



Prior Learning

EYFS:	KS1
<ul style="list-style-type: none"> <li>● ELG - Explore the natural world around them, making observations and drawings.</li> <li>● ELG- Understand some important processes and changes in the natural world around them.</li> <li>● Use all their senses in hands-on exploration of natural materials</li> <li>● Use vocabulary to name specific features of the natural world, both natural &amp; man-made</li> <li>● Observe &amp; interact with natural processes, such as ice melting.</li> </ul>	<ul style="list-style-type: none"> <li>● Observe using simple equipment.</li> <li>● Observe closely using simple equipment.</li> <li>● Gather and record data to help in answering questions.</li> <li>● Identify and name a variety of everyday materials, including wood, metal, plastic, glass, metal, water and rock.</li> <li>● Describe the simple physical properties of a variety of everyday materials</li> <li>● Compare and group together a variety of everyday materials on the basis of their simple physical properties</li> </ul>

Lesson 1	<p>L.O. 22 To be able to compare and group together different kinds of rocks on the basis of their appearance and physical properties. (NC3)</p> <p><u>Year 3</u> L.O. 3 To be able to make careful observations, and, where appropriate, take measurements using standard units, using a range of equipment.</p> <p><u>Year 4</u> L.O. 3 To be able to make systematic and careful observations, and where appropriate to take accurate measurements.</p>	<p><b>Focus-careful observations of different rocks</b></p> <p>Discuss children prior learning of rocks and mind map together. What rocks do we know where are they found, what are they like etc?</p> <p>Look at slides which explain the simple different characteristics.</p> <p>Children to carefully examine rocks and their appearance, using magnifying glasses.</p> <p>Children to explore various rocks and begin to group rocks with similarities and differences they notice and draw observational sketches. Photograph of the rocks in the books. Use vocabulary</p>	<ul style="list-style-type: none"> <li>● Know the names of the rocks:             <ul style="list-style-type: none"> <li>- Chalk</li> <li>- Limestone</li> <li>- Slate</li> <li>- Marble</li> <li>- Pumice</li> <li>- Basalt</li> <li>- Granite</li> </ul> </li> </ul>	<p><u>Observing and measuring</u> Using senses to make observations about the enquiry</p>	<p>Chalk Limestone Slate Marble Pumice Basalt Granite</p>
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<p>Lesson 2</p>	<p>L.O. 22 To be able to compare and group together different kinds of rocks on the basis of their appearance and physical properties. (NC3)</p> <p><u>Year 3</u> L.O. 6 to gather, record, classify and present data in a variety of ways. L.O. 7 to be able to report on findings, including oral and written explanations.</p> <p><u>Year 4</u> L.O. 5 To be able to gather, record, classify and present data in a variety of ways to help in answering questions.</p>	<p><b>Focus-fair testing of the properties of rocks and recording findings.</b> Explain that we are going to group rocks according to their properties-what they are like. The three properties we are going to test are density, permeability and hardness (durability)</p> <p>Children to test the rocks by performing careful tests. Record findings in a table. (3 way differentiated)</p> <p>Write up their findings to the experiment. Use model sentences. HA children to link the properties of rocks to their uses.</p>	<ul style="list-style-type: none"> <li>● Know that permeable rocks all water to pass through and impermeable rocks do not allow water to pass through.</li> <li>● Know that durable rocks are very strong and do not wear easily.</li> <li>● Know that high density rocks sink and low density rocks float.</li> </ul>	<p><u>To recognise and apply</u></p> <p><u>Setting up tests</u> Deciding on the method and equipment to use to carry out an enquiry.</p> <p>Fair testing focus</p>	<p>Igneous Metamorphic Sedimentary Density Permeability Hardness</p>
<p>Lesson 3</p>	<p>L.O. 22 To be able to compare and group together different kinds of rocks on the basis of their appearance and physical properties. (NC3)</p>	<p><b>Focus-how the three different kinds of rocks are formed.</b></p> <p>Explore the make up of the earth, showing a cross sectional diagram. Look at how the crust is formed of different plates, for how the different kinds of rocks are formed.</p> <p>Look at slides of how each kind of rock is formed, including examples of these rocks. Show video of volcano showing the lava exploding and cooling.</p> <p>LA/Year 3 - Physically sort rocks MA/HA/Year 4 - Sort rocks into table</p>	<ul style="list-style-type: none"> <li>● Know that rocks are formed in 3 different ways: <ul style="list-style-type: none"> <li>- Igneous</li> <li>- Sedimentary</li> <li>- Metamorphic</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Group rocks (see list in lesson 1) into Igneous rocks, Sedimentary rocks and Metamorphic rocks</li> </ul>	<p>Metamorphic Sedimentary Igneous Formed</p>

