

Extreme Environments

Year 3 Term 1

What do I already know?

Animals can be classified into different groups including mammals, reptiles, birds, fish and amphibians. Different types of materials around us include wood, glass, metal, plastic, water and rock. They have different properties. For example, rock is hard and plastic can be flexible.

All living things eventually die but not everything on Earth has been alive. For example, glass was never a living thing.

Science

What is a fossil?

The remains of ancient life that have been preserved by natural processes. Both plants and animals can become fossils.



Useful words to describe the properties of rocks-

permeable - allows water to pass through

impermeable - does not allow water to pass through

durable - resistant to weathering

density - measures how 'bulky' the rock is (how tightly packed the molecules are).

Key Vocabulary -

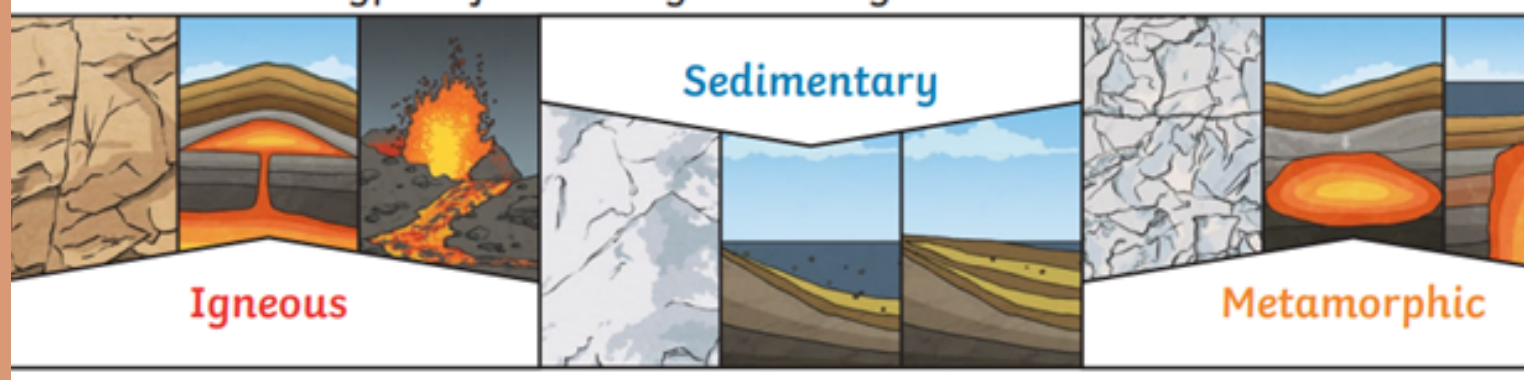
fossilisation - The process in which fossils are formed.

palaeontology - The study of fossils.

erosion - When water, wind or ice wears away at land.

What are the different types of rock?

There are three types of naturally occurring rock.



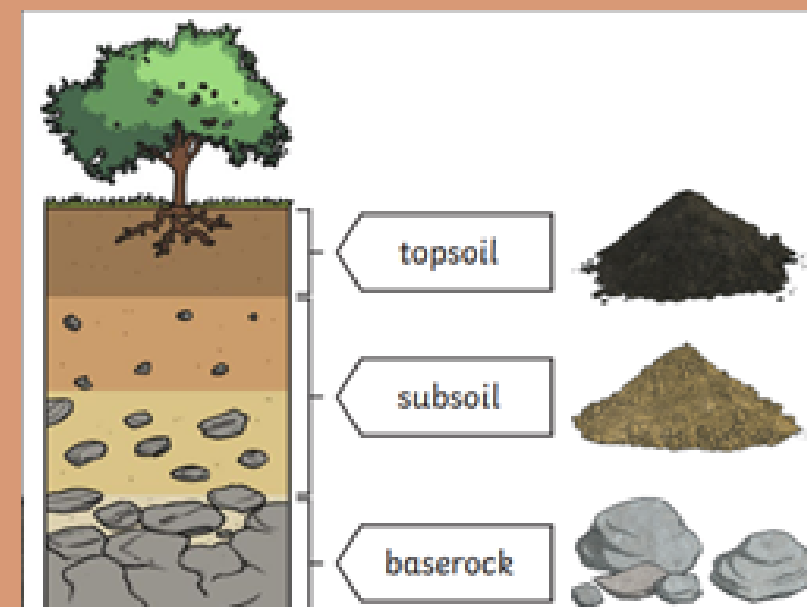
Igneous rock has been formed by lava or magma.

Sedimentary rock has been formed by layers of sediment being pressed down hard and sticking together. You can see the layers of sediment in the rock.

Metamorphic rock has started out as igneous or sedimentary but changed due to being exposed to extreme heat or pressure.

What is soil made from?

