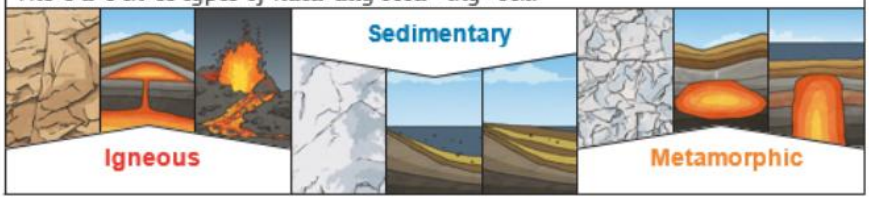
Rocks, Soils and Fossils

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 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.



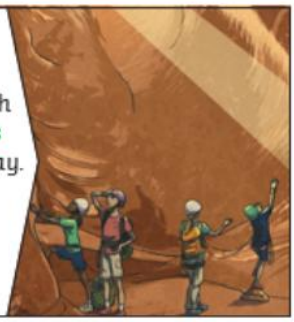
Natural Rocks			Human-Made Rocks
Igneous	Sedimentary	Metamorphic	
Obsidian	Chalk	Marble	Brick
Granite	Sandstone	Quartzite	Concrete
Basalt	Limestone	Slate	Coade Stone

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 base rock and **erodes** some of the rock away. Over thousands of years these caves can become very large.

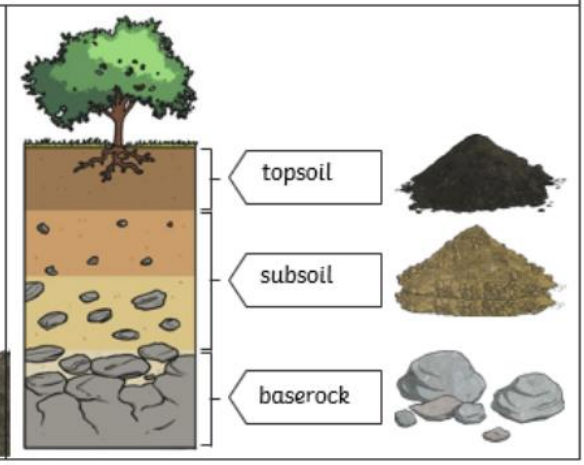


Key Knowledge

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).



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.
				

Light and Shadow

Key Vocabulary	
artificial	something made by humans
dark	the absence of light
light source	an object which gives out light
mirror	a highly reflective surface which shows a reflection
natural	something not made by humans
reflect	to bounce off or throw something back
reflective	something which reflects light
reflect	a dark area behind an object where the path of light has been blocked

The Sun

The Sun helps us in lots of different ways but we need to protect ourselves too. Remember to wear a hat and suncream when out in the sunshine.

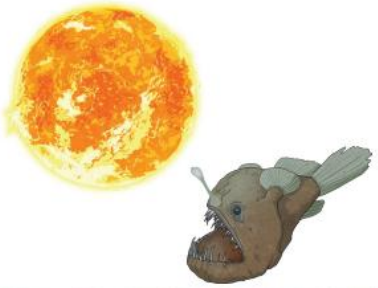
Never look directly at the Sun, even when wearing sunglasses.



Light Sources

Light comes from a **light source**. **Light sources** can be **natural** or **artificial**.

Natural light sources are found in nature.





The Sun and lightning are **natural light sources**. Some living things, such as anglerfish, produce light. This is known as bioluminescence.

Natural light sources are found in nature.





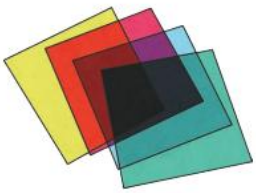
Torches, screens on devices and candles are all examples of **artificial light sources**.

Transparency

Light cannot pass through opaque materials. The light reflects off their surface. We can't see through them.



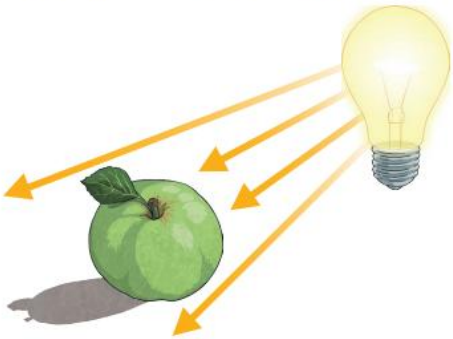
Some light can pass through translucent materials. We can partially see through them.



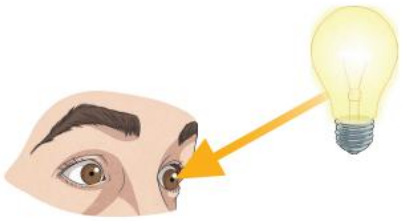
Most or all light can pass through transparent materials. We can see through them.



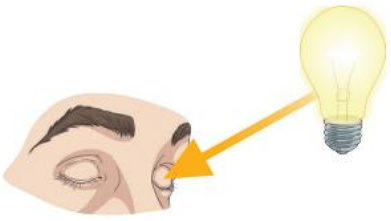
Shadows are created when the path of light from a light source is blocked by an object.



People can see because light enters the eye through the pupil.



When the eye is closed, light cannot enter the eye so people cannot see.



Shadows can change size and angle as the light source changes position.

