



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 of sediment in the rock.
metamorphic rock	Rock that started out as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure.
magma	Molten rock that remains underground.
lava	Molten rock that comes out of the ground is called lava .
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 it.
impermeable	Does not allow liquids to pass through it.

Key Knowledge

There are three types of naturally occurring rock.

The diagram illustrates the formation of three types of rocks:

- Igneous:** Shows magma or lava cooling and solidifying into rock.
- Sedimentary:** Shows layers of sediment being deposited and then pressed together under pressure to form rock.
- Metamorphic:** Shows existing rocks being transformed by heat and pressure into new rock types.

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:

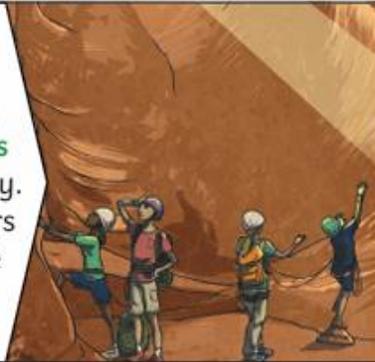
hard, soft, **permeable**, **impermeable**, durable (meaning resistant to weathering), high density, low density. Density measures how 'bulky' the rock is (how tightly packed the molecules are).



Key Vocabulary

fossilisation	The process by which fossils are made.
palaeontology	The study of fossils.
erosion	When water, wind or ice wears away land.

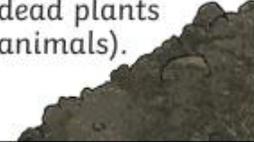
Caves are formed when water **permeates** through the bedrock and **erodes** some of the rock away. Over thousands of years these caves can become very large.



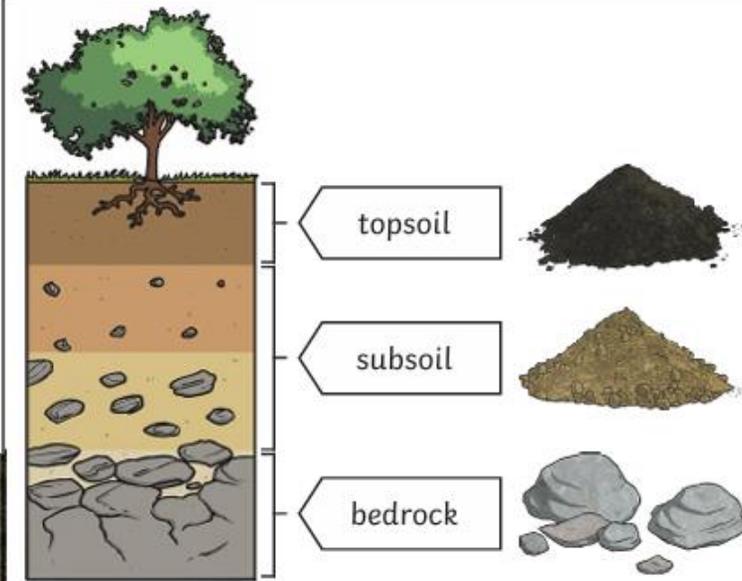
Key Knowledge

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).



Soil



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.





As a Scientist...

In year 2 :

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
- Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

In year 3:

- 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.

In Year 4:

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when heated or cooled, and measure and research the temperature at which this happens in degrees Celsius.
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

In Year 6:

- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago