

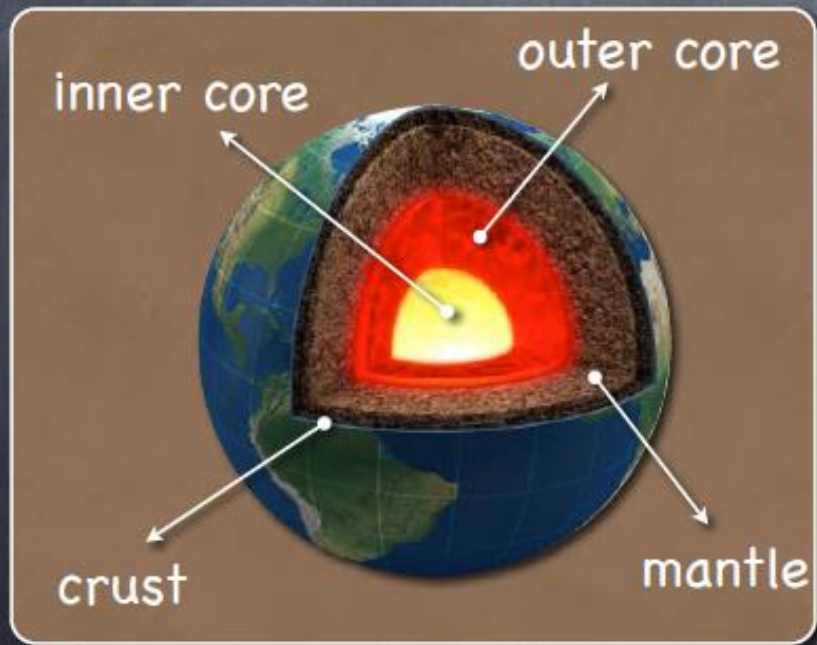
Tuesday 9th February 2021

Can I explain how fossils are formed?



Write the date
and learning
objective in your
book

Rock is beneath every surface on Earth because rock makes up the layers of the Earth underneath the ground. Sometimes the rock is on the surface so you can easily see it. Other times it is covered with soil so it is less obvious.



This diagram shows the layers of the Earth. The inner core is a ball of iron, the outer core is a shell of liquid iron, the mantle is rock that is so hot it is a liquid and the crust is made up of rock and soil.

Igneous Rock

Igneous rock is formed when the lava (the hot, molten rock from inside the Earth's mantle) from a volcano cools down. It can also happen when the magma underground cools. Igneous rocks have large grains and are very hard.



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Sedimentary Rock

Sedimentary rock is formed when sand, mud and the remains of dead plants and animals settle on the sea floor. Over time, they form layers and are compressed by the weight of what is on top of them. This joins the particles together to form rock. Sedimentary rocks are often less strong than other types of rock.



Metamorphic Rock

Metamorphic rocks are formed when igneous or sedimentary rocks are subjected to intense heat and pressure. This causes the rock to recrystallise in new forms. Metamorphic rocks, such as marble or slate, are usually the hardest types of rock and often form in mountainous areas.



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What is this?



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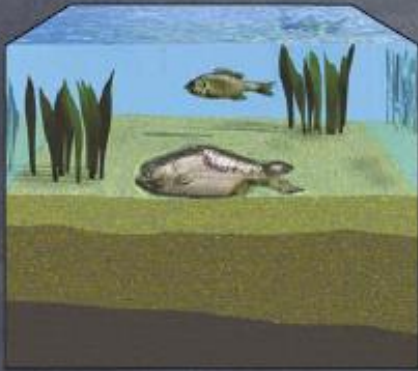


This is a fossil. Fossils are the petrified remains of plants and animals from more than 10,000 years ago. 'Petrified' means that the plants or animals have turned into a stony substance.

Fossils can show the skeletons of animals or the imprints of plants, animals or footprints.

How do you think fossils are formed?

How a fossil is formed

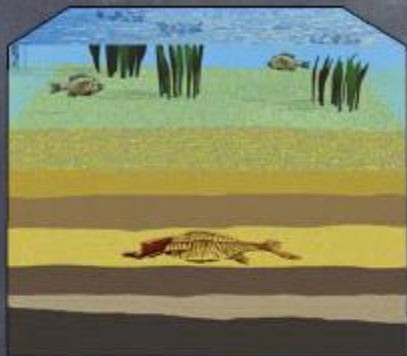


The fish dies and sinks to the sea floor. Other animals eat the flesh, leaving only the skeleton.



A layer of mud, silt and sand cover the skeleton. This helps to preserve the skeleton. It doesn't decay as quickly because it is not getting as much oxygen.





Over thousands of years, the mud is compressed into sedimentary rock. The skeleton dissolves, leaving a mould. This mould is filled by minerals which form a new stony substance.



Millions of years later, the fossil is brought to the surface by the movement of the Earth's crust. Now it can be discovered!





What do
you think
we can find
out from
fossils like
these?





