



Year 3 Science

Rocks, Fossils & Soils

Things you should already know:

- There are many different materials that have different describable and measureable properties.
- Materials can be changed by physical force (twisting, bending, squashing and stretching).
- Materials that have similar properties can be grouped together.

New Learning for Year 3

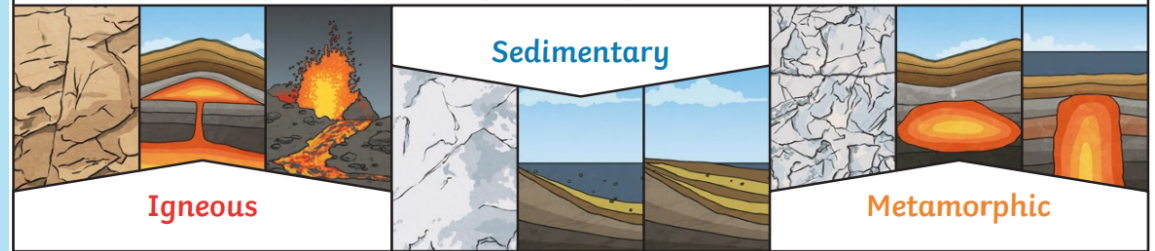
- Compare and group different kinds of rocks, based on their appearance and simple physical properties
- Describe how fossils are formed when things that have lived are trapped within rock
- Recognise that soils are made from rocks and organic matter

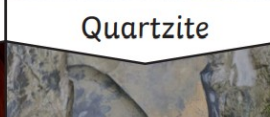
Key Knowledge

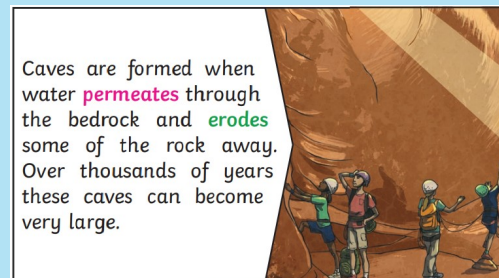
- There are 3 types of naturally occurring rock—igneous, sedimentary and metamorphic
- Igneous rocks are made from magma or lava
- Sedimentary rock is formed by layers of sediment being pressed down hard and sticking together.
- Metamorphic rock is made from igneous or sedimentary rock that has been changed by heat or pressure.
- Fossils are made when plants or animals that were alive are trapped inside layers of sediment which become rock over time.
- Soils are made from rocks that have been eroded over time or from organic matter.

Key Knowledge

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
			



Some words you might use to discuss the properties of a rock:

hard, soft, **permeable**, **impermeable**, durable (meaning resistant to weathering), high density, low density. Density measures how 'bulky' the rock is (how tightly packed the molecules are).



Year 3 Science

Rocks, Soils & Fossils

Key Vocabulary

Igneous rock	Rock that has been formed from magma or lava
Sedimentary rock	Rock that has been formed by layers of sediment being pressed down hard and sticking together. You can see the layers in sedimentary rock.
Metamorphic rock	Rock that started out as igneous or sedimentary rock but changed by being exposed to extreme heat or pressure.
Magma	Molten rock that remains underground.
Lava	Molten rock that comes out of the ground.
Sediment	Natural solid material that is moved and dropped off in a new place by water or wind, e.g. sand.
Permeable	Allows liquids to pass through .
Impermeable	Does not allow water to pass through.
Fossilisation	The process by which fossils are made
Palaeontology	The study of fossils
Erosion	When water, wind or ice wears away land

Fossilisation				
An animal dies. It gets covered with sediments which eventually become rock.	More layers of rock cover it. Only hard parts of the creature remain, e.g. bones, shells and teeth.	Over thousands of years, sediment might enter the mould to make a cast fossil . Bones may change to mineral but will stay the same shape.	Changes in sea level take place over a long period.	As erosion and weathering take place, eventually the fossil becomes exposed.
				

Sticky Learning.

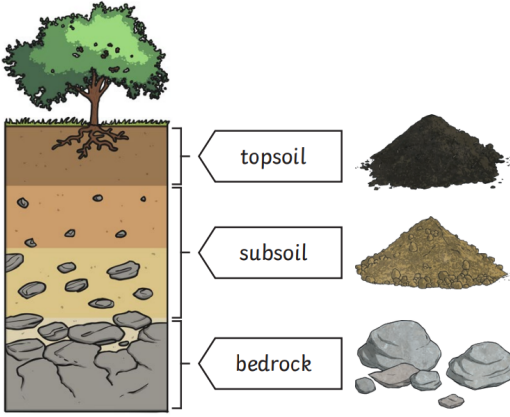
Can you answer any of these questions in your book?

Key Knowledge

Soil

Soil is the uppermost layer of the Earth. It is a mixture of different things:

- minerals (the minerals in soil come from finely broken-down rock);
- air;
- water;
- organic matter (including living and dead plants and animals).



Scan this code to find out more about how fossils are made



Draw and label diagrams to show the process of how fossils are formed.

Scan this code to find out more about soils.



If you needed to investigate whether or not a rock is permeable, you will need to plan an investigation. Can you answer these questions:

1. What one thing will you need to change in your investigation?
2. What would you need to keep the same?

Can you predict what your results will be?