

SCIENCE

26th January 2021

LO: To understand what a Palaeontologist does and the work of *Mary Anning*.

RECAP: TYPES OF ROCKS

There are 3 types of rocks that are formed naturally. These are Igneous, Sedimentary and Metamorphic.

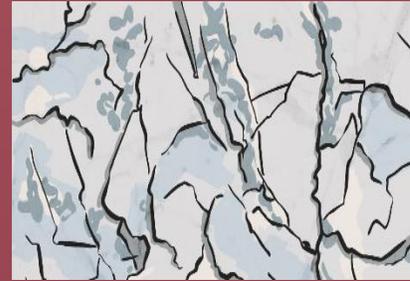
Igneous



Sedimentary

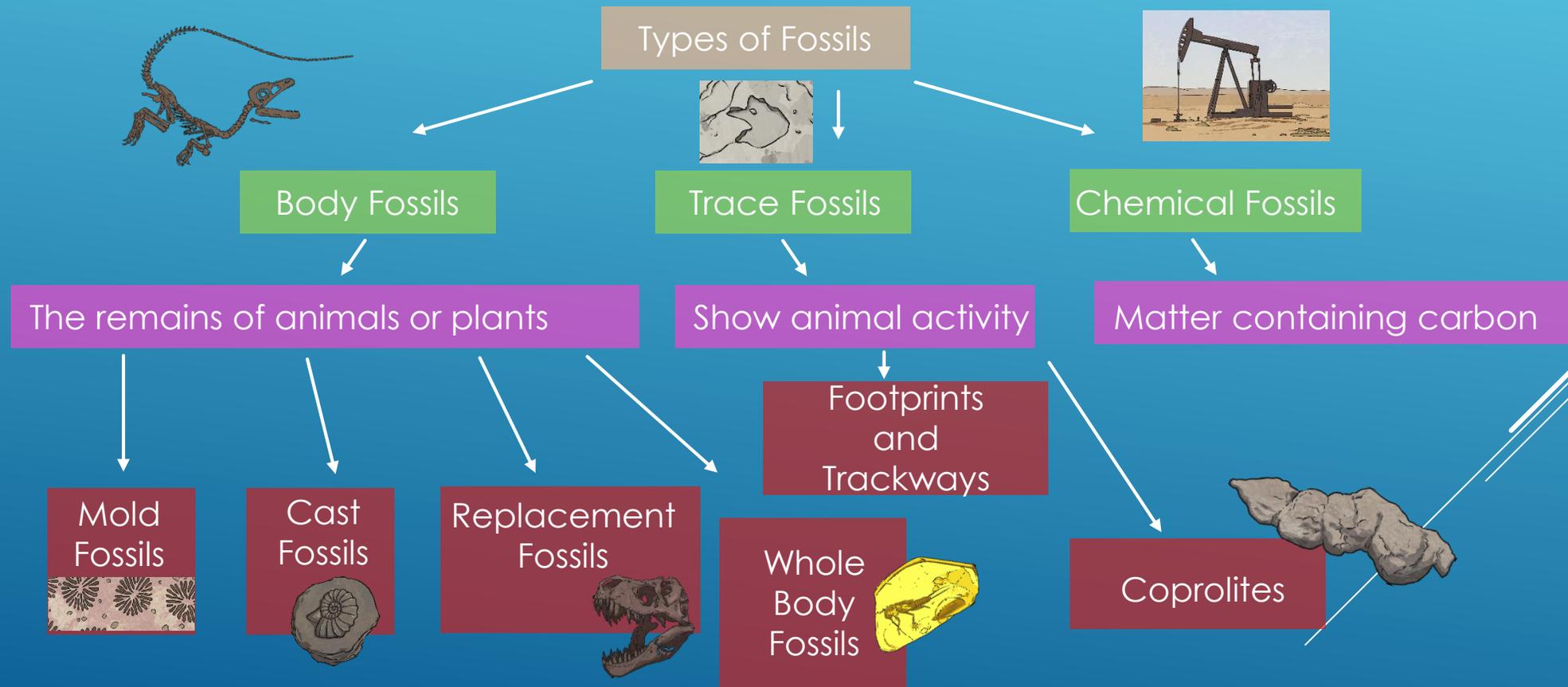


Metamorphic



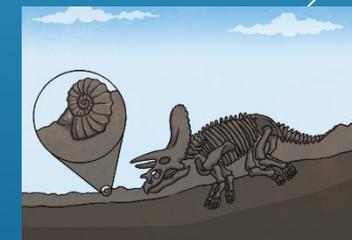
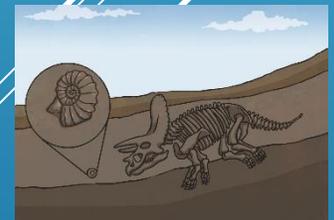
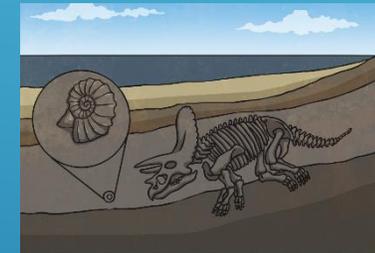
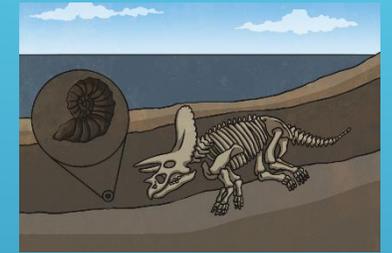
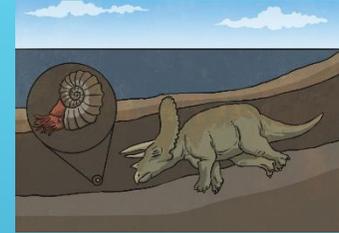
RECAP: TYPES OF FOSSILS

Before we find out more about *Mary Anning*, let's see what you remember about the different types of fossils. In groups discuss what is hidden under the shapes.



RECAP: THE FOSSILISATION PROCESS

- ▶ An animal or creature dies and ends up in the sea. It gets covered by a layer of rock.
- ▶ Over time more layers of rock cover it and by this time the only thing to remain of the animal would be its bones (except in the case of mold fossils where the bones would also be decayed).
- ▶ Over thousands of years the mold fossil might become a cast fossil with sediment entering the mold. In the case of replacement fossils, the original bone matter changes to mineral matter but this does not affect the shape of the bones.
- ▶ Over a long period of time the sea will recede in certain places.
- ▶ As erosion and weathering takes place, eventually the fossils become exposed.



Key words to learn!

Palaeontology

(pay-lee-on-tolo-jee)

Palaeontologist

(pay-lee-on-tolo-jist)

What do you think a palaeontologist is?

What would a palaeontologist do?

HISTORY OF IDEAS ABOUT FOSSILS

It's only in the last two hundred years that we have begun to understand what these fossils really are and how they formed.



Here are some ideas from the past.

The ancient Greeks found fossils of marine animals. We realised that this meant some land used to be under water.

In ancient China, they found many fossils of dinosaurs although these were mistaken for dragon bones! Some people even used them in medicines!

