

Y6 Science

Evolution

I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

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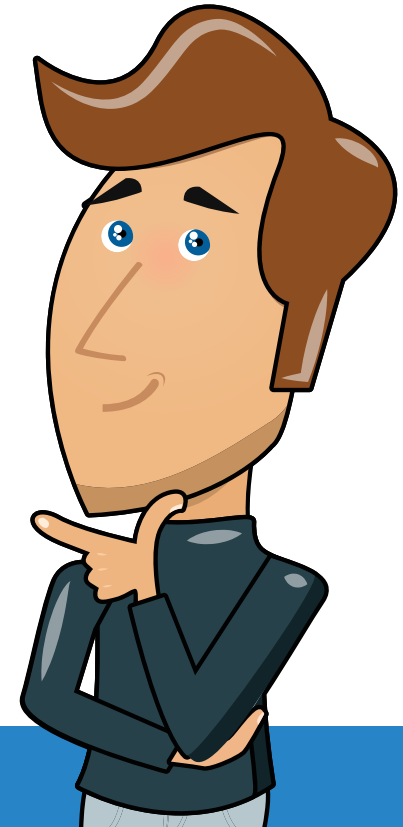
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Last Lesson Recap

Our last lesson was about inheritance.

Think about these questions and discuss with your partner before feeding back to the class.

1. What does inheritance mean?
2. What can you inherit from your parents?
3. What can you not inherit from your parents?
4. Name one thing you have inherited from one of your parents.



Fossils

A fossil is the preserved remains or traces of a dead organism. The process by which a fossil is formed is called **fossilisation**. It's very rare for living things to become fossilised. Usually after most animals die their bodies just rot away and nothing is left behind. However, under certain special conditions, a fossil can form. Fossils can give us information about animals that lived a long time ago such as how large the animal was, when it lived and what it ate.



New Word Alert

Organism – a living thing (plant/animal/creature)

How is a fossil formed?

After an animal dies, the soft parts of its body **decompose** leaving the hard parts, like the skeleton, behind. This becomes buried by small particles of rock called **sediment**. As more layers of sediment build up on top, the sediment around the skeleton begins to compact and turn to rock. The bones then start to be dissolved by water seeping through the rock. Minerals in the water replace the bone, leaving a **rock replica** of the original bone called a fossil.

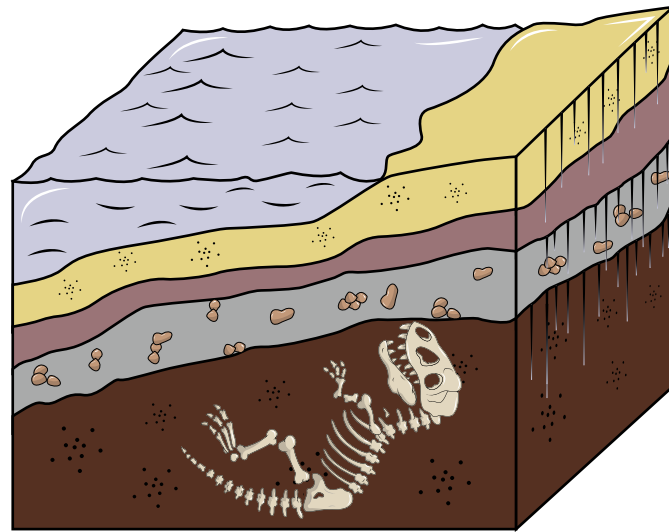
Did you know?

It's not just animal and plant remains that can be fossilised. Things like footprints, eggs and even poo can be fossilised too.

How is a fossil formed?

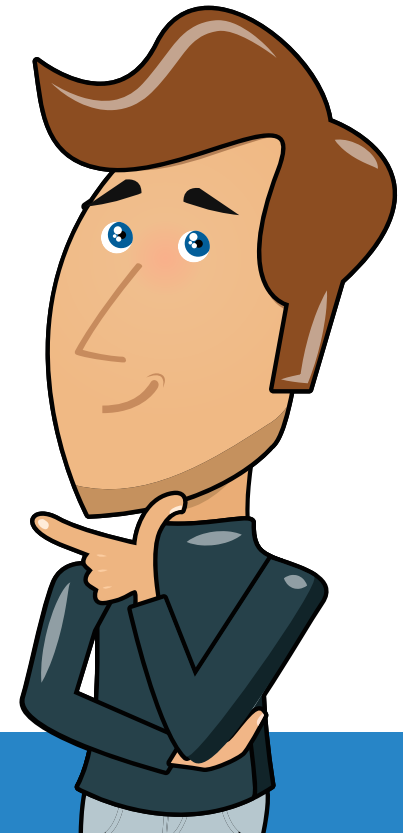
You can also watch a clip of how a fossil is formed here:

<https://www.youtube.com/watch?v=3rkGu0BItKM>



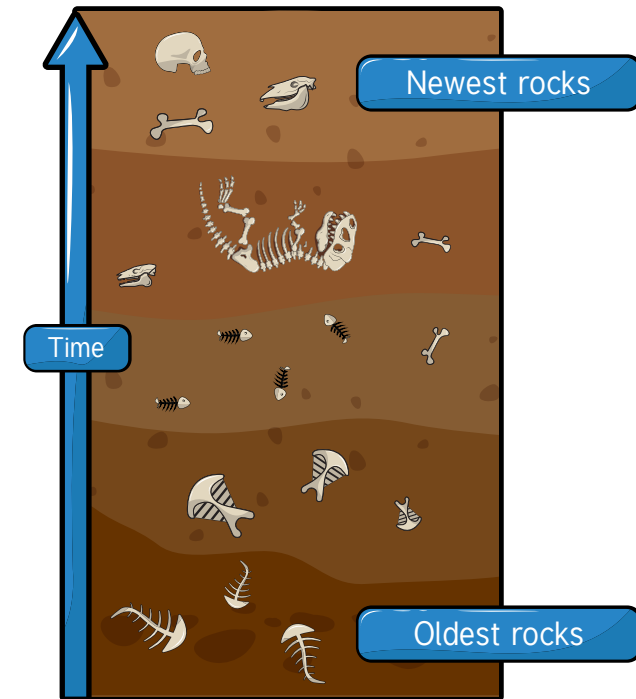
Fossils

So, how can fossils help us with our topic of Evolution and Inheritance?