Palaeontologists are scientists who study fossils. Studying the remains of animals and plants can help them to find out what the world was like millions of years ago. From fossils, palaeontologists can explore how animals and plants evolved over time, as well as how organisms interacted with each other.



Plenary:



What is this picture showing?



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This is the Petrified Forest National Park in Arizona, USA. There are lots of fossils of logs, animals and plants here from organisms that lived more than 200 million years ago!





This picture is showing the petrified remains of tree trunks. Tree fossils...how amazing is that?!

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<https://www.bbc.co.uk/bitesize/topics/z9bbkqt>

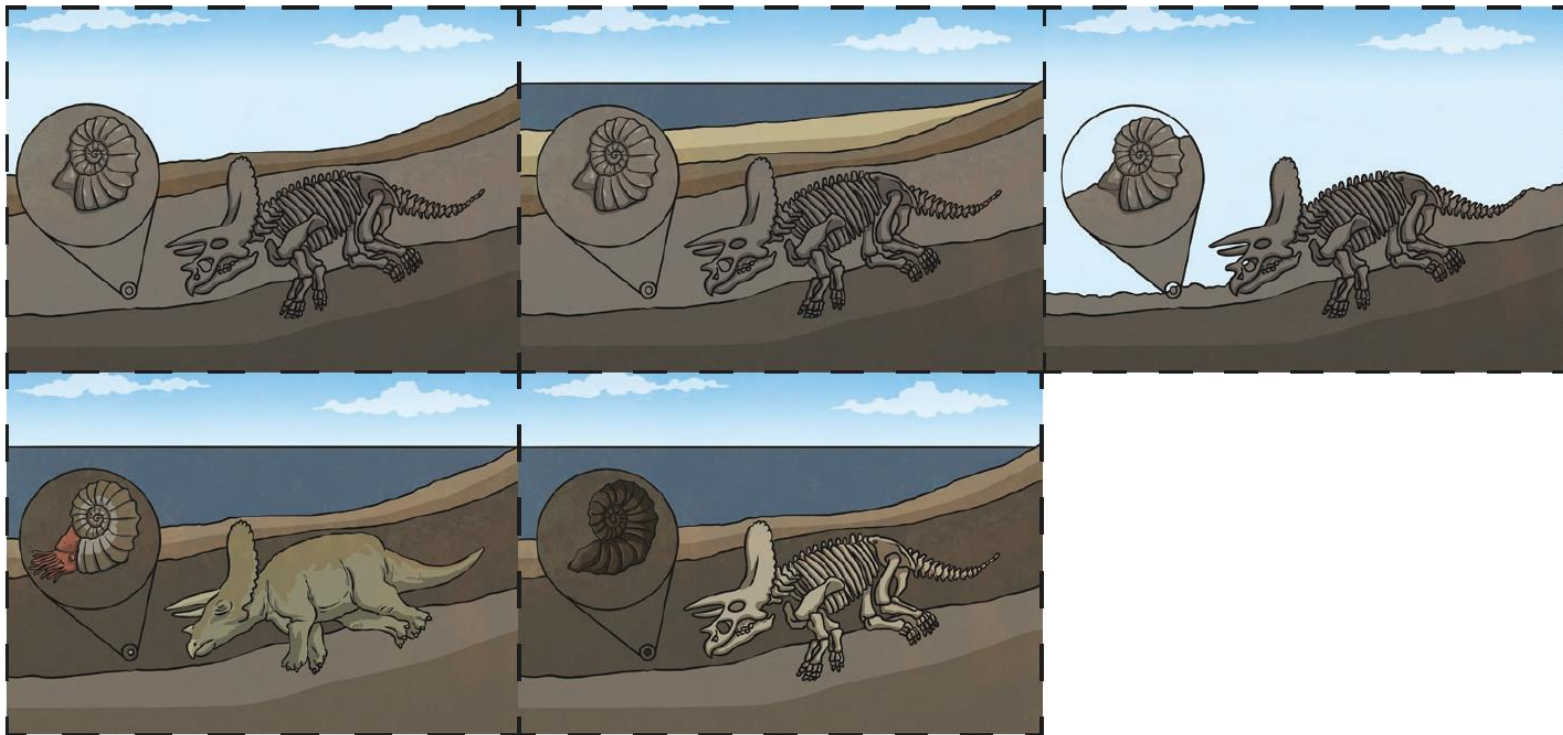
<http://www.planet-science.com/categories/under-11s/our-world/2011/10/what-makes-fossils.aspx>

<http://www.oum.ox.ac.uk/thezone/fossils/intro/form.htm>

<https://www.bbc.co.uk/teach/class-clips-video/ks1-ks2-mary-anning/zn7gd6f>

These are some useful websites to help you learn all about fossils.

Cut out the pictures of the fossilisation process and stick them in the correct order.
Make sure you leave some space to write a sentence under each one.



Now write the correct sentence under the correct picture.

