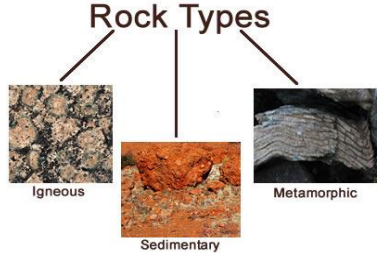

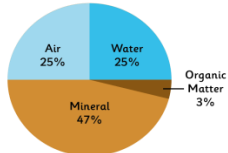



Knowledge Organiser – Science: Year 3 Rocks

| Key ideas and information | | |
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| <p>Rocks are made up of different minerals and form the Earth's crust (outer layer).</p> <p>Different combinations of minerals form rocks; minerals are made of elements.</p> <p>Rocks can be natural or man-made.</p> | <p>There are 3 different types of natural rocks; igneous, sedimentary and metamorphic.</p> <p>Rocks can be grouped according to their properties e.g. durability, permeability, density and whether they are hard or soft.</p> | <p style="text-align: center;">Rock Types</p>  |
| <p>Fossils are more than just ancient bones.</p> | <p>Fossils are created when plant or animal remains are trapped and preserved within rocks.</p> |  |
| <p>Soil is the uppermost layer of the Earth. It is a mixture of air, water, mineral and organic matter.</p> | <p>There are four main processes involved in soil formation: additions, losses, translocations and transformations.</p> |  |

| Key people and dates | |
|---|--|
| <p>Mary Anning was a famous fossil hunter and collector.</p> <p>Mary Anning was born on 21 May 1799.</p> <p>She found and identified many pre-historic fossils from the time of the dinosaurs and sold them to make money for her family.</p> |  |

| Scientific vocabulary | |
|--|---|
| <p>Igneous rocks – rocks which are formed when magma or lava from volcanoes cools.</p> <p>Intrusive igneous rocks – Molten rock that remains underground is called magma. When magma cools and hardens it becomes a type of intrusive igneous rock.</p> <p>Extrusive igneous rocks - Molten rock that comes out of the ground is called lava. When lava cools and hardens it becomes a type of extrusive igneous rock.</p> <p>Metamorphic rocks – rocks which are formed when other rocks are changed due to heat or pressure.</p> | <p>Sedimentary rocks – rocks which 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.</p> <ol style="list-style-type: none"> Sedimentation - As a result of weathering and erosion, bits of rock end up in lakes and rivers. Rivers transport bits of rock and deposit them on the bottom of the sea. Compaction - With time, more layers (strata) pile up and press down on the lower layers of rock. Cementation - Over time, water is pushed out from these layers and the process of cementation occurs. This is when salt compounds glue or cement the bits of rock together so they form a solid layer. |
| <p>Density – a measure of how 'bulky' the rock is (how tightly packed the molecules are), not how heavy. Density can be checked by testing the buoyancy (whether they float in water) of rocks. High density rocks sink whereas low density rocks float.</p> | <p>Durability - Rocks that are durable are more strong and resistant to weathering.</p> <p>Permeability - If a rock is permeable, it allows water to pass through it. Rocks that are impermeable do not allow water to pass through.</p> |
| <p>Fossilisation - A fossil is the preserved remains or traces of a dead organism. The process by which a fossil is formed is called fossilisation.</p> <p>Palaeontology - the study of plants and animals that lived millions of years ago. Scientists called palaeontologists study the remains of these ancient organisms, or living things.</p> | <p>Working scientifically and scientific enquiry questions</p> <p>Why do we still remember Mary Anning? Use secondary sources to justify your opinion.</p> <p>How can scientists sort rocks? Use a comparative test to classify rocks based on their properties.</p> <p>How does soil affect how plants grow? Use secondary sources to explain your answer.</p> |

