

EAGLES - SCIENCE

Knowledge Organiser – Spring term (1) 2019

What are rocks?

Rocks are all around – underground, on beaches, in gardens, buildings, walls, quarries.
They are very useful and have been for a very long time.
Rocks are made up of grains that are packed together.

Classifying rocks

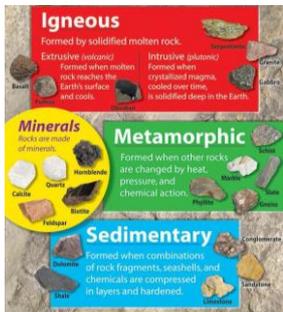
Man made – Man made rocks are often used for buildings and structures e.g. concrete and bricks

Natural rocks include igneous, metamorphic and sedimentary

Igneous – formed by the solidification of molten rock or magma, tend to have interlocking grains which give the rock a crystalline appearance. Examples include granite and obsidian.

Metamorphic – formed by great heat and pressure. They are generally found inside the Earth's crust where there is enough heat and pressure to form them. Metamorphic rocks are often made from other types of rock. Examples include marble and slate.

Sedimentary – formed by years and years of sediment compacting together and becoming hard. Fragments of other rocks will become weathered, eroded and transported by water, ice or wind. Over a really long period of time (perhaps millions of years), these small pieces will form into solid rock. Examples include limestone and sandstone.



Rocks and soils

What is soil?

Soil covers most of the world's land. We need soil to grow plants for food.
Half of soil is air and water. The water is in the soil and the air is in the gaps between the soil.

Soil = word down rock + humus + air + water

Properties of soil

Soil is full of life including worms, insects and termites. They eat, live and die in the soil. It is also combined with millions of micro-organisms which help break down the matter and make the soil healthy and full of life.



Soils are different because not all rocks are the same.
It depends what kind of worn down rock it comes from.

Gravelly soil – full of stones, water drains through quickly.

Sandy soil – light and dry.
Lots of air gaps so water drains through quickly.

Clay soil – very sticky when wet.
This is a heavy soil and water does not drain through it quickly.

Key vocabulary

Mineral – minerals are solid chemical substances that occur naturally e.g. diamond and quartz.
Impermeable – does not allow water to soak through (marble, slate)
Permeable – allow water to soak through (chalk, limestone)
Conglomerate – a collection of rocks all mixed up together
Pebbles – little bits of rock broken off and worn smooth
Fossils – the remains or impression of a prehistoric plant or animal embedded in rock
Humus – dead and rotting material