

Rocks and Soils

What you've learnt already

Understanding that materials are selected based on their properties and that different properties make them better suited to different roles—e.g. something hard and rigid would be good to build with because it won't fall over or break.

Understanding that some materials can change their shape and that some can't, and linking this idea with why we use them for different purpose.

Some materials are found naturally and some are manmade.

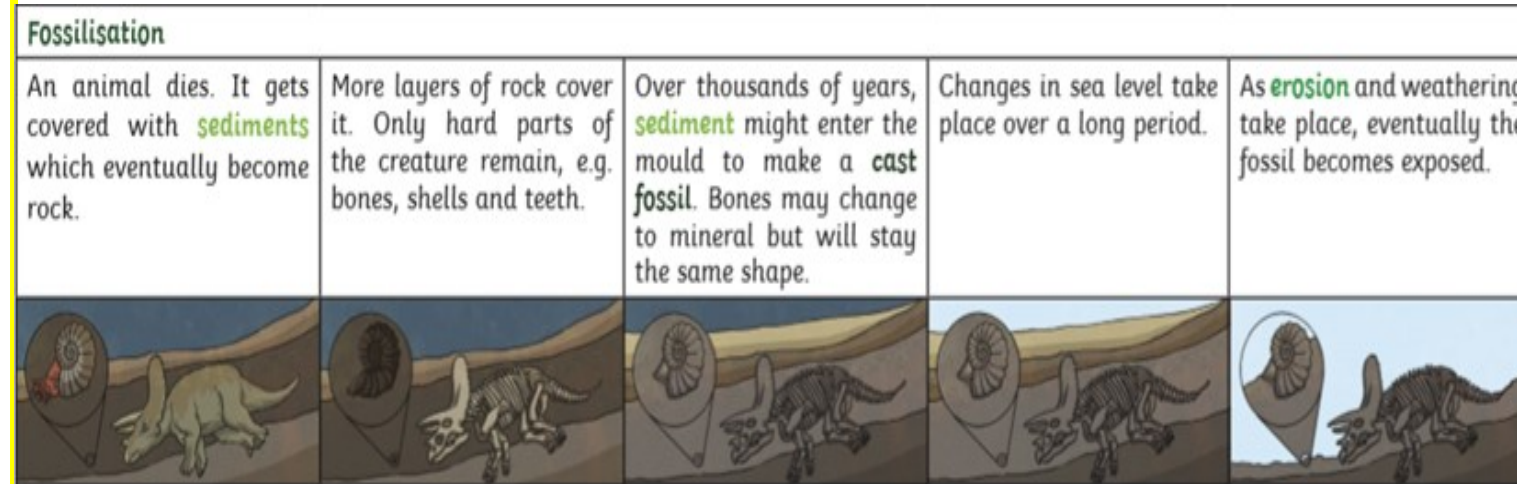
Choices

- Pupils to give their choices about how they would test the hardness of different rocks?

Key Vocabulary

Word	Definition
metamorphic	Metamorphic rocks are formed when other rocks are affected by great temperatures and pressures. They do not melt, but the chemicals they contain may change their forms, or crystal shapes.
igneous	Igneous rocks are a word used for rocks that have formed by the cooling and hardening of molten lava or magma.
sedimentary	Sedimentary rocks are formed by sediment that is deposited over time, usually as layers at the bottom of lakes and oceans. This sediment can include minerals, small pieces of organic matter.
fossils	Fossils are the remains or traces of plants and animals that lived long ago. Most fossils are found in earth that once lay underwater.
properties	A property is a way of describing how something looks; it's an attribute or characteristic e.g. size, texture, and colour.
dense	The more dense a substance is, the heavier it feels for its size.
permeable	A material (like rock) that allows liquid to flow through it
layer	A thickness of material covering a surface. Layers of sedimentary rock are called strata.
crystals	Crystals are a special kind of solid material where the molecules fit together in a repeating pattern

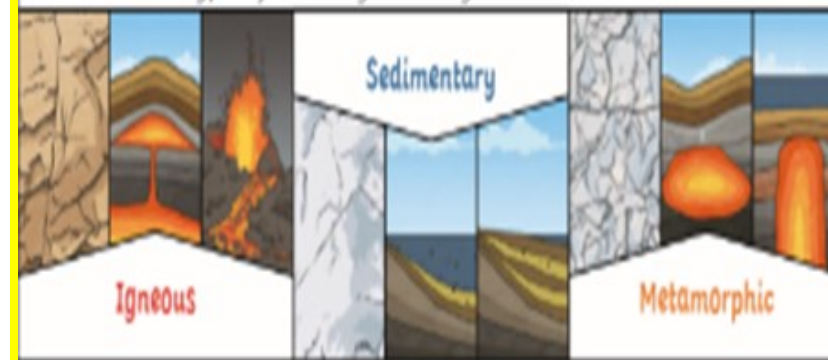
Diagrams







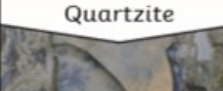

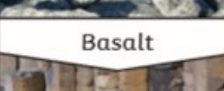





Mary Anning-
Famous fossilist



There are three types of naturally occurring rock.



Natural Rocks			Human-Made Rocks
Igneous	Sedimentary	Metamorphic	
Obsidian	Chalk	Marble	Brick
			
Granite	Sandstone	Quartzite	Concrete
			
Basalt	Limestone	Slate	Coade Stone
			

Lesson Sequence

L1	Recognising different types of rocks
L2	Understand different uses of rocks
L3	Understand how soils are different
L4	Understand which soils hold water
L5	Describe how fossils are formed
L6	Have a knowledge of palaeontology and know about Mary Anning

Key Knowledge

- Observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time;
- Using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them.
- Research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed.
- Explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water.

Rocks and Soils

How are fossils formed?	What is soil made from?	What are the three types of naturally occurring rocks?	What does <u>metamorphic</u> mean?
What properties can we use to identify rocks?	Define the following words: <ul style="list-style-type: none">- crystalline- sediment- erosion	What is a palaeontologist?	What happens to rocks over time?
Give me three facts about Mary Anning.	How are rocks broken down to make soil?	What similarities and differences might we see between different soils?	Name some human-made rocks.
Why was Mary Anning's work so important?	Explain the process of fossilisation.	What properties would rocks need to have to be used for buildings?	How would you test the hardness of different rocks?

One Point

Two Points

Three Points

Four Points