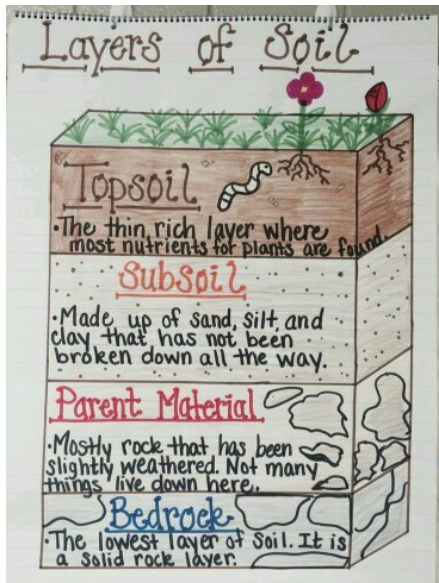


What should I already know?

Children in KS1 should have:

- distinguished between an object and the material from which it is made
- identified and named a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- described the simple physical properties of a variety of everyday materials
- compared and grouped together a variety of everyday materials on the basis of their simple physical properties.



SCIENTIFIC LEARNING  
Learning Activities or Experience

**Identify, Group and Classify**

*Can you sort real rocks from man-made materials made from rock?*

*Can you sort given rocks in to the 3 categories of igneous, sedimentary and metamorphic?*

**Comparative Test**

*Which is the hardest rock?*

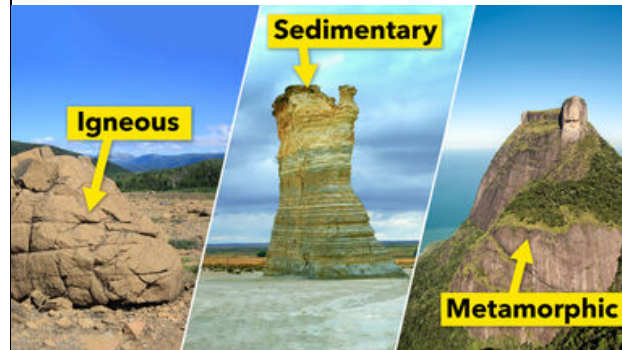
*Which rock floats/ sinks quickest?*

*Which rock is permeable?*

**Observation over Time**

*How do the different soil samples separate out over time?*

*Do bubbles rise to the surface?*



National Curriculum Objectives

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock
- Recognise that soils are made from rocks and organic matter.



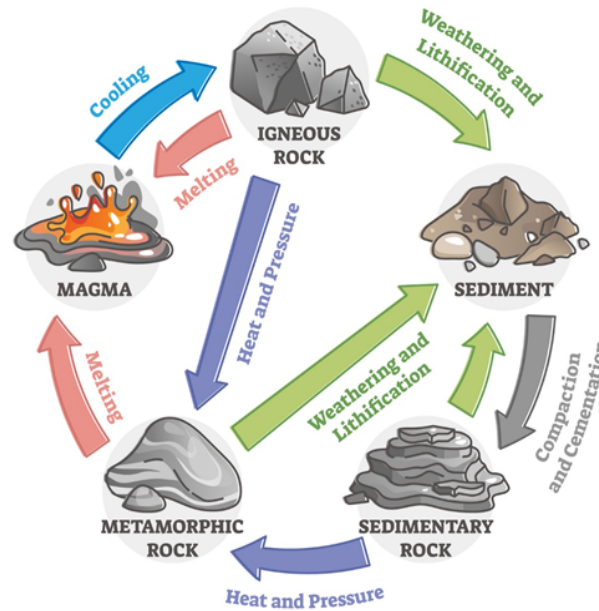
Significant People

Mary Anning (21 May 1799 – 9 March 1847) was an English fossil collector, dealer and palaeontologist who became known around the world for the important fossils she found in the cliffs along the English Channel at Lyme Regis, Dorset.

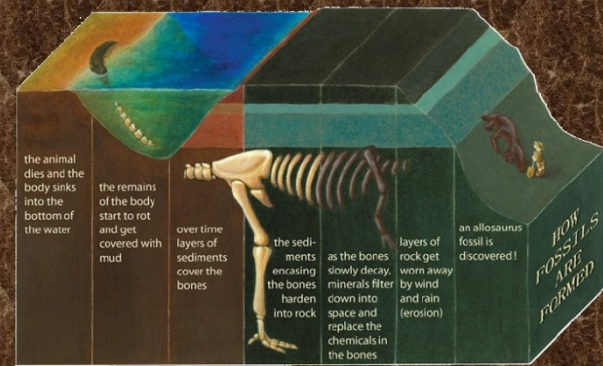
## What will I know by the end of the unit?

- Beneath the surface of the earth are layers of rock and beneath that is super-hot liquid rock called magma.
- Rocks can be grouped into igneous, sedimentary and metamorphic.
- Igneous rock is formed when magma or lava from volcanoes cools down.
- Sedimentary rock is formed over millions of years when tiny pieces of rock and animal skeletons are pressed together.
- Metamorphic rock is formed when existing rocks are changed due to extreme pressure or extreme heat (but not hot enough to melt the rock).
- Different rocks have different properties that make them better for certain tasks e.g., slate for roofing tiles, marble for beautiful carvings.
- A rock that does not allow water to soak in is described as impermeable. The opposite is permeable.
- By studying fossils, we can learn what animals (including dinosaurs) and plants from the past were like and where and how they lived.
- Fossils are usually formed when an animal dies and is covered by a layer of rock. The soft parts rot away leaving only the skeleton. Over thousands of years the skeleton leaves a permanent imprint in the rock.
- Soil is made up from rock particles, dead plants and animals, air and water.
- Soil provides nutrients for plants plus food and a home for earthworms and other tiny creature.

## ROCK CYCLE



## How Fossils are Formed



## Vocabulary

chalk	a soft, white, powdery limestone made mainly of fossil shells.
dinosaur	any of a group (Dinosauria) of extinct, often very large, reptiles.
durable	not easily broken or worn out; long lasting.
erosion	the process by which soil and rock is removed by natural causes such as wind, water, and ice.
fossil	the preserved remains, or traces, of an animal or plant that was once living. There are two main types of fossils, body fossils and trace fossils.
granite	a common igneous rock that is sometimes used in construction because of its strength.
igneous	a word used for rocks that have formed by the cooling and hardening of molten lava or magma.
impermeable	something that is impermeable will not allow fluid (water) to pass through it.
lava	hot, liquefied rock that flows from a volcano or other opening in the surface of Earth.
magma	molten, or hot liquefied, rock located deep below the Earth's surface.
marble	a limestone that takes a high polish and is used in architecture and sculpture.
metamorphic	metamorphic rocks form when existing rocks are exposed to heat and pressure deep within the Earth's surface.
permeable	if a substance is permeable, it allows liquids or gases to go through it.
pumice	a term for a lightweight volcanic rock. It is a solidified frothy lava.
rock	a naturally occurring solid material composed of one or more minerals.
sandstone	sandstone is made of sand grains (0.05-2mm diameter) cemented together and formed from sediment deposited by rivers, the sea, or by the wind.
sedimentary	sedimentary rocks are formed from sediment grains deposited by water, wind or ice. They are always formed in layers and quite often contain fossils.
slate	a dense fine-grained rock formed by compression of shales.
soil	soil is a complex mixture of minerals, water, air, organic matter and many decaying organisms and living creatures.
weathering	a natural process that slowly breaks apart or changes rock. Heat, water, wind, living things, and other natural forces cause weathering.