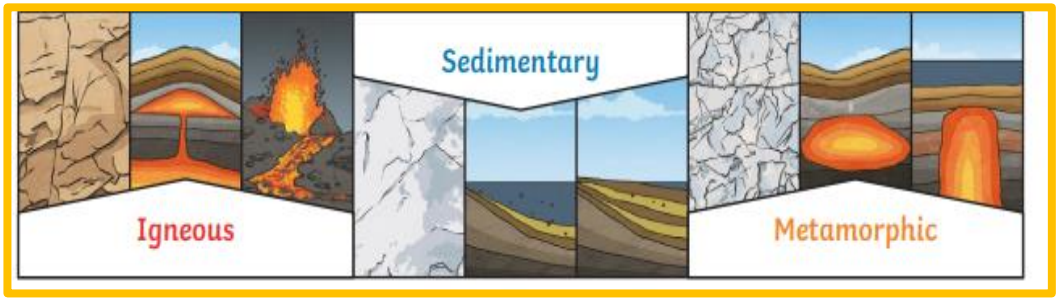
Knowledge is Power…

Ivington C of E Primary and Preschool

Reaching together… stand firm in your faith, be courageous and strong - 1 Corinthians 16:13

Key Vocabulary	
Erosion	When water, wind, or ice wears away land.
Fossilisation	The process by which fossils are made
Igneous	Rock that has been formed from magma or lava.
Impermeable	Does not allow liquids to pass through it.
Lava	Molten rock that comes out of the ground.
Magma	Molten rock that remains underground.
Metamorphic	Rock that started out as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure.
Non-porous	Not allowing water or air to pass through it.
Palaeontology	The study of fossils.
Permeable	Allows liquid to pass through it.
Porous	Something that has many holes in it to allow water and air to pass through it.
Sediment	Natural solid material that is moved and dropped off in a new place by water or wind e.g., sand.
Sedimentary	Rock that has been formed by layers of sediment being pressed down hard and sticking together.

Rocks and soils

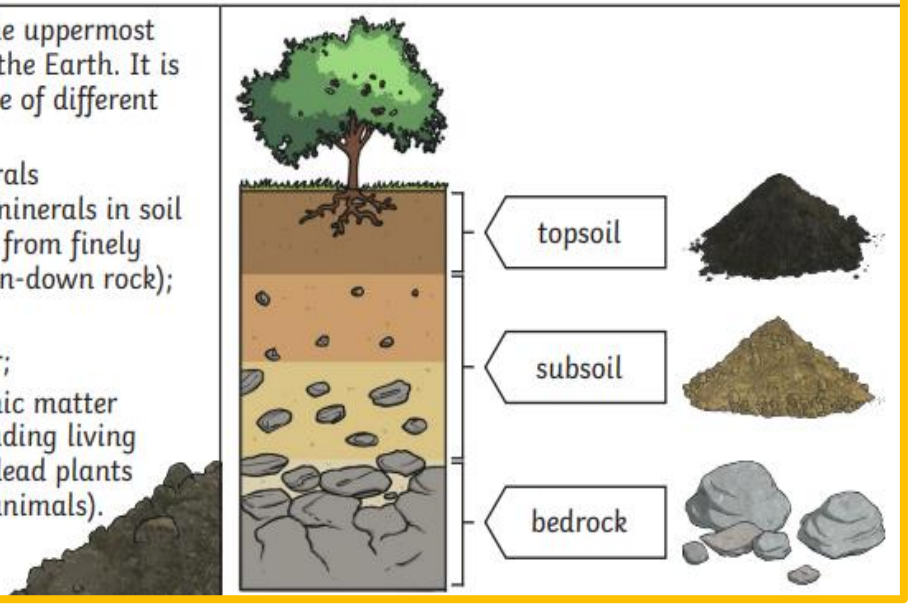


Natural Rocks			Human-Made Rocks
Igneous	Sedimentary	Metamorphic	
Obsidian	Chalk	Marble	Brick
Granite	Sandstone	Quartzite	Concrete
Basalt	Limestone	Slate	Coade Stone

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.
				

Aims

- I can name three different types of rocks.
- I can explain the difference between natural and human-made rocks.
- I can use the appearance of rocks to group and compare them.
- I can handle and examine rocks carefully.
- I can use systematic observations to identify the properties of rocks.
- I can explain the difference between a bone and a fossil.
- I can order the steps of how a fossil is formed.
- I can explain that soil is composed of different things.
- I can describe the 4 processes of soil formation.
- I can observe the amount of water that is filtered through different types of soil.

Prior knowledge

To have an understanding about how to identify and compare a variety of everyday materials e.g., wood, metal or plastic; An understanding that materials can be changed by squashing, bending, twisting and stretching; to distinguish between an object and a material; to know of some simple properties of everyday materials.

National Curriculum Aims

- 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.

Subject Specific Knowledge - Pupils will learn:

- Rocks can be hard or soft, porous, or non-porous, permeable, or impermeable.
- Rocks can be used according to their properties e.g., Granite can be used for building materials as it is very hard and impermeable.
- Erosion is the movement of rock fragments after weathering.
- Igneous rock is formed when magma or lava from volcanoes cools. Examples include basalt and granite.
- Sedimentary rocks are formed over millions of years when sediments (tiny pieces of rocks and animal skeletons) are pressed together at the bottom of seas and rivers. Examples include sandstone, coal, and chalk.
- Metamorphic rocks are formed when other rocks are changed due to heat or pressure. Examples include slate and marble.
- Rocks change over time depending on their environment.
- Soil is formed when fine rock mixes with air, water and particles from dead plants or animal matter.
- Soil is integral to life on Earth as humans cannot survive without plants and plants cannot survive without soil.
- There are 4 types of soil – sandy, clay, chalky and peat.