
Fantastic
Fossils
twinkl

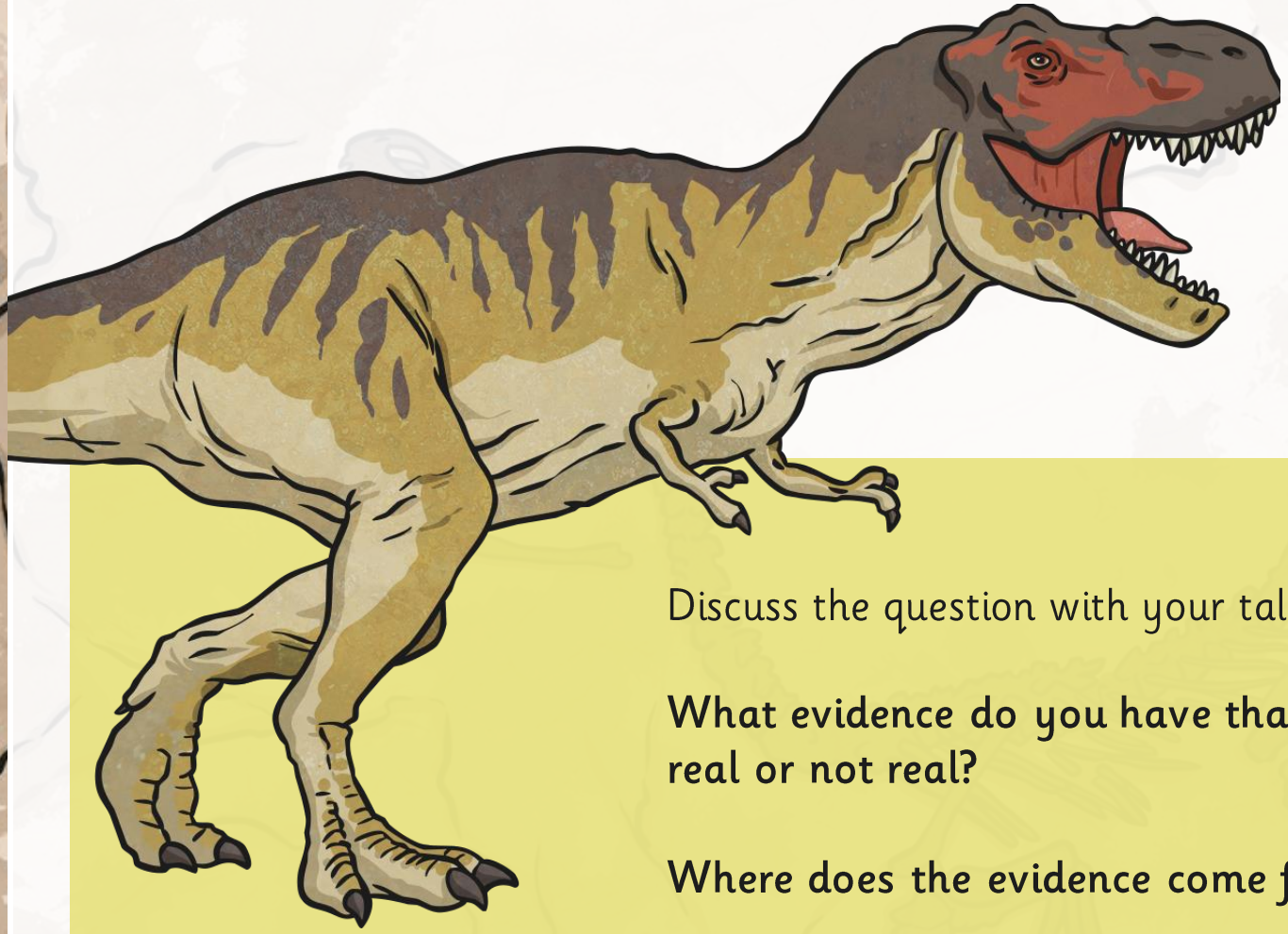
Aim

- WALT: explain how fossils are formed.

