

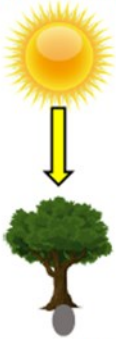
Year 3 Summer Term Science Knowledge Organiser

**Key questions: How does light help us see?
How are rocks and soils formed?**

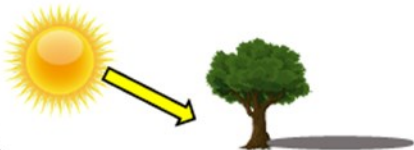
As the earth spins, it makes the sun appear to rise in the east in the morning. Because the sun hits an object at an angle, the shadow is long.



As the earth continues to spin the sun is overhead by midday. Because the sun hits the object from above, the shadow is short.



As the earth spins and the sun sets in the west in the evening, the shadow is long.



Opaque: This is the name given to objects which light cannot travel through.

They block light and create shadows

Translucent: This is the name given to objects which some light can travel through.

Transparent: This is the name given to objects which light can travel through.

LIGHT

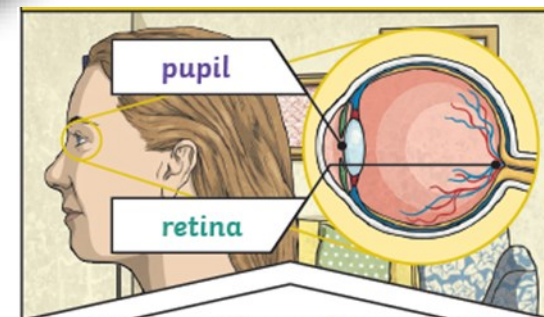
- 1.) We can see objects because light reflects off them and into our eyes.
- 2.) Light reflects off most objects, especially colours like white and yellow.
- 3.) If there is no light at all (pitch-black), then there is no light to reflect and we can't see anything at all.
- 4.) At night you can still see a bit in the dark because the moon is reflecting light.

Light Vocabulary

Transparent	Reflect	Wave	Eye
Translucent	Reflection	Photon	Iris
Opaque	Refraction	Lightspeed	Pupil
Shadow	Light	Producer	Sclera
Absorb	Energy	Reflector	Retina

Light travels in straight lines. It travels from the light source either directly into our eyes, or reflecting off objects at 670 million mph.

LIGHT SOURCES

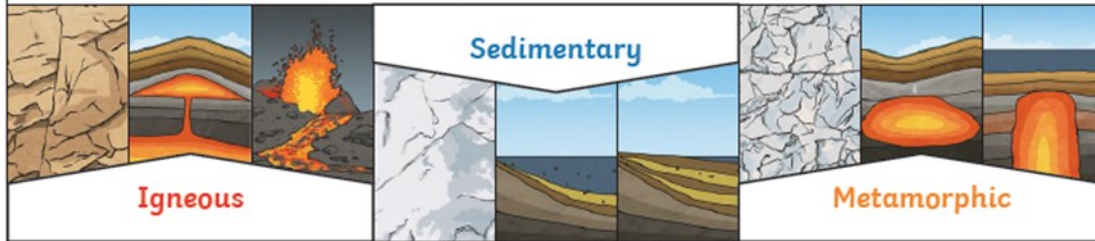


The pupils

control the amount of **light** entering the eyes. If too much **light** enters, then it can damage the **retina**. To help protect the eyes, you can wear a hat with a wide brim and sunglasses with a UV rating.

ROCKS AND SOILS

There are three types of naturally occurring rock.



IGNEOUS

Far underground, the temperature is so hot, rock melts into a liquid (molten rock). When the liquid is underground it is called 'magma' and it can cool to form an intrusive rock. When it spills out (volcano), the liquid is called 'lava' and it cools to form extrusive rock.

SEDIMENTARY

These rocks form under the sea. Rocks are broken into small pieces by wind/water (erosion). They settle as mud, sand, minerals and even remains of living things. Over time, layers pile up and the pressure turns this sediment into rock.

METAMORPHIC

When sedimentary or igneous rock is near magma, it heats up and chemicals change in the rock. It is put under extreme heat and pressure. However, it does not heat up enough to melt it. As it cools it becomes metamorphic rock.

Granite
Obsidian
Basalt

Limestone
Chalk
Sandstone

Marble
Quartzite
Slate

FOSSILS

A fossil is the remains or the impression left by a prehistoric plant or animal

It takes place in sedimentary rock because the heat from lava and magma in igneous and metamorphic rock would be too high for fossils to survive.

An enthusiastic palaeontologist



Rocks and Soils Vocabulary

Rock	Metamorphic	Magma	Petrologist
Hard	Heat	Lava	Iron rich
Soft	Pressure	Deposit	nutrient
Sedimentary	Formation	Mineral	silt
Particle	Key	Permeable	Sand
Sediment	Mary Anning	Impermeable	
Igneous	Fossils		

Did you know?

There are man made rocks, like brick, coade stone, concrete and mock rock that have been developed to make them cheaper and easier to work with. These are called ANTHROPIC rocks

Mary Anning was an avid fossil finder before she knew what fossils were, calling them curiosities. Her findings since have changed the way we understand prehistoric life.



There are even living things we can't see in soil. These are called microorganisms. Along with creatures like worms, they help make our soil.

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).



topsoil



subsoil



baserock

