Science – Rocks (materials) (Year 3)

Key Vocabulary

Fossil - the remains or impression of a prehistoric plant or animal embedded in rock and preserved in petrified form.

Igneous - Igneous rock is formed through the cooling and solidification of magma or lava.

Sedimentary - Sedimentary rocks are types of rock that are formed by layers of minerals

Metamorphic - Metamorphic rocks are made from the transformation of existing rock to new types of rock under heat and pressure

Soil - the upper layer of earth in which plants grow, a black or dark brown material typically consisting of a mixture of organic remains, clay, and rock particles.

Permeable - of a material that allows liquids or gases to pass through it.

Physical properties – The way a material can be described in relation to its appearance, texture, purpose or other attributes

Learning and investigations

I know how to use observations and knowledge to answer scientific questions. – Making observations of rocks and properties

I know how to set up a simple enquiry to explore a scientific question. – testing if a rock is permeable

I know how to set up a test to compare two things. – comparing rock samples

I know how to identify differences, similarities and changes related to an enquiry – making comparisons and conducting tests of properties of materials

Types of Rock

Slate

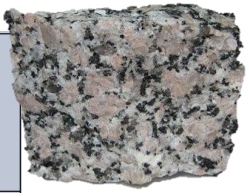
A blue-grey rock that seems to be made of thin layers. It feels hard but can be easily snapped.

Marble

A hard, attractive rock that comes in many different colours. It may have lines (veins) running through it.

Granite

A very hard, strong rock containing different coloured crystals.



Sandstone

A brown or golden coloured rock with grains inside. If rubbed, sand grains may come away.

Limestone

A light coloured rock (often pale grey or cream). It has a grainy texture and may feel crumbly.

Chalk

A bright white rock which is quite soft. It can be crushed to make small white grains or powder.

What have I Learnt before?

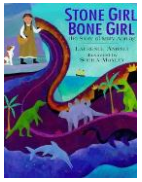
In Year 1 children explored the difference between wood, plastic, glass, metal, water and rock.

In Year 2 children explored uses of different materials including wood, plastic, glass, metal, water and rock.

Useful links or resources

Book

Stone Girl Bone Girl by Laurence Anholt

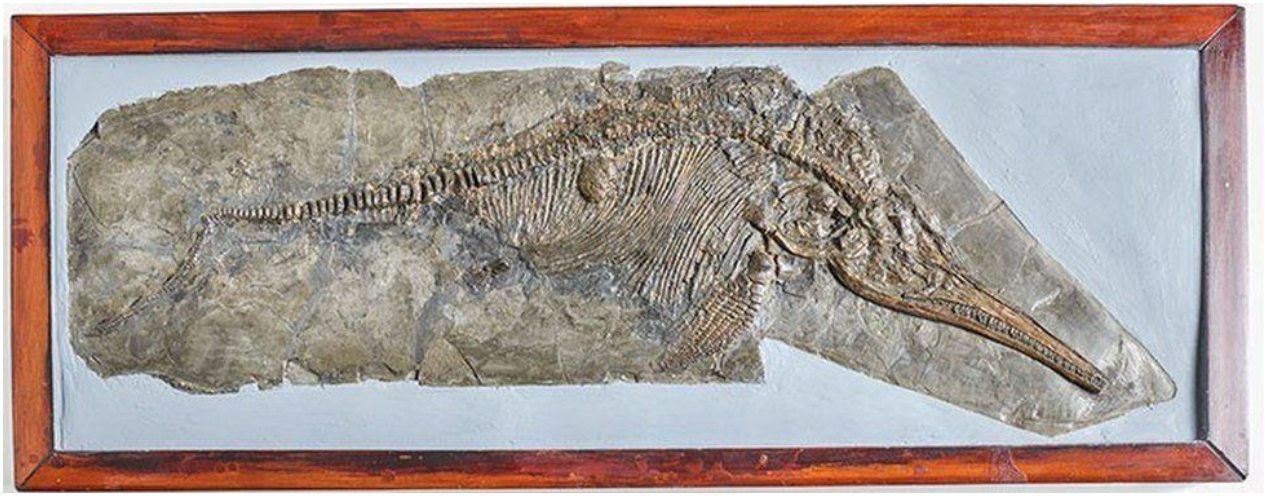


Webisite

https://www.natgeokids.com/uk/discover/history/general-history/mary-

Scientist from this field - Mary Anning

Mary Anning was born in the seaside town of Lyme Regis, Dorset, UK, in 1799. Although her parents had ten children, only Mary and her brother Joseph lived to adulthood. It's said Mary had a lucky escape when she was a baby. The lady holding her was struck by lightning. Miraculously, little Mary survived. In 1811, when Mary was 12, they uncovered a strange 5.2-metre-long skeleton! At the time, people believed that any unrecognisable creatures must have travelled from far-off lands, so scientists simply thought it belonged to a crocodile. Eventually, though, they realised it was an ancient species, and it was named Ichthyosaurus – meaning 'fish lizard'.



Mary Anning's Ichthyosaurus

Fossilisation

A fossil is the preserved remains or traces of a dead organism. The process by which a fossil is formed is called **fossilisation**. It's very rare for living things to become fossilised. Usually after most animals die their bodies just rot away and nothing is left behind. However, under certain special conditions, a fossil can form. After an animal dies, the soft parts of its body **decompose** leaving the hard parts, like the skeleton, behind. This becomes buried by small particles of rock called **sediment**. As more layers of sediment build up on top, the sediment around the skeleton begins to compact and turn to rock. The bones then start to be dissolved by water seeping through the rock. Minerals in the water replace the bone, leaving a **rock replica** of the original bone called a fossil.