

# The Knowledge

Supporting the National Curriculum



Knowing More    Remembering More    Learning More

## Rocks

**ARDLEIGH GREEN**  
JUNIOR SCHOOL

Year 3  
Science

## Key People

**Mary Anning** (1799–1847) was an **English fossil collector**. She lived in Lyme Regis in Dorset, in an area now known as the Jurassic Coast. Mary had little formal education but was **taught fossil hunting by her father**. She made many important fossil discoveries during her lifetime, including an Ichthyosaur fossil in 1811 and a fossilised Plesiosaur in 1823.



Fossilized Plesiosaur skeleton



A **geologist** is a scientist who specializes in **the study of the earth**. Geologists analyse the **materials** that make up the earth, the **structure** of the earth, and the **processes** going on under and above the **surface** of the earth. Geology is also concerned with the **history** of the earth, how the materials, structures, processes and the organisms have **changed over time**.

## Key Vocabulary

- Rock:** mineral matter
- Soils:** the material that covers the Earth's crust (made up of air, organic matter, water and minerals)
- Organic matter:** dead and decaying plants and animals
- Hard:** solid and firm
- Soft:** can be changed
- Texture:** the visual and tactile quality of a surface
- Absorb:** to soak up
- Fossils:** the remains, or traces, of once-living things preserved as rock
- Impermeable:** not allowing water is pass through. Also described as waterproof

## Key facts





### Types of Rock:

There are **three** main types of rock in the Earth's crust. These are **sedimentary**, **igneous** and **metamorphic**.

**Sedimentary** rocks are made from **layers of mud and sand**, called sediment, that have settled in water and have been squashed over a long time to form rock.

**Igneous** rocks are made from **cooled magma or lava**.

**Metamorphic** rocks are formed when existing rocks **are changed by heat and pressure**.

Sedimentary rocks	Igneous rocks	Metamorphic rocks
 sandstone	 granite	 marble
 limestone	 obsidian	 slate

### Uses of rocks:

The **appearance** and **properties** of rocks affect how they are used.

**Chalk:** a **sedimentary** rock, is **soft** and can be **easily eroded**. This makes chalk suitable for writing and drawing on blackboards.



**Granite:** an **igneous** rock, is very **hard** and **impermeable**. Granite is used for making kitchen work surfaces.



**Marble:** is a **metamorphic** rock. It is easy to carve and is **not easily eroded**, making it suitable for sculptures.



### Fossils:

Fossils are the **remains**, or traces, of once-living things **preserved** as rock. Fossils are only found in **sedimentary** rock and the conditions must be just right for them to develop.

#### How fossils are formed.



### Soils:



Soil is the material that covers the **Earth's crust**. It is made from:  
**AIR** – Oxygen, carbon dioxide, nitrogen  
**ORGANIC MATTER** – Living and dead plants and animals.  
**WATER** – Air and water fill the gaps between particles of soil.  
**MINERALS** – Broken down rock.  
 There are three main types of soil. These are **sandy**, **silty** and **clay**.

## Test Yourself

- What are the three different types of rock?
- What are rocks used for?
- How could you describe the different properties of rock?
- How are fossils made?
- What is soil?
- What is soil used for?
- What might happen to rocks over time?
- What is the name of someone who studies the earth?