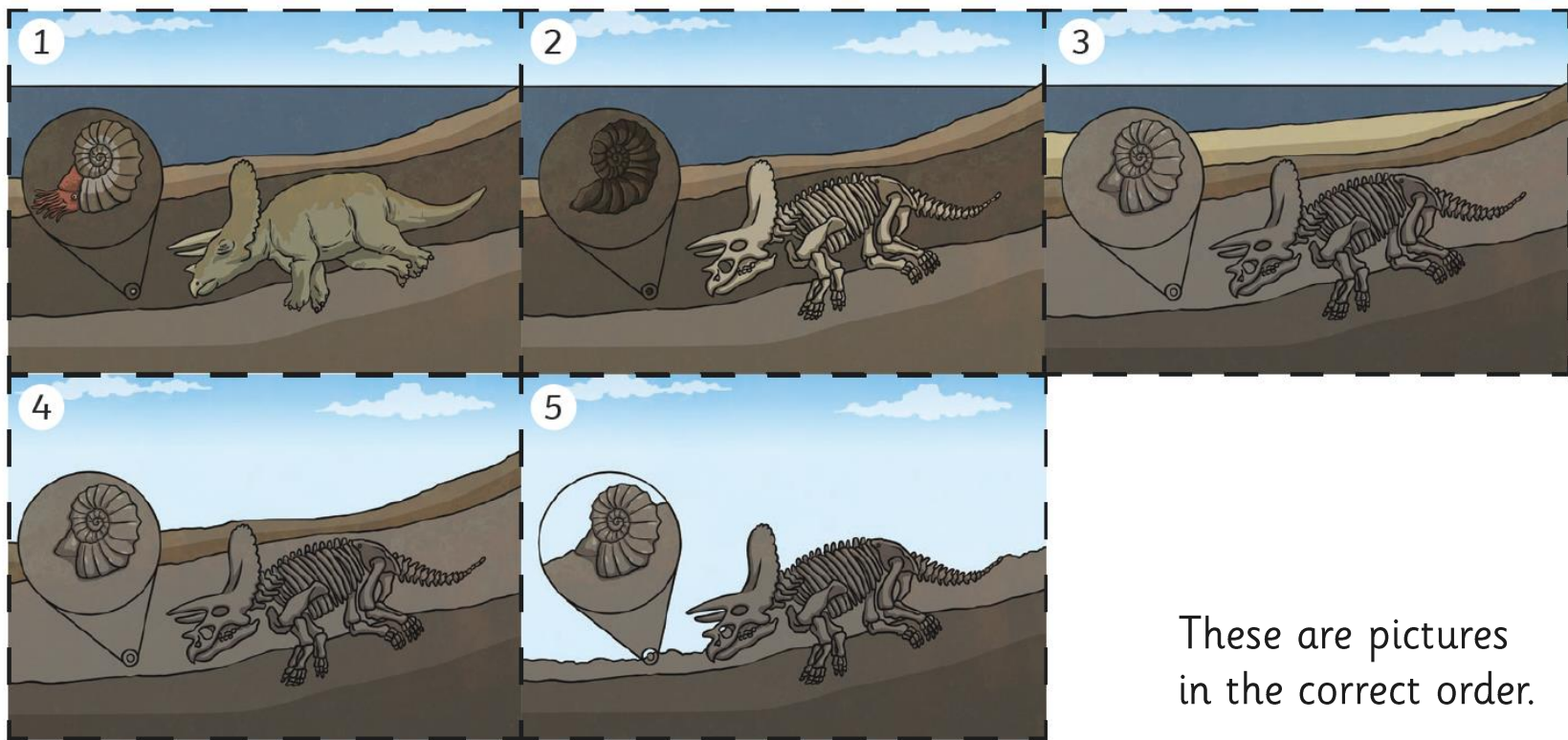
As erosion and weathering takes place, eventually the fossils become exposed.

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.



These are pictures
in the correct order.

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correct order.

HOW TO MAKE YOUR OWN FOSSILS!

You will need:

- Two plastic cups
- Plaster of Paris
- Water
- Lump of clay
- Petroleum jelly
- Stirring stick
- An object to create an imprint



1. Put the lump of clay in one of the plastic cups.



2. Flatten it down with your fingers.



3. Rub a little petroleum jelly over the clay. This will stop it from sticking.



4. Choose an object, such as a toy, a shell or a leaf to create the shape of the fossil.



5. Press the object into the clay.



6. Carefully lift the object out of the clay, leaving the imprint.



7. Mix the plaster of Paris with water. You need around 2 parts plaster to 1 part water.



8. Carefully pour the plaster of Paris onto the clay. Make sure it is not too watery.



9. Tap the cup slightly to get any air bubbles out and leave to harden.



10. Once completely dry, cut the cup and remove it from the clay and plaster.



11. Lift the clay away from the plaster of Paris.



12. You now have your own fossil!



<https://www.bbc.co.uk/cbeebies/makes/presenters-making-a-fossil>