Year 3 Knowledge Organiser – Rocks

Key Knowledge
Learn these key facts – key points in red

ROCKS

SEDIMENTARY: Sedimentary rocks are formed by sediment that is deposited over time, usually as layers at the bottom of lakes and oceans. This sediment can include minerals, small pieces of plants and other organic matter. The sediment is compressed over a long period of time before consolidating into solid layers of rock.

IGNEOUS: Far underground, the temperature is so hot, rock melts into a liquid (molten rock). When the liquid is underground it is called 'magma' and it can cool to form an intrusive rock. When it spills out (volcano), the liquid is called 'lava' and it cools to form extrusive rock.

METAMORPHIC: Metamorphic rocks have been changed over time by extreme pressure and heat. Metamorphic rocks can be formed by pressure deep under the Earth's surface, from the extreme heat caused by magma or by the intense collisions and friction of tectonic plates.

KEY PROPERTIES OF ROCKS: Hard /Soft; Permeable/Impermeable; Durability; Density.


limestone
chalk
sandstone


obsidian
granite
basalt


marble
quartzite
slate

FOSSILS

A fossil is the remains or the impression left by a prehistoric plant or animal embedded in rock.

1.) An animal, creature or plant dies and ends up at the bottom of the sea. It gets covered in a layer of rock.

2.) Over time, more layers of rock form on top and the only thing which remains are the bones or the space where the bones used to be (mould fossils).

3.) Sometimes sediment enters the space where the bones used to be and takes the shape of the creature (cast fossil).

4.) Over a long period, the sea may recede / go back leaving the rock.

5.) Erosion and weathering of the rock means the fossil can now be seen!

What is soil made from?

Air - Oxygen, Carbon dioxide, nitrogen etc...
Organic Matter - Living and dead plants and animals.
Water - Air and water fill the gaps between particles of soil.
Minerals - Formed from broken down rock.

Focus Scientists—Mary Anning

Mary Anning (1799-1847) was a famous British fossil hunter who found the fossils of many prehistoric animals. Although not trained as a scientist her discoveries changed Science.

Graham Carter Graham Carter is an Engineering Geologist who tests soils for land contamination and for building regulations. He assesses the risks of building in certain areas.

Key Vocabulary
Understand these key words

fossil	a fossil is the remains or the impression left by a prehistoric plant or animal embedded in rock.
rock	a rock is a solid made up of a bunch of different minerals.
minerals	minerals come from broken down rock.
erosion	water, wind, and other natural forces cause rocks and earth to wear away.
soil	soil is the loose upper layer of the Earth's surface where plants grow. Soil consists of a mix of organic matter, air, water and minerals.
organic matter	living and dead plants and animals.
hard rocks	hard rocks need to be split by tools e.g. granite.
soft rocks	soft rocks can be moulded e.g. clay.
permeable	permeable rocks allow water to pass through.
impermeable	impermeable rocks do not let water pass through.
durable	rocks which are resistant to erosion so they last longer.
density	if the particles in the rock are tightly packed then it has a high density. These rocks would sink in water. Rocks with low density would float.