Success Criteria

- I can explain the difference between a bone and a fossil.
- I can order the steps of how a fossil is formed.

Are Dinosaurs Real?



Discuss the question with your talk partner.

What evidence do you have that they are real or not real?

Where does the evidence come from?

Are Dinosaurs Real?

It is believed that dinosaur fossils have been found for centuries and these gave rise to some of the mythical creatures in ancient cultures. However, without documented evidence we can not know this for sure.

What we do know is that our current knowledge of dinosaurs and **palaeontology** (the study of fossils) started in the 1800s. So we really have only known about them for the last 200 years! We know about dinosaurs due to the discovery of fossils and fossilised skeletons.

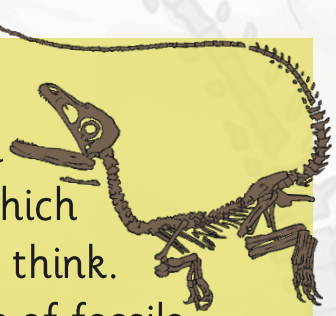
Bones or Fossils?

There are some key concepts we need to know before moving on.

What is the difference between bones and fossils?

Bones

Bones are any piece of the hard whitish tissue that makes up the skeleton in animals including humans.



Fossils

Fossils are more than just ancient bones, which is what many people think. There are three types of fossils – body fossils, trace fossils and chemical fossils.

Chemical fossils

Chemical fossils contain carbon, which is proof that they must be formed from once living things. Examples of chemical fossils include coal, petroleum oil and natural gas.

Body Fossils

Body fossils are the remains of an animal or plant such as bones, shells or leaves. There are three types of body fossils:

Mould and Cast Fossils

Mould fossils form when all the parts (including the bones) have decayed and all that is left is the mould of the animal.

Cast fossils form from mould fossils as the mould fossil is filled up with sediment – so it is not made up of the original matter of the animal or plant.

Replacement Fossils

Replacement fossils form when water dissolves the original hard matter of the bones and replaces them with mineral matter – this is what we think of when we discuss dinosaur fossils. They still look like the original bones but are not made up of the same matter.

Whole Body Fossils

Whole body fossils form when the original body has been preserved – for example a woolly mammoth in ice or a mosquito in amber.

Trace Fossils

These are fossils that record the activity of an animal including:

Footprints

Trackways

Coprolites
(fossil faeces)

Fossilisation Process

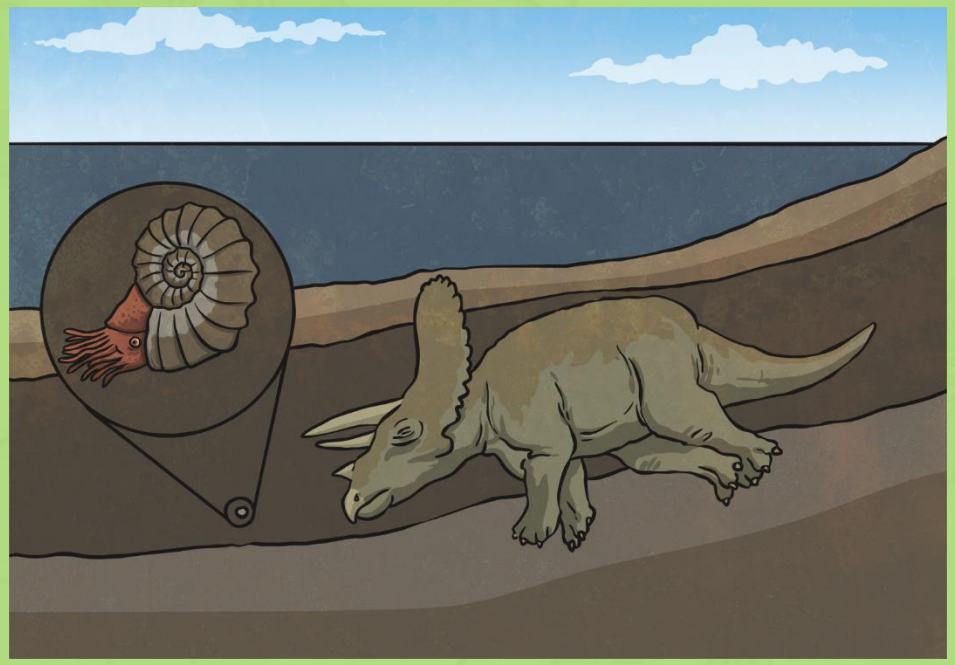
There are many different ways that fossilisation occurs. However, we will focus on how fossils form in rocks (both body and trace fossils).

