

Year 3: Science Knowledge Organiser – Rocks and Fossils (Chemistry)

Sticky Knowledge

- ✓ Rocks are found on the crust of the Earth. This is the outermost layer on which we live.
- ✓ Rocks can be natural such as sandstone and slate or man-made such as bricks and concrete.
- ✓ Crystals and jewels such as diamonds are types of rocks.
- ✓ Pumice is an unusual rock because it floats.

Learning Components

- I know what rocks are and their properties (hard, brittle, permeable, impermeable etc.).
- I know that there are three types of rocks – sedimentary, igneous and metamorphic and how these are formed.
- I know that the properties of different rocks make them useful for different uses.
- I know that a fossil is the imprint of a dead plant or animal formed millions of years ago.
- I know who Mary Anning was and that she was famous for her work with fossils.
- I know how soils are made and what they contain.

Mary Anning (1799-1847)

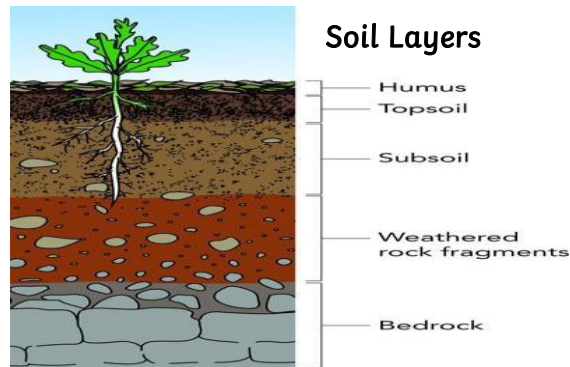


- Mary Anning was 12 years old when she discovered the first complete fossilised ichthyosaurus skeleton.
- She lived in Lyme Regis, Dorset, which 200 million years ago was under the sea!
- Her knowledge of fossils helped us to understand more about prehistoric animals, including dinosaurs.

Big Idea

Rocks are formed in the Earth's crust and they have different properties. Soils are formed from the breakdown of rocks and decaying organic matter. Fossils are formed when dead animals are trapped within rocks.

Types of Rocks and Soils:



Sandy Soil



Chalk Soil



Clay Soil



Peat Soil



Vocabulary

Rock/Stone: A hard material formed out of minerals in the Earth's crust. There are three types of rocks: sedimentary, igneous and metamorphic.

Sedimentary Rocks: Sedimentary rocks are made when sand, mud and pebbles get laid down in layers.

Igneous Rocks: Igneous rock is formed when hot magma from the Earth's mantle cools and solidifies.

Metamorphic Rocks: When a rock experiences heat and pressure, it becomes a metamorphic rock. All metamorphic rocks start as either sedimentary or igneous rock.

Soil: Soil consists of a mix of organic material (decayed plants and animals) and broken bits of rocks and minerals.

Permeable: Allows water to soak into it.

Impermeable: Water cannot soak into the material, instead, it simply runs off of the surface.

Fossil: A fossil is the preserved remains or traces of dead plant or animal.



Pumice



Granite



Chalk



Slate



Sandstone

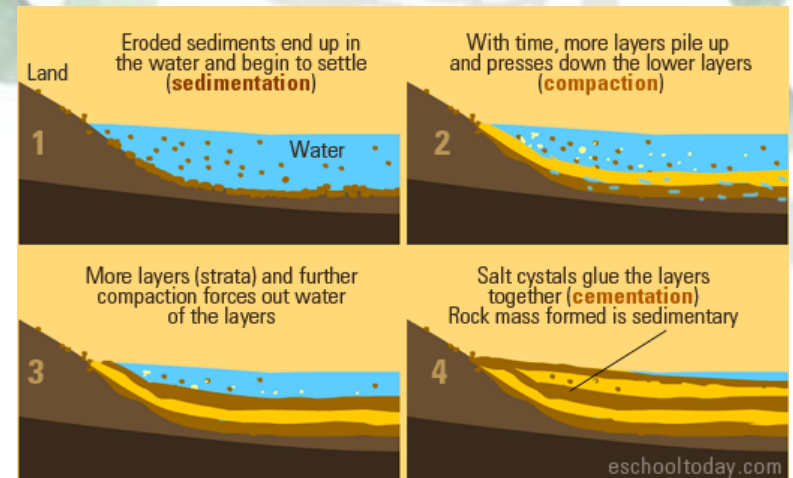


Marble

Rock / Stone



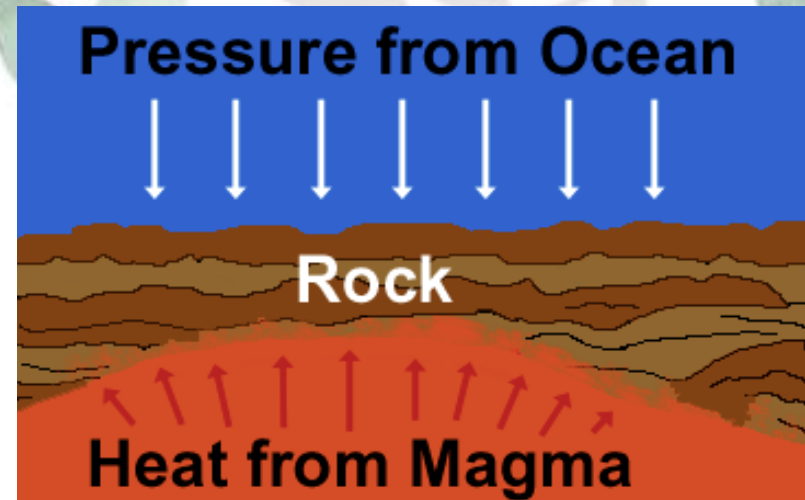
Sedimentary Rocks



Igneous Rocks



Metamorphic Rocks



Impermeable
(Waterproof)



Permeable
(Absorbs Water)



Soil



Fossil



Additional Vocabulary

Organic Matter



Pebble



Boulder



Grain



Crystals



Layers



Clay Soil



Magma



Marble



Chalk



Granite



Sandstone



Slate



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Peat



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Sandy Soil



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Chalk Soil



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