Rocks and Fossils KNOWLEDGE ORGANISER

ESSENTIAL ROCKS VOCABULARY	
Igneous rock	Igneous rocks are formed when hot, molten rock solidifies.
erosion	The process where rock is worn away by water, wind or ice.
sediment	The deposits of small stones and dirt that is dragged along by the current
Sedimentary rock	Rock that has formed from sediment.
Metamorphic rock	Rock that has undergone transformation by heat or pressure.
permeable	Allowing liquid or gas to pass through it.
impermeable	Not allowing liquid or gas to pass through it.
fossilisation	The process by which fossils are made.
rock	The solid mineral forming part of the surface of the earth.
fossil	The remains or impressions of a prehistoric plant or animal embedded in rock.
soil	The top layer of the earth. It is made from rocks and organic matter and water

How are the Three Types of Natural Rock Formed?

Sedimentary 	Sediment (small, broken parts of rocks) is carried by rivers and streams. It is deposited into a lake or a sea where it builds up in layers. The sediment is squashed by the weight above it until it forms new rock. Sedimentary rock is layered, and fossils of dead animals are often found in the layers.
Igneous 	The inside of the earth is very hot (hot enough to melt rocks into a molten rock called magma). Igneous rock is formed when magma breaks through the earth's crust and cools.
Metamorphic	Metamorphic rock is a combination of sedimentary and igneous rock. It is forms when sedimentary and igneous rocks are subjected to intense pressure and heat due to seismic activity in the earth's crust.

Layers of Soil

The top layer is called humus. It is made of dead leaves and animals.

The next layer down is top soil. It is where their roots.

Below that, there is subsoil. This usually has and stone in it.

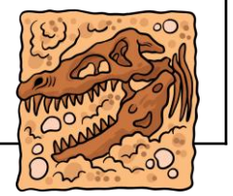
The bottom layer is called bedrock. It is made of large, solid rock beneath everything else.

MAKING LINKS TO PREVIOUS LEARNING
GOLDEN VOCABULARY

Rivers	**Sediment** is found in the bottom of rivers.
Volcanoes	**Igneous** rocks are formed from magma from the earth's crust.
Dinosaurs	Palaeontologists study **fossils** to learn more about dinosaurs.

The Fossilisation Process

1) A living thing, e.g.a dinosaur dies and falls to the bottom of an ocean or lake.
2) The flesh rots away, leaving behind the hardest parts of the body, such as bones, shell and teeth.
3) Over time, water drags sediment over the remains and fills the empty spaces More layers of sediment settle, which puts pressures on the layers below. The layers eventually turn into sedimentary rock.
4) Sometimes a mould fossil will form, where all the original parts of the living thing will be dissolved and just an imprint will remain. Sometimes cast fossils will form, where sediment is transported into the mould and fills it over time to create a replica of the original organism.
5) Eventually, the material outside the mould will solidify to become rock.
6) Over time, erosion and weathering will cause the fossils to become exposed.



Mary Anning

Mary Anning was a famous fossil hunter. She was born in Lyme Regis, Dorset in 1799. She found the first complete fossil of an ichthyosaurus or 'fish-lizard.' Scientists from London were amazed by her discovery. She went on to find more fossils that the world had never seen before, including a plesiosaur, a flying reptile and a prehistoric fish. Mary Anning died in 1847 and is remembered as one of the greatest fossil hunters who ever lived.

Ways of Describing Rocks

- Hard and soft. This describes whether than can moulded by hand or will require specialist tools to cut.
- Permeable and impermeable. This describes weather water can pass through or not.
- Durable. This describes how resistant they are to erosion and weathering.
- High and low-density. This describes how tightly packed the molecules are. High-density rocks sink and low-density rocks float.