Watch the clip below to find out how they are formed…

https://www.bbc.com/bitesize/articles/zsgkdmn

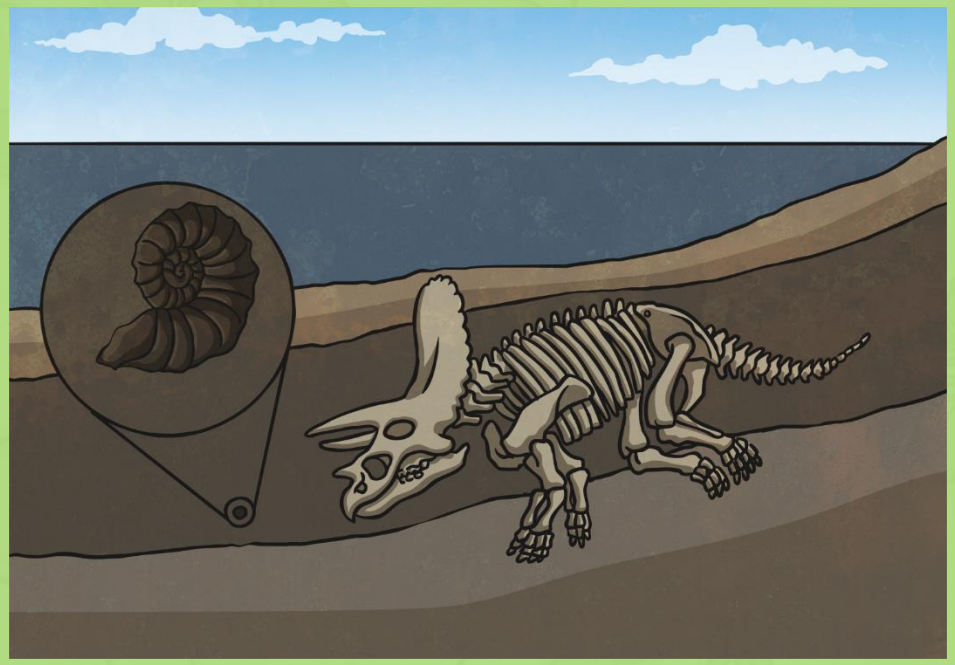
Fossilisation Process; Step 1

An animal or creature dies on land or in the sea and it gets **covered** by a layer of **sediment**. Over time, the rock is **compacted** and eventually forms a **layer** of rock.



