

## Rocks – year 3

Definition: Rocks - are solid and made from different combinations of minerals.

Chemistry definition: the branch of science concerned with the substances of which matter is composed, the investigation of their properties and reactions, and the use of such reactions to form new substances.

POS:

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things that have lived are trapped within rock
- recognise that soils are made from rocks and organic matter

Prior learning:

- Know what a material is
- Classify materials based on their properties
- Group objects based on their characteristics and explain why they have chosen to group them in that particular way
- Explored natural rocks

Links to other science topics:

KS1 Materials – name properties of materials  
KS1 plants – know what soil is

Disciplinary concept:

Similarities and differences – how are the rocks similar and different?

Process – how are rocks formed?

Changes – how are metamorphic rocks formed?

Common misconceptions:

- rocks are all hard in nature
- rock-like, man-made substances such as concrete or brick are rocks
- materials which have been polished or shaped for use, such as a granite worktop, are not rocks as they are no longer 'natural'
- certain found artefacts, like old bits of pottery or coins, are fossils
- a fossil is an actual piece of the extinct animal or plant
- soil and compost are the same thing.

Core Knowledge:

- Understand what a rock is – a rock is a naturally occurring material
- Name the three types of rocks – metamorphic, igneous and sedimentary
- Name properties of rocks – hard or soft, permeable and impermeable, durability
- Name the different types of soil – soils are made up of pieces of ground up rock which may have been mixed with plant and animal material (organic matter)
- Know how fossils are formed – When plants and animals died, they fell into the seabed. They became covered and squashed by other material. Over time the dissolving animal and plant matter is replaced by minerals from the water.

Wider knowledge:

What type of rock is in our local area and why- use website: open.edu – UK rocks by region

A British fossil hunter (William Buckland) found some fossils in 1819 and in 1824 described and named them.

Mary Anning was an English fossil collector and dealer - <https://www.pstt-cpd.org.uk/ext/cpd/dramatic-science/resources.html>

Volcano Pompeii – links with the geography teaching sequence

Working scientifically:

- Observe rocks
- Classify the rocks according to simple physical properties / appearance
- Investigate rock types
- Observe soils closely.
- Classify soils in a range of ways based on their appearance
- Research using secondary resources - How are fossils formed? How do fossils tell us about the past?

End points:

- To sort and compare rocks
- To explain the properties of rocks and why they are chosen for purpose (hard/soft, permeable/impermeable or durability)
- To explain the stages of fossil formation (A plant or animal dies in a watery environment, the plant or animal is buried in mud and silt, soft tissues quickly decompose leaving the hard bones or shells behind, over time sediment builds over the top and hardens into rock.)
- To name different types of soil (clay, sandy, loamy, peaty)

CPD: <https://www.reachoutcpd.com/courses/upper-primary/rocks-and-soils/>

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