



The Canons CE Primary School



Year 3 – Rocks

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Prior Learning	In Year 3	Future Learning
In Year 1 children will be taught to: - describe why certain materials are used for certain purposes e.g. bricks and houses - group materials by their properties - describe the similarities and differences between everyday materials - describe the properties of everyday materials - recognise objects and the materials they are made from - identify and name everyday materials. (<i>Everyday materials</i>) In Year 2 children will be taught to: - recognise that certain objects can be made using different materials - recognise that certain materials can be used for more than one purpose e.g. wood can be used for matches and floors - identify the suitability of everyday materials for particular uses. (<i>Uses of everyday materials</i>)	In Year 3 children will be taught to: - observe how rocks change over time - research the different kinds of living things whose fossils are found in sedimentary rock - describe how soils form - describe the fossils they have observed - describe how fossils are formed - compare different kinds of rocks based on their simple physical properties - compare different kinds of rocks based on their appearance.	In Year 6 children will be taught to: - describe how fossils provide information about living things that inhabited the Earth millions of years ago - recognise that living things have changed over time. (<i>Evolution and inheritance</i>)
	Key Vocabulary	
	rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil	
Famous Scientists	Common Misconceptions	Possible Evidence to be Secure
- William Smith – fossils - Inge Lehmann - Professor Ian Stewart – contemporary geologist - Adriana Ocampo (1955 - present) – space geologist - Friedrich Mohs (1773 – 1839) - Inge Lehmann (1888 – 1993) - Alfred Wegener (1880 – 1930) - Tuzo Wilson (1908 – 1993) - Marie Tharp (1920 – 2006) - Dorothea Bate (1878 – 1951) - Mary Anning (1799-1847) (<i>NB may be a focus in Year 6</i>) - James Hutton (1726 – 1797)	Some children may think: - 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 workshop, 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.	Children can: - name some types of rock and give physical features of each - explain how a fossil is formed - explain that soils are made from rocks and also contain living/dead matter.



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Working Scientifically

National Curriculum Statutory Requirements

1. Ask relevant questions and use different types of scientific enquiries to answer them.
2. Set up simple practical enquiries, comparative and fair tests.
3. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
4. Gather, record, classify and present data in a variety of ways to help in answering questions.
5. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
6. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
7. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
8. Identify differences, similarities or changes related to simple scientific ideas and processes.
9. Use straightforward scientific evidence to answer questions or to support their findings.

Highlighted = main focus during this topic

Teaching Ideas – Different Types of Scientific Enquiry

Comparative and Fair Testing	Identifying and Classifying	Observation Over Time	Pattern Seeking	Research
Which soil absorbs the most water? How does adding different amounts of sand to soil affect how quickly water drains through it?	Can you use the identification key to find out the name of each of the rocks in your collection?	How does tumbling change a rock over time? What happens when water keeps dripping on a sandcastle?	Is there a pattern in where we find volcanos on planet Earth?	Who was William Smith and what did he discover?

Teaching Ideas – How Pupils Could Work Scientifically

Teaching Ideas – Possible Evidence to be Secure

(Bracketed Number = National Curriculum Statutory Requirement Link)

- Observe rocks closely. (3)
- Classify rocks in a range of ways, based on their appearance. (4)
- Devise a test to investigate the hardness of a range of rocks. (2)
- Devise a test to investigate how much water different rocks absorb. (2)
- Observe how rocks change over time e.g. gravestones or old buildings. (3)
- Research using secondary sources how fossils are formed. (8)
- Observe soils closely. (3)
- Classify soils in a range of ways based on their appearance. (4)
- Devise a test to investigate the water retention of soils. (2)
- Observe how soil can be separated through sedimentation. (3)
- Research the work of Mary Anning. (8)

Children can:

- classify rocks in a range of different ways, using appropriate vocabulary (4)
- devise tests to explore the properties of rocks and use data to rank the rocks (2, 6)
- link rocks changing over time with their properties e.g. soft rocks get worn away more easily (6, 8)
- present in different ways their understanding of how fossils are formed e.g. in role play, comic strip, chronological report, stop-go animation etc. (6)
- identify plant/animal matter and rocks in samples of soil (8)
- devise a test to explore the water retention of soils. (2)