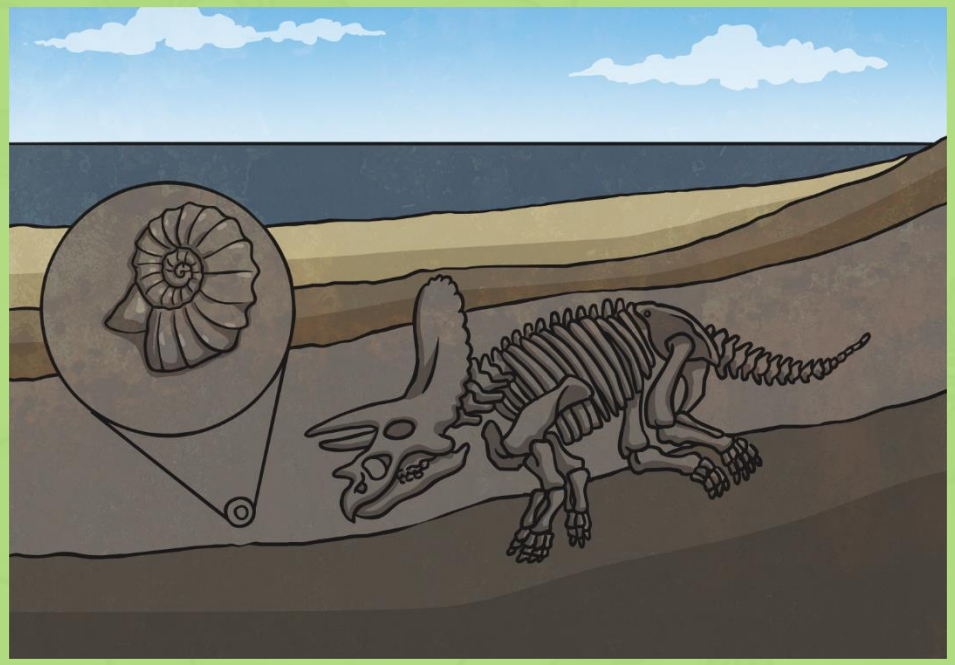
Fossilisation Process; Step 2

Over time more **layers** of rock are formed which cover it. The only thing to remain would be the hard parts such as **bones, shells and teeth**.



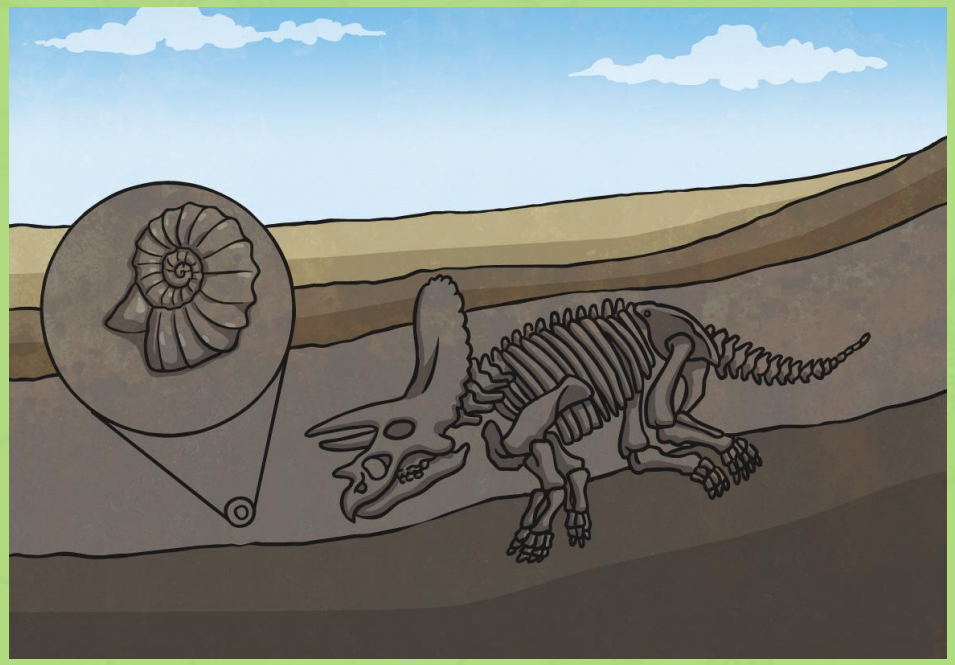
Fossilisation Process; Step 3

Over **thousands** of years the **mould fossil** might become a **cast fossil** with **sediment** entering the mould.



