St. John's Gosport Church of England Primary School - Science Knowledge Organiser

Year 3 Rocks and Soils - What is the Earth made from?

Substantive Knowledge

A **rock** is a solid material made up of **minerals** forming part of the surface of the Earth.
Rocks are exposed on the surface at cliffs, hills and mountains but are also under the surface.
Some rocks, called **ores**, contain metals.
Some rocks are made of **grains** squashed together and can contain the remains of long-dead organisms, called **fossils**. This type of rock is called **sedimentary** rock., an example would be **limestone**, **sandstone**, or **mudstone**.
Some rocks are made of **crystals** that are locked tightly together. These are called **igneous** and **metamorphic** rocks; an example of igneous rock is **granite**, and an example of metamorphic rock is **slate**.
These three types of rocks all have different properties to each other, including **porosity**, **hardness** and reaction to chemicals.
The properties of the rock depend on how the rock was formed.
Soil is made up of small broken-down pieces of rock.
Soil contains a range of different size rock pieces, e.g. sand grains or stones.
Soil also contains **humus** (rotted plant material).
Soil made of very fine rock is called **silt** or **clay**.

Disciplinary Knowledge

Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.	
Making systematic and careful observations, taking accurate measurements using standard units.	
Reporting on findings from enquiries.	
Asking relevant questions and using different types of scientific enquiries to answer them.	
Setting up simple practical enquiries, comparative and fair tests.	

Significant Scientists

Mary Anning (1799-1847)



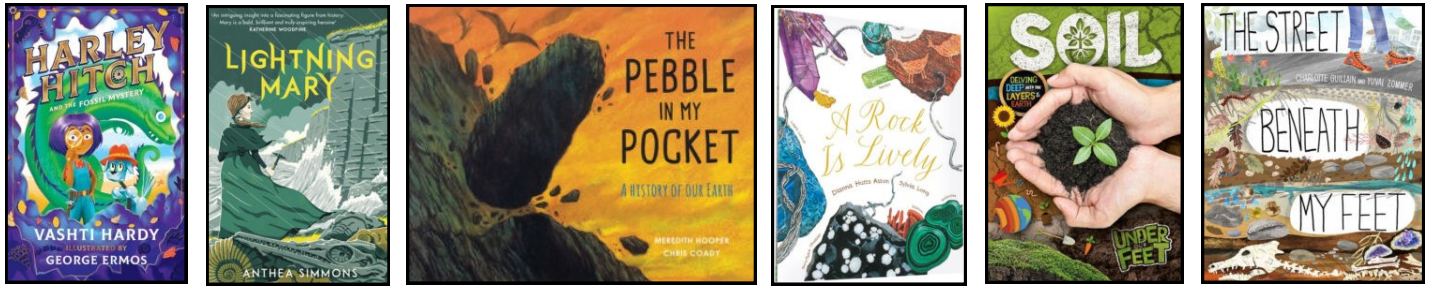
Mary Anning was an English fossil collector, dealer, and palaeontologist. She became known internationally for her discoveries in Jurassic marine fossil beds in the cliffs along the English Channel at Lyme Regis in the county of Dorset.

Christopher Jackson



Christopher Jackson is a British geoscientist. He is known for his work in geoscience, especially in the use of 3D seismic data to understand dynamic processes in sedimentary basins.

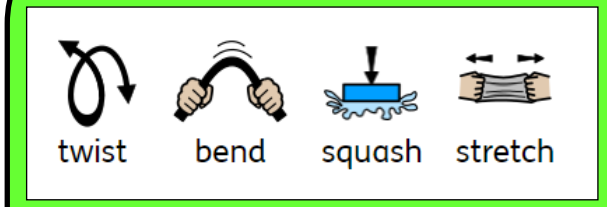
Interesting Books

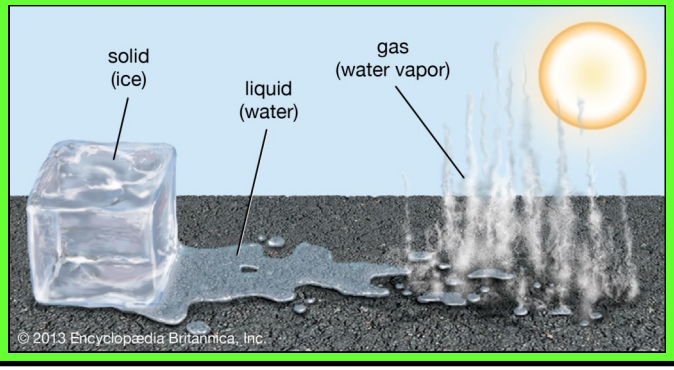


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Prior Knowledge

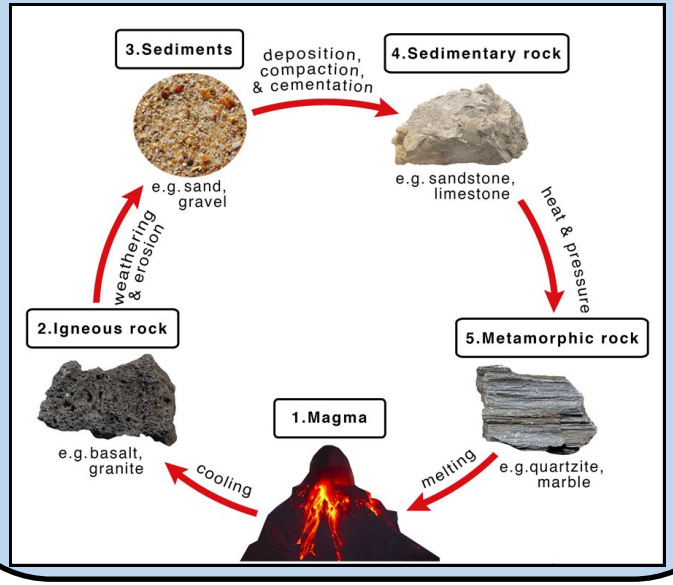




Key Vocabulary

rock	A natural solid material made from minerals which make up the surface of the earth.
crystal	A uniform material with a symmetrical shape.
mineral	A solid substance made up from a range of different elements e.g. iron, oxygen, carbon.
ore	A rock that contains a metal that can be extracted.
grains	Small pieces of broken-down rock that is moved and placed in a new location.
fossil	The remains of animals or plants preserved in rock.
sedimentary	Rocks made of grains cemented together.
igneous	Rocks made of magma or lava from volcanoes or deep underground.
metamorphic	Rocks formed by the heating and crushing of existing rocks.
porosity	How much empty space there is between grains or crystals.
hardness	How resistant a rock is to damage.
soil	A mixture of minerals and organic matter.
humus	Dead plant matter within soil.
silt	fine sand or clay material

Types of Rock



Soil Types



The remains of animals or plants preserved in rock.