How do fossils help us understand evolution?

Fossil remains have been found in rocks of all ages. Fossils of the simplest living things are found in the oldest rocks, and fossils of more complex living things in the newest rocks. This supports **Darwin's theory of evolution**, which states that simple life forms gradually evolved into more complex ones. Evidence for early forms of life comes from fossils. Fossils provide a snap shot of the past and by studying fossils, scientists can learn how much (or how little) living things have changed over time.



Horses

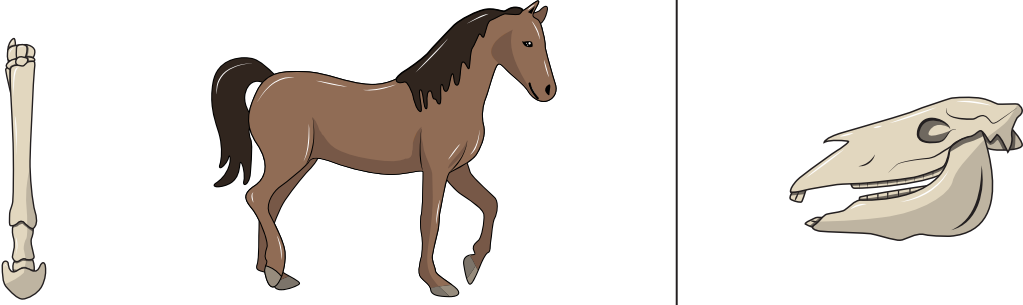

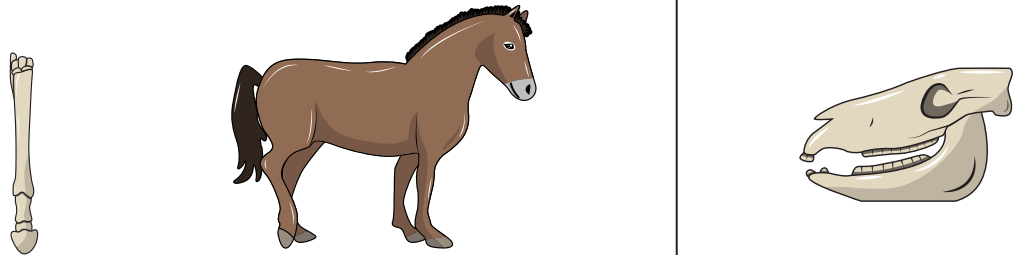

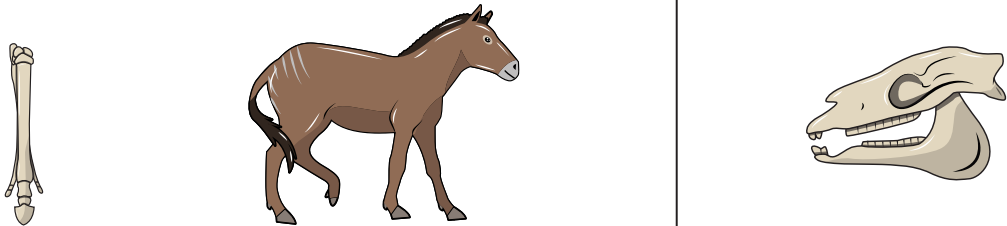

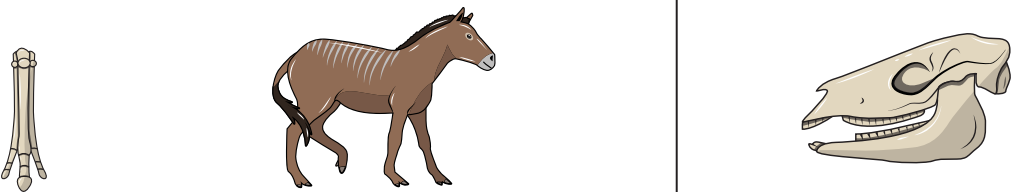



Horses have not always looked like the horses we know today. Scientists have studied the changes in horses over millions of years through fossils that have been found.



Independent Activity

You will now have the chance to analyse the fossils and explain what this tells us about the evolution of horses.

Remember, look at what has changed and why this could be. Think about that characteristics horses need now and why.

1 million years ago	<p>Modern horse</p>  <p>Height: 1.6 m</p>	
10 million years ago	<p>Pliohippus</p>  <p>Height: 1.0 m</p>	
30 million years ago	<p>Merychippus</p>  <p>Height: 1.0 m</p>	
40 million years ago	<p>Mesohippus</p>  <p>Height: 0.6 m</p>	
60 million years ago	<p>Eohippus</p>  <p>Height: 0.4 m</p>	

Insects in amber

Tree sap traps
insect

Amber hardens

Tree falls into water

Amber buried under
pond / lake

Fossil found or not



One Final Question...

Do you think evolution is still happening today?



One Final Question...

Do you think evolution is still happening today?

Yes it is! Bacteria continue to mutate and evade antibiotics, while Darwin's finches and other animals continue to be studied.

Question to think about...

How do you think that modern day humans might be influencing evolution, both positively and negatively? (think about climate change, pollution, destruction of habitats, breeding programmes, introduction of evasive species, etc.).