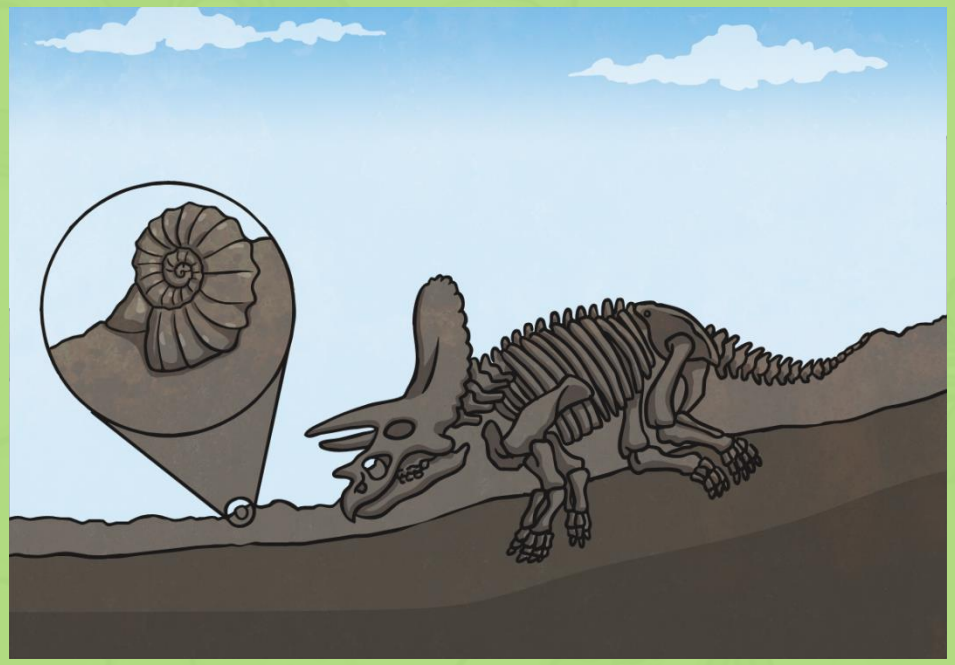
Fossilisation Process; Step 4

Over millions of years the **sea recedes** and the **rock rises** to the surface.