Soil is the uppermost layer of the earth's crust. It is made up of a mixture of things; minerals, air, water, organic matter (including dead or living plants and animals).



What is the process of fossilisation?

1. An animal dies and it is covered in sediment, which eventually becomes rock.
2. More layers of rock cover it; only hard parts of the creature remain (teeth, bones, shells).
3. Over thousands of years, sediment might enter the mold to make a cast fossil. Bones may change to mineral but will remain the same shape.
4. Changes of sea level over thousands of years take place but will stay the same shape.
5. As **erosion** and weathering take place, the fossil becomes exposed.



Geography

What is a volcano?

- Volcanoes are made when pressure builds up inside the earth.
- This affects the Earth's crust, causing magma to sometimes erupt through it.
- **Active volcanoes** have erupted in the last 10,000 years.
- **Dormant volcanoes** haven't erupted in the last 10,000 years but may erupt again.
- **Extinct volcanoes** aren't expected to erupt again.

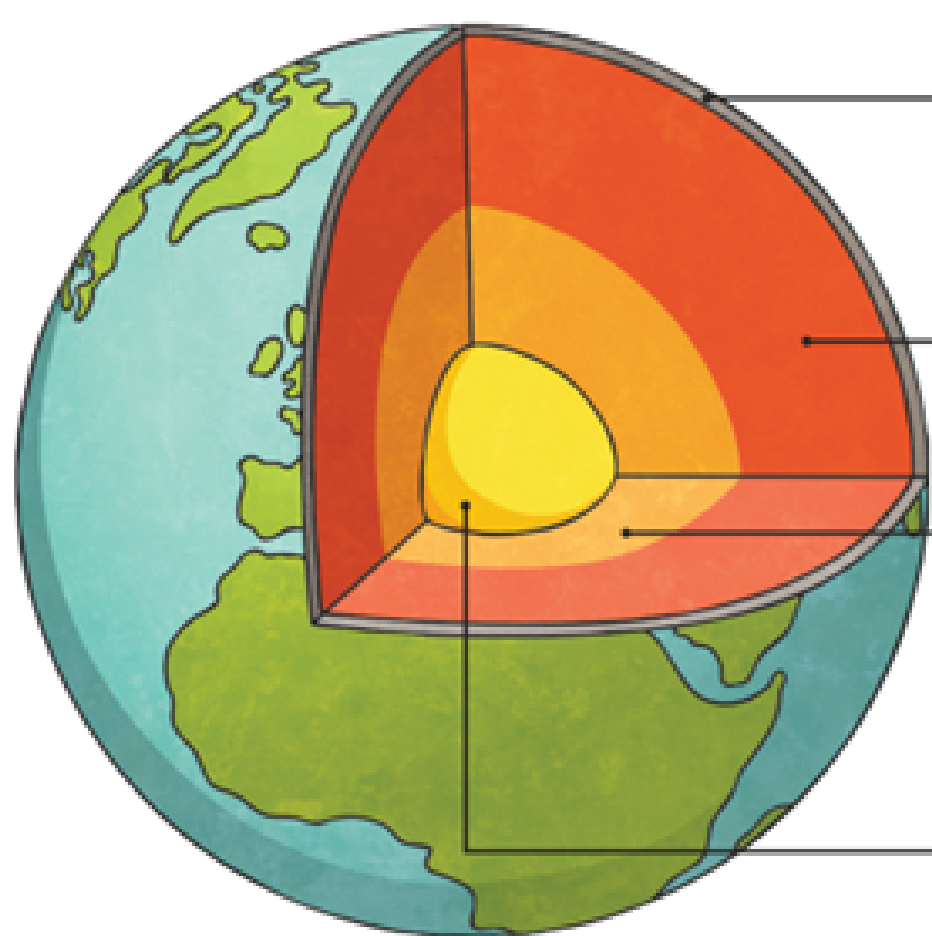


What is an earthquake?

- Earthquakes are caused when the Earth's **tectonic plates** suddenly move.
- Most earthquakes occur near the **tectonic plate boundaries**.
- Earthquakes can cause lots of damage to roads, buildings and property.



What are the layers of the Earth?



Crust

Thin outer layer. Hard rock. 10km–90km thick.

Mantle

Extremely hot rock that flows. 3000km thick.

Outer core

Iron and nickel. Mostly liquid with some rocky parts. 4000°C.

Inner core

Iron and nickel. Hottest layer at over 5000°C.

Vocabulary

erupt - to suddenly burst out causing lava to explode out of the earth's surface.

magma - extremely hot, liquid rock beneath the Earth's crust.

lava - extremely hot, liquid rock that has escaped through the Earth's crust.

tectonic plates - The earth's crust is made up of large areas called tectonic plates that join together.