

# Year 3 Science Knowledge Organiser - Rocks and Soils




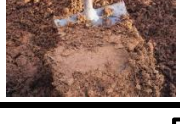
<u>Word</u>	<u>Definition</u>
Density	If the particles in the rock are tightly packed then it has a high density. These rocks would sink in water. Rocks with low density would float.
Durable	Rocks which are resistant to erosion so they last longer.
Erosion	Water, wind and other natural forces cause rocks and earth to wear away.
Fossil	A fossil is the remains or the impression left by a prehistoric plant or animal embedded in rock.
Hard rocks	Hard rocks need to be split by tools e. granite
Impermeable	Impermeable rocks do not let water pass through.
Minerals	Minerals come from broken down rock.
Organic Matter	Living and dead plants and animals.
Permeable	Permeable rocks allow water to pass through them.
Rock	A rock is a solid made up of a lot of different materials.
Soft rocks	Soft rocks can be moulded e.g. clay.
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.

Sticky Knowledge is in red!

What is soil made from:
<b>Air</b> - Oxygen, Carbon Dioxide, nitrogen etc.
<b>Water</b> - Air and water fill the gaps between particles of soil.
<b>Organic Matter</b> - Living and dead plants and animals.
<b>Minerals</b> - Formed from broken down rock.

<u>There are three different types of rocks:</u>
<b>IGNEOUS Rock</b> is formed when magma or lava from volcanoes cools down.
<b>SEDIMENTARY Rocks</b> 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.
<b>METAMORPHIC Rocks</b> are formed when other rocks (igneous or sedimentary) are changed due to heat or pressure.

<u>Fossils were formed millions of years ago.</u>
1. Plants and animals died and sank to the seabed.
2. The soft parts decayed away leaving the hard parts.
3. The parts were covered and squashed by many layers of sand and other materials.
4. The animal/plant matter dissolves and is replaced by minerals leaving a replica of the original bone called a fossil.

<u>Properties of Soils are affected by the:</u> Type of rock, size of the rock pieces, amount of organic matter in it.	
<b>PEAT</b> 	<ul style="list-style-type: none"> <li>• Water-logged</li> <li>• Contains partially decomposed plant material</li> <li>• Soft and easily compressed</li> </ul>
<b>SANDY SOIL</b> 	<ul style="list-style-type: none"> <li>• Light and dry</li> <li>• Lots of air gaps so water drains through quickly</li> </ul>
<b>CHALKY SOIL</b> 	<ul style="list-style-type: none"> <li>• Stony and water drains through quickly</li> <li>• Found in areas with lots of chalk</li> </ul>
<b>CLAY SOIL</b> 	<ul style="list-style-type: none"> <li>• Very sticky when wet</li> <li>• A heavy soil</li> <li>• Water does not drain through it quickly</li> </ul>



A significant Scientist - Linked to the topic of Rocks and Soils:  
Mary Anning (1799-1847):  
 Mary Anning was an English Palaeontologist and fossil collector. She became known around the world for important finds she made in Jurassic fossil beds in Dorset.