Knowsley Junior School

Underground

Subject	Word	Definition
G	Tectonic Plates	Giant, slow-moving slabs of rock that fit together like a puzzle to form the Earth's outer crust.
G	Earthquake	A sudden, violent shaking of the ground caused by movements along cracks in the Earth's crust.
G	Volcano	An opening in the Earth's crust that allows hot magma, ash, and gases to escape to the surface.
G	Ring of Fire	A horseshoe-shaped area around the Pacific Ocean where most of the world's volcanoes and earthquakes happen.
S	Igneous Rock	Rock formed when molten magma or lava cools down and hardens into solid stone, such as granite.
S	Sedimentary Rock	Rock formed over millions of years as layers of mud, sand, and tiny shells are squashed together, such as chalk.
S	Metamorphic Rock	Rock that has been changed deep underground by intense heat and heavy pressure, such as marble or slate.
S	Permeable	A property of a rock or soil that allows water to pass through tiny gaps and air spaces inside it.
H	Fossil	The preserved remains or traces of an animal or plant that lived millions of years ago, turned into rock.
H	Mary Anning	A famous self-taught British fossil hunter who made important prehistoric dinosaur discoveries along the Dorset coast.

By the end of this topic I should be able to:

- Locate and label the Pacific Ring of Fire and major earthquake hotspots on a world map.
- Draw and label a clear cross-section diagram of a volcano showing the magma chamber, vent, and crater.
- Classify rock samples into igneous, sedimentary, and metamorphic groups by observing crystals, layers, and grains.
- Carry out fair tests on local rock and soil samples to compare their hardness and permeability.
- Explain step-by-step how a prehistoric animal or plant slowly turns into a fossil inside sedimentary rock.
- Describe the life and discoveries of Mary Anning and explain how her fossil finds changed our understanding of ancient living things.

By the end of this topic I should know:

Geography:

- The Earth's surface is split into giant pieces called tectonic plates that float and move very slowly over the mantle.
- Earthquakes happen when two tectonic plates suddenly slip or grind past each other, sending vibrations through the ground.
- Volcanoes form where magma rises through weak spots or boundaries in the Earth's crust, cooling into new landforms.
- The Ring of Fire is a major active zone around the Pacific Ocean that contains the majority of the world's active volcanoes and earthquakes.

History:

- Fossils only form under special conditions, usually when a dead animal or plant is buried quickly under river or sea mud before it rots away.
- In the 1800s, Mary Anning uncovered some of the world's first complete ichthyosaur and plesiosaur skeletons on the cliffs of Lyme Regis, helping scientists prove that prehistoric animals once existed.

Science:

- Rocks are natural materials made of minerals and are divided into three main families: igneous, sedimentary, and metamorphic.
- Igneous rocks are hard and crystalline, sedimentary rocks often have visible layers, and metamorphic rocks have been reshaped by extreme heat and pressure.
- Soils are made from tiny particles of weathered rock mixed together with air, water, and dead organic plant matter.
- Sandy soils are very permeable and drain quickly, while clay soils trap water and can cause surface flooding.