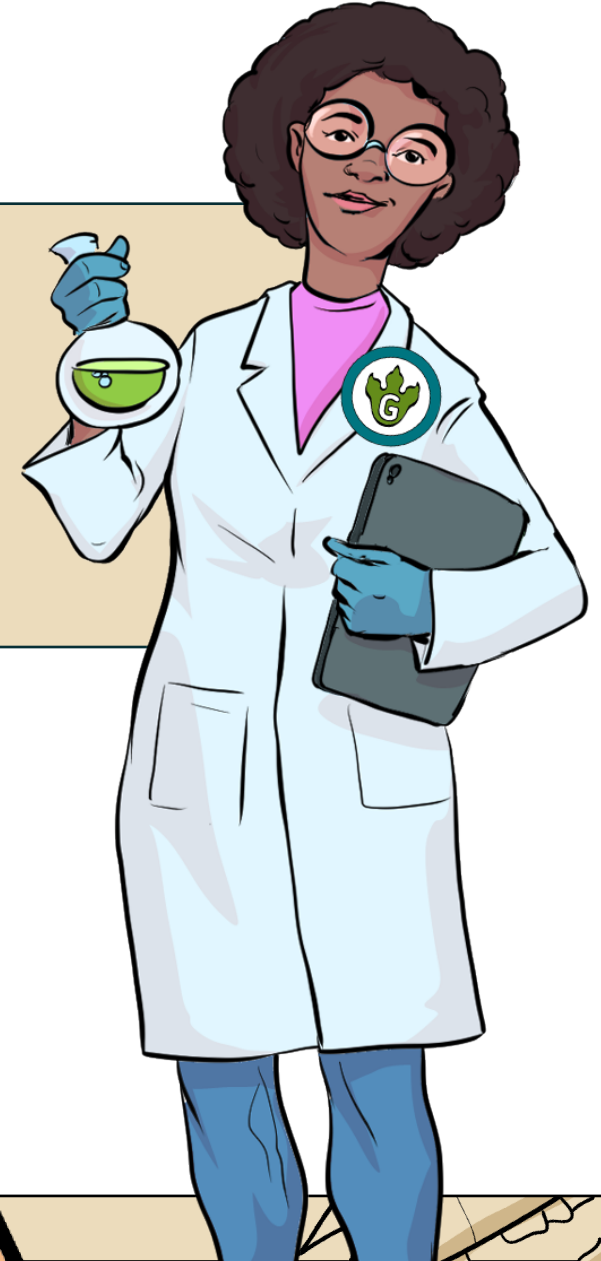
Can you remember what
adaptation means from
last lesson?



Thinking Time

Can you remember what **adaptation** means from the last lesson?

Adaptation is when a **plant** or **animal** has changed in some way, over a long period of time, to be better suited to the **environment** in which it lives.



The Peppered Moth

The Peppered Moth can be found all around Britain and Ireland. You may see them in your back **gardens**, but its amazing story has made it famous all over the world. An **incredible scientist** named Darwin **discovered** something amazing about this particular **moth**, and so it is often referred to as '**Darwin's moth**'.

Peppered Moths are normally white with **black speckles** across the wings, which is why they are called 'peppered moths'. Their pattern means that they are well **camouflaged** when they rest on **lichen-covered** tree trunks during the day.



Question time!

Why do you think the moths wanted to **camouflage** themselves?



The Dark Peppered Moth

4

However, in the 19th century, there were a lot of **factories** and coal fires which were **causing** the air to become 'sooty'. This **sooty air** was being **deposited** onto the trees and covering them in a black layer. This meant the **light coloured peppered moths** were no longer **camouflaged** on the trees that they liked to sit on.

More and more light coloured moths were being eaten by **predators** such as birds because they were no longer **camouflaged**. Because of this, **dark coloured moths** became more common as they were the ones who could not be seen against the **soot covered trees**.



This is called **natural selection**.



Natural Selection and Evolution

Natural selection is when organisms that are best suited to their **environment** survive and pass on their **genetic traits**. At the same time, organisms that are less likely to survive tend to be **eliminated** from the **ecosystem**.

The fittest, most adapted organisms survive and multiply whilst the least adapted die out.



This was shown with the moths. The light coloured moths were no longer **adapted** to their **environment** so started to die out. Whilst dark coloured moths were **adapted** to the **environment** so **multiplied**. Natural selection is key to **explaining evolution**.

Evolution is a theory that states that all species that exist today **developed** from previous species. For example, some scientists believe that humans **evolved from apes**!

