Knowledge Organiser	Subject: Science	Topic: Rocks, Fossils and Soils	Year: 3

Key Knowledge

Rock is a naturally occurring material. There are different types of rock e.g. sandstone, limestone, slate etc. which have different properties. Rocks can be hard or soft. They have different sizes of grain or crystal. They may absorb water. Rocks can be different shapes and sizes (stones, pebbles, boulders). Soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). The type of rock, size of rock pieces and the amount of organic matter affect the property of the soil. Some rocks contain fossils. Fossils were formed millions of years ago. When plants and animals died, they fell to the seabed. They became covered and squashed by other material. Over time the dissolving animal and plant matter is replaced by minerals from the water.

Key Learning

Can name some types of rock and give physical features of each
Can explain how a fossil is formed
Can explain that soils are made from rocks and also contain living/dead matter

Disciplinary Skills

Grouping and characterising
Planning, carrying out and evaluating investigations
Identifying and exploring

Key Concepts

Understanding Rocks and Minerals

Rocks can vary in hardness; not all rocks are hard.

Man-made substances like concrete or brick are not rocks; they are human-made materials.

Polished or shaped materials, such as a granite worktop, are still considered rocks.

Fossils

Fossils are not the actual remains of an extinct animal or plant but are impressions or traces preserved in rock.

Artefacts like old pottery or coins are not fossils; they are human-made objects.

Soil

Soil and compost are different; soil is a natural material composed of minerals, organic matter, and living organisms, while compost is decomposed organic matter used to enrich soil.

Key Vocabulary

The Big Question

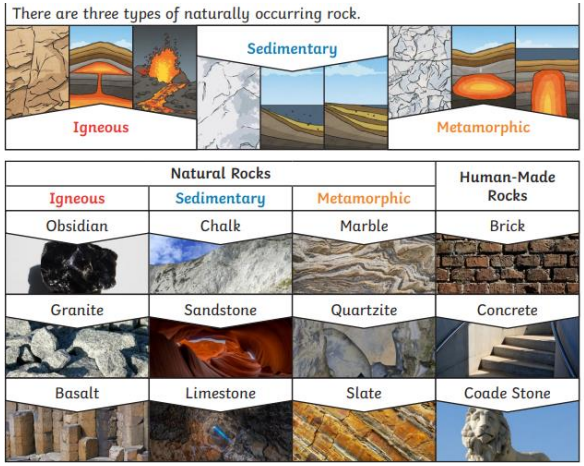
What amazing secrets can rocks, fossils, and soils tell us about the Earth?

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.
permeable	Allows liquids to pass through it
impermeable	Does not allow liquids to pass through it

Linking Thinking Across Our Learning Journey

Early Years	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
	Everyday materials Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials.	**Uses of everyday materials** Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	**Rocks, Fossils and Soils**			**Evolution and Inheritance** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. (Y6 - Evolution and inheritance)

	Compare and group together a variety of everyday materials on the basis of their simple physical properties.					



Female scientist - https://www.nhm.ac.uk/discover/mary-anning-unsung-hero.html

The fossils of Redbridge - https://www.guardian-series.co.uk/news/10558197.history-feature-fossils-redbridge/