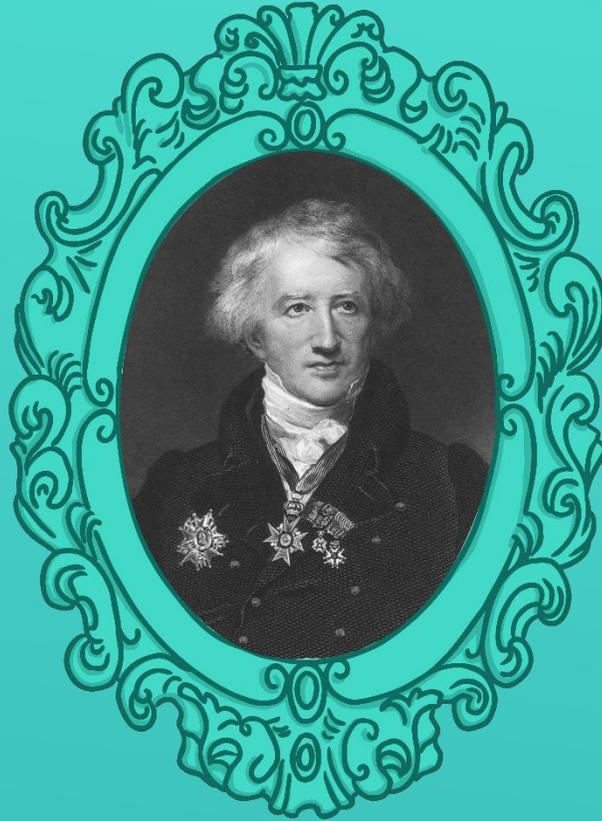
GEORGES CUVIER

THE BREAKTHROUGH

In the past people were not convinced that some animals had become extinct (died out)!

Cuvier proved that fossils found were of animals which had died out due to natural disasters like floods.

This was a really important idea which led to the beginning of Palaeontology (the study of fossils) as it proved the existence of animals that humans did not know about as they had died out before our time.



Cuvier's ideas were supported by evidence of fossils found in Britain, particularly those of Mary Anning.

MARY ANNING

So who was Mary Anning and what did she find that was so important?

<https://www.bbc.co.uk/bitesize/topics/zd8fv9q/articles/zf6vb82>

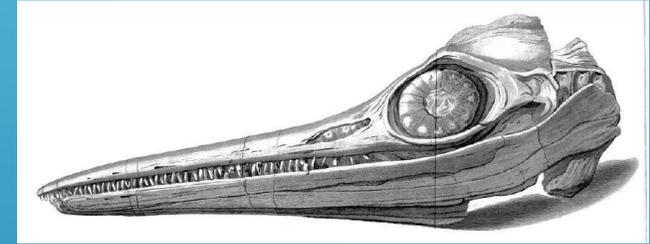
While watching the video above see if you can work out the types of fossils she found.

MARY ANNING AND PALAEOONTOLOGY

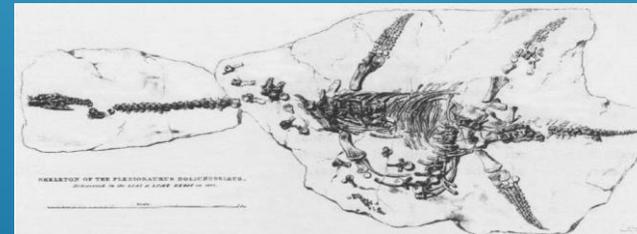
In Mary Anning's lifetime palaeontology (the study of fossils) was still a very new idea.

The fossils Mary Anning found were important because:

- Her major finds included the first ichthyosaur skull (and then whole skeleton), a complete plesiosaur skeleton and a partial skeleton of a pterosaur.
- The fossils gave evidence to the palaeontologists.
- Many scientists visited Mary Anning and she was able to help them understand more about the fossils she had found.



Ichthyosaur skull



A sketch of a plesiosaur

MARY ANNING AND PALAEOONTOLOGY

The area where she collected her fossils is now known as the Jurassic Coast, due to the large number of pre-historic sea creatures found in that area.

She realised that they were found at the Blue Lias cliffs. These cliffs are made from layers of shale and limestone which formed over 200 million years ago!

Mary Anning lived in Lyme Regis.



MARY ANNING AND PALAEOONTOLOGY

She also knew to search after a storm, as this eroded the rocks. This made it easier to hunt for fossils as they became more exposed.

In addition, she knew that she would have to search soon after the storm so that the smaller fossils were not washed away to the sea.

She was most definitely an expert fossil hunter!

