

Rocks and Soils

What are the names of the different types of rocks and soils?

What are their properties?

Chemistry

Lesson sequence

1. Explore the formation and properties of igneous rocks.
2. Explore the formation and properties of sedimentary and metamorphic rocks.
3. Weathering and the suitability of rocks for different purposes.
4. Explore how water contributes to the weathering of rocks.
5. Understand how fossils are formed.
6. Explore different types of soil.



Enquiry Types

Identifying, classifying and grouping (Lesson 1, 2 and 6)

Comparative and fair testing (Lesson 4)

Observing over time (Lesson 3 and lesson 5)

Sticky learning

New Knowledge

- To know how other rocks, change over time (how and why)
- I know the terms sedimentary, permeable, igneous, metamorphic, and porous.
- I know how soils are formed and know that they are made from rocks and organic matter.
- I know that there are six main types of soil: chalky, clay, loamy, peaty, sandy and silty
- I know the different layers of soils (Humus, top soil, sub soil, bed rock)

Skills

- I can identify differences and similarities related to scientific ideas and processes. I can sort, group and classify explaining my reasoning
- I can report findings from enquiries in a variety of ways (e.g. Oral and written explanations, displays or presentations of results & conclusions.)
- I can use straight forward scientific evidence to answer questions.
- I can use results to draw simple conclusions and make predictions for new values.

Concept Links/Prior Knowledge

- The role of Mary Anning in palaeontology and the discovery of fossils.
- Soil contains nutrients and these help plants to grow.
- The meaning of the word absorb.
- That magma is molten rock that is formed in very hot conditions inside the earth.
- Why some materials are used for certain purposes because of their properties

Visual representations



More detailed knowledge and information

There are three types of rocks that are formed naturally:



Far underground, the temperature is so hot, rocks melt 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.



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.



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

Vocabulary revision (vocabulary I have been taught before)

Record
Results
Test
Compare
Observe
Soil
Rocks



New vocabulary I will learn



Igneous
Sedimentary
Metamorphic
Magma
Lava
Sediment
Permeable
Impermeable
Erosion
Bedrock
Topsoil

