



# Year 3: Rocks and Soils

## Kindness Enjoyment Achievement



<p><b>Key concepts:</b></p> <p>There are different types of rock. Rock is everywhere, including under the sea and under pavements.</p> <p>We can group them according to everyday words such as shiny, stripy, spotty, single colour.</p> <p>We can group them according to whether they have crystals or visible sediments.</p> <p>Rocks are millions of years old and can be grouped by how they are formed: sedimentary, igneous and metamorphic. (This is not reqd in NC but it is useful to mention it as it affects how they behave)</p> <p>Fossils are formed by animal or plant remains being caught in rocks.</p> <p>There are different types of soil. Soil is made of organic material and sediments of rock.</p>	<p><b>Types of enquiry:</b></p> <p><u>Sorting and classifying:</u> Sort rocks acc to observable features and simple physical properties. Deciding whether they are looking at clay, sand or loam based on key. Identify similarities and differences between soils.</p> <p><u>Fair test:</u> Comparative tests of hardness, permeability and reaction to acid.</p> <p><u>Use of secondary sources:</u> Parent expert (Mrs Pendered) Video: Soils, espresso video. Use books and ict to answer questions about how soils are formed.</p> <p><u>Change over time:</u> Observation of rocks around the school site to see effects of weathering. Soil in water left overnight experiment</p> <p><u>Pattern seeking:</u> Analysis of results of rock tests.</p>	<p><b>Vocabulary and definitions:</b></p> <table border="0"> <tr><td>Crystal,</td><td>Chalk</td></tr> <tr><td>Sediments</td><td>Clay</td></tr> <tr><td>Particles</td><td>Marble</td></tr> <tr><td>Grains</td><td>Slate</td></tr> <tr><td>Igneous</td><td>Quartz</td></tr> <tr><td>Metamorphic</td><td>Basalt</td></tr> <tr><td>Sedimentary</td><td>Slate</td></tr> <tr><td>permeable</td><td>Sand</td></tr> <tr><td>impermeable</td><td>Loam</td></tr> <tr><td>fossil</td><td>Soil</td></tr> <tr><td>Mary Anning</td><td>Rock</td></tr> <tr><td>extinct</td><td></td></tr> <tr><td>organic matter</td><td></td></tr> <tr><td>top soil</td><td></td></tr> <tr><td>sub soil</td><td></td></tr> <tr><td>base rock.</td><td></td></tr> </table> <p><b><u>How it fits in with the rest of the curriculum:</u></b> Y1: Identify and name a variety of materials including... rocks Y2: Identify and compare the suitability of a variety of everyday materials , including... brick, rock...</p>	Crystal,	Chalk	Sediments	Clay	Particles	Marble	Grains	Slate	Igneous	Quartz	Metamorphic	Basalt	Sedimentary	Slate	permeable	Sand	impermeable	Loam	fossil	Soil	Mary Anning	Rock	extinct		organic matter		top soil		sub soil		base rock.	
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<p>There are 3 layers of soil: top soil, sub soil and rockbed.</p> <p>Flackwell Heath largely has loam topsoil over clay subsoils, but there is local variation.</p> <p>Mary Anning was a famous palaeontologist who challenged traditional views about how the world was made.</p> <p>.</p>	<p><b><u>Working scientifically skills:</u></b></p> <p><b><u>Questioning:</u></b> Ask relevant questions, sort between relevant and irrelevant questions. Start to learn 5 different types of enquiry in NC so that in future topics they can say which enquiry will be used to answer a question they have.</p> <p><b><u>Observing:</u></b> Use magnifying glass to make careful observations. Paint to colour match rocks. Make careful observations, measure using cm &amp; mm using rulers- layers of soil in jam jar.</p> <p><b><u>Identify and classify:</u></b> Identify differences, similarities related to simple sc ideas and processes Use simple sorting key to identify clay, loam and sand.</p> <p><b><u>Testing:</u></b></p>	<p>Know how shapes of some solid materials can be changed by squashing, bending, twisting and stretching.</p> <p>Y3: Compare and group together different kinds of rock based on their appearance and simple properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock Recognise that soils are made of rocks and organic matter.</p> <p>.Y4: Compare and group materials together acc to whether they are solids, liquids or gases Observe that some materials change state acc to whether they are heated or cooled...</p> <p>Y6; Recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago.</p>
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	<p>Set up comparative fair test under direction of teacher.</p> <p><u>Recording:</u> Recording findings using drawings, paintings, sorting diagram- venn diag, simple sc lang, labelled diag &amp; writing.</p> <p><u>Concluding:</u> Use results to draw conclusions &amp; raise further questions. Use straightforward sc evidence to support their findings.</p>	<p><b><u>Where else in the curriculum will they encounter this?</u></b></p> <p>Geography: What kind of rocks and soils are prevalent in our local area? (Loam over clay) Rocks and geology of other places.</p>
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