Lesson 4	L.O. 23 To be able to describe in simple terms how fossils are formed.	<p>In groups, to match up dinosaur pictures, skeletons and fossils.</p> <p>Look at video and slides of how fossils are formed. Talk about each stage. Look at the different examples of fossils on the google slides. Have the children ever seen a fossil?</p> <p>Pupils to complete zig zag (twinkl) book of how fossils are formed.</p>	<ul style="list-style-type: none"> <li>Know that fossils are preserved skeletons and imprints of living creatures and plants</li> </ul>		<p>Fossil Pressure Preserved Imprint Skeletons</p>
Lesson 5	L.O. 24 To be able to recognise that solids are made from rocks and organic matter.	<p>Explore the different layers of soil</p> <p>Look at google slides of soil.</p> <p>Children to label each layer of soil on the <a href="#">diagram</a>.</p> <p>Adapted task for HA - to describe in more detail the characteristics of each layer.</p>	<ul style="list-style-type: none"> <li>Know the 5 layers of soil are: -Organic matter -Top soil -Subsoil -Parent rock -Bedrock</li> </ul>		<p>Organic Clay Subsoil Organic matter Top soil Subsoil Parent rock Bedrock</p>
Lesson 6	L.O. 24 To be able to recognise that solids are made from rocks and organic matter.	<p>Explain that different soil has different consistency based on where the location, water, plants/trees in the area. This can affect gardening.</p> <p>Look at the three main kinds of soil and what they are like.</p> <p>Explore different types of soil practically (Sandy, Clay and Chalk).</p>	<ul style="list-style-type: none"> <li>Know 3 types of soil are: -Sandy -Clay -Chalk</li> </ul>	<p><u>Making predictions</u> Using prior knowledge to suggest what will happen in an enquiry.</p>	<p>Clay Sandy Chalk</p>
Lesson 7	L.O 25. To be able to compare and group materials together,	What is a Solid, Liquid and gas?			<p>Solid Liquid</p>

New Topic	according to whether they are solids, liquids or gases.	Put out a glass with beads in it, a glass with water in it and a glass with air in it. In groups discuss which is they think is the solid, liquid or gas. The children discuss why they have labelled them this way. Build up some definitions of what a solid, a liquid and a gas are on the board.  Activity - Practically act out how the particles of solids, liquid and gas act/move around.  Stick picture of group work in their book.	<ul style="list-style-type: none"> <li>● Know that a solid's particles are: -close together and touch</li> <li>● Know that a liquid's particles: - quite close together and move around each other gently</li> <li>● Know that a gas' particles: - move around very quickly in all directions</li> </ul>		Gas Particles
Lesson 8	L.O 25. To be able to compare and group materials together, according to whether they are solids, liquids or gases.	Look at how to group together solids, liquids and gases. How do you know?  Create a list/table of solid, liquid and gas.	<ul style="list-style-type: none"> <li>● Know that rock, ice and paper are examples of a solid.</li> <li>● Know that water, juice and soup are examples of liquids</li> <li>● Know that steam, oxygen and helium are examples of gases.</li> </ul>	Group together a variety of materials into solid, liquid or gas	Solid Liquid Gas  Steam Oxygen helium
Lesson 9 Double lesson	L.O 26. To be able to observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)	Lesson 9 Melting and Cooling Investigation  Children to plan and write up the experiment in their book and predict the outcome.	<ul style="list-style-type: none"> <li>● Know that some materials change state when they are heated or cooled.</li> </ul>	<u>Making predictions</u> Using prior knowledge to suggest what will happen in an enquiry.	Investigation Prediction thermometre
Lesson 10	L.O.3 To make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers	Lesson 10 Melting and cooling experiment.  Children to observe how chocolate can be melted over 100 degrees and how it solidifies when put the bowl into icy water to see it solidify.  Record their findings in their book	<ul style="list-style-type: none"> <li>● Know a solid melts quicker the hotter the temperature of the water</li> </ul>	<ul style="list-style-type: none"> <li>● Observe the effects of heating a solid, and measure the temperature using a thermometer</li> </ul> <u>Recording data</u> Using tables, drawings and other means to note	Melting Observe Measure

**Observation over time**  
Observing changes that occur over a period of time ranging from minutes to months.



				observations and measurements.	
Lesson 11	L.O. 26 To be able to observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)	<p><u>Evaporation demonstration.</u> Observed over 5 working days.</p> <p>Children to observe three jars of water, with lid on.</p> <p>placed in 3 different locations. The window sill, the teacher's desk and the cupboard.</p> <p>Mark each day the level the water is at on the jar. (use foil to the cover any air gaps under the lid)</p> <p>Children to write up the investigation in their book and write their predictions and their findings.</p>	<ul style="list-style-type: none"> <li>● Know evaporation is the change of states when heating from a liquid to a gas</li> <li>● Know condensing is when cooled gas becomes a liquid.</li> </ul>	<p><u>Interpreting and communicating results</u></p> <p>Using information from the data to say what you found out.</p>	Evaporation Condensing
Lesson 12	L.O. 27: To be able to identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	<p>Look at the water cycle slides. Focus on the scientific process of evaporation, and condensation. Water is evaporated from the sea, it is also produced by plants. (Dew in the morning)</p> <p>Refer to the experiment from the previous lesson and how condensation occurred in the jar with the lid on.</p>	<ul style="list-style-type: none"> <li>● Know the water cycle is how water changes state around the Earth.</li> </ul>	<p><u>Asking questions</u></p> <p>Asking questions that can be answered using a scientific enquiry.</p>	Evaporation Condensation Cloud formation
End of topic assessment					