

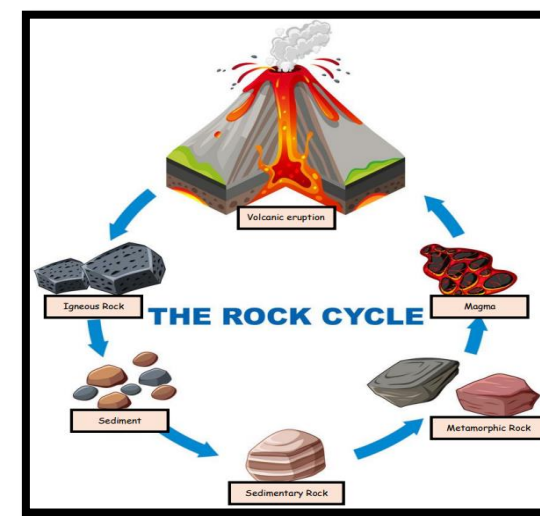
# How are rocks, soils and fossils formed and why are they important?

## Key Vocabulary

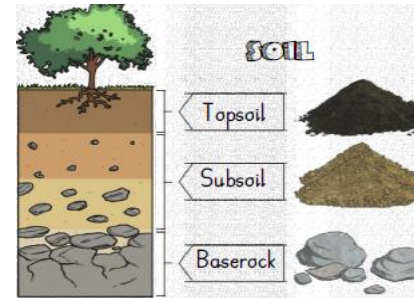
compacting	Forcing small pieces of materials together.
deforming	Change of shape due to force.
durable	Will not wear out/ get damaged quickly.
erosion	Breaking down of rocks due to wind or rain.
fossil	Preserved animal or plant.
geologist	A person who studies what the Earth is made up with a focus on rocks.
igneous	Rock formed when magma cools.
impermeable	Material that doesn't let water pass through it.
melting/cooling	To change a solid to a liquid/ to change a liquid to a solid.
metamorphic	Rocks that are formed through high temperatures or pressure.
organic	Material from dead, decaying plants & animals.
palaeontologist	A person who studies fossils
permeable	Material that allows water to pass through it
rock (minerals)	Collection of minerals forming part of Earth. Small particles in rocks and soils.
soil	Formed from mineral, organic matter, water and air.
sedimentary	Small pieces of rock and plant/ animal remains collect and are compacted into new rock.

## Key Knowledge:

Rocks are non-living - they do not grow, move, reproduce. There are 3 main types of rock: igneous, sedimentary, metamorphic. They are formed in different ways as part of a continuous cycle. The changes that take place do so over many years. Different rock types have different properties and are used for different reasons. Soil supports all life on Earth by providing the nutrients that plants need to grow - and provide energy for animals. Soils are made up of the same components but differ as a result of the rock type and organic matter they contain.



Soil is made up of...  
 Organic matter (dead and decaying plants and animals)  
 Micro-organisms  
 Particles of rock.  
 Clay.  
 Minerals (the nutrients in the soil) that come from rocks.  
 Air and water.



## Working Scientifically



How can I group rocks based on their observable characteristics/ properties?



Which rocks are the hardest? Which rocks are the most durable (least likely to erode)? Which rocks are the most impermeable? Which soil is the most permeable?



How do rocks change over time?

**Igneous**  
 Igneous rock is formed by molten lava cooling.

**Metamorphic**  
 Metamorphic rock is formed through heat and pressure.

**Sedimentary**  
 Sedimentary rock is formed by compressing sediments.



Being a woman and from a poor family, Mary wasn't taken seriously as a scientist in her lifetime. Today, however, Mary is recognised as a **pioneer** in the field of **palaeontology**.