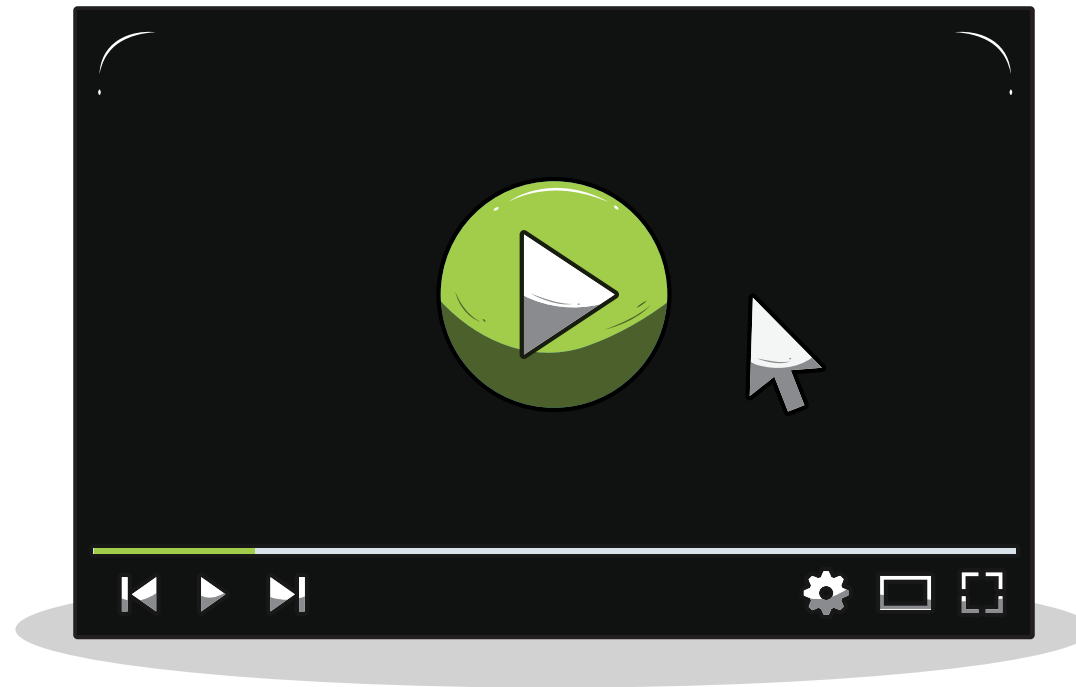
New word alert!

Genes - Information inside the cells of living things that is passed down from parents to their children. Eyecolor and height are examples of traits controlled by our genes

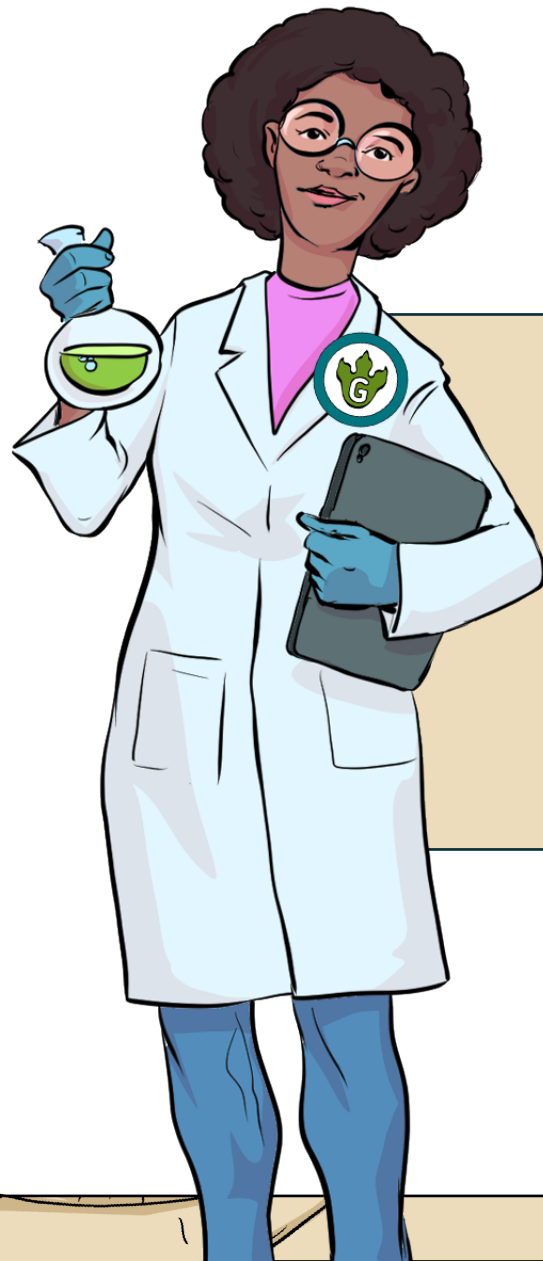


**Watch this video from BBC bitesize for
further explanation of evolution:**

<https://www.bbc.com/bitesize/articles/z9qs4qt>



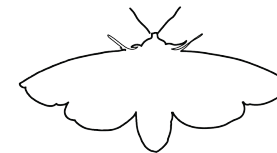
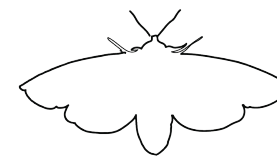
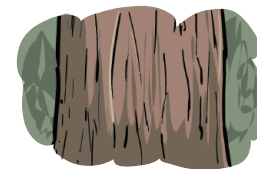
Independent Task



You have pictures of different tree trunks on your **sheet**. Imagine what the **moths** would have to look like to be best suited for that **habitat**.
Draw the **pattern** on the **moths**.

Activity

Imagine all the trees changed again.
Can you design a moth's pattern which would camouflage it if all trees looked like the picture?



Recap

Can you remember what these **words** mean?

Explain what they mean to your partner.

adaptation

natural selection

evolution