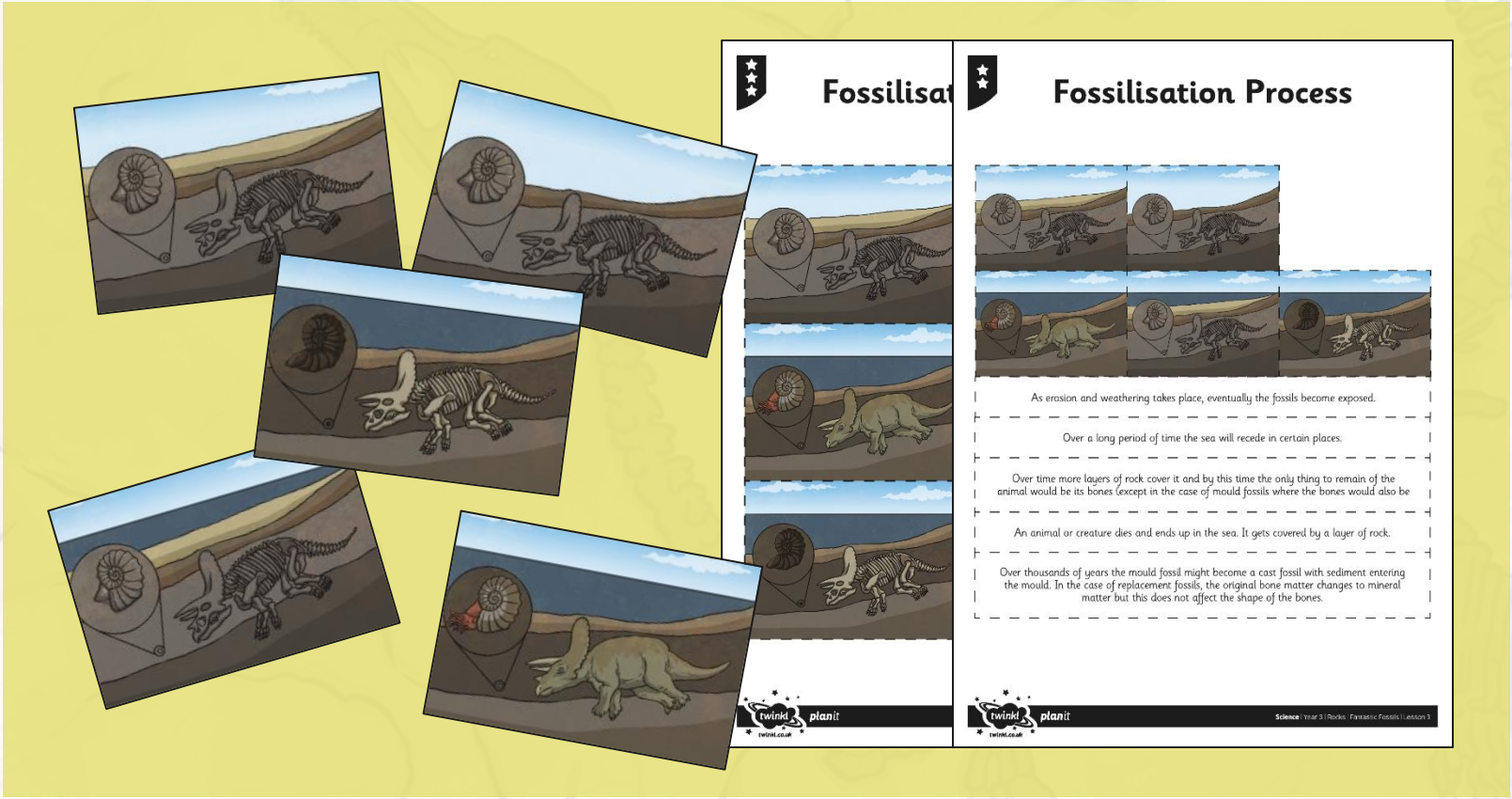


Fossilisation Process; Step 5

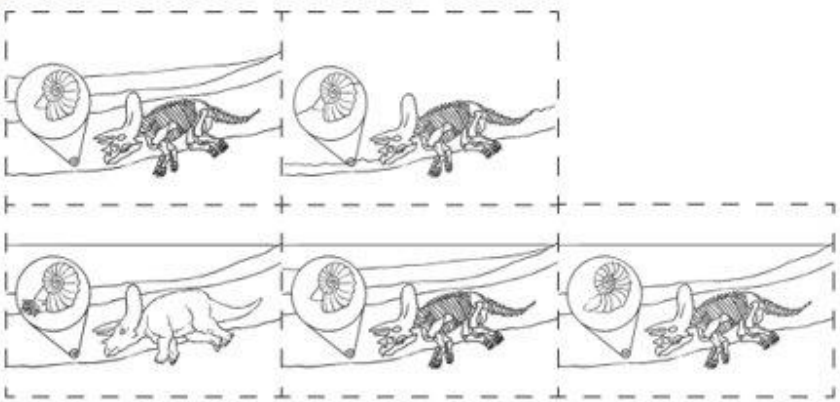
As **erosion** and **weathering** takes place, the fossils become **exposed**.



Order the Fossilisation Process



TASK: Match up the images and their descriptions



As erosion and weathering takes place, eventually the fossils become exposed.

Over a long period of time the sea will recede in certain places.

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 mould fossils where the bones would also be decayed).

An animal or creature dies and ends up in the sea. It gets covered by a layer of rock.

Over thousands of years the mould fossil might become a cast fossil with sediment entering the mould. In the case of replacement fossils, the original bone matter changes to mineral matter but this does not affect the shape of the bones.