

Brough Primary School – Curriculum Intention Plan 2023 - 2024



Children

Subject: Science Year Group: Year 3/4		Area of learning: Rocks (Year B)
Links to previous work/Remember when	<ul style="list-style-type: none"> Identifying and comparing the uses of everyday materials in Year 2 Locational knowledge from KS1 geography using vocabulary such as beach, cliff, coast etc. Knowledge of different rocks and soils they have noticed around them in their local environment or while on holiday. <p><u>Working Scientifically</u></p> <ul style="list-style-type: none"> asking simple questions and recognising that they can be answered in different ways observing closely, using simple equipment performing simple tests identifying and classifying using their observations and ideas to suggest answers to questions gathering and recording data to help in answering questions. 	
Term	Year 3/4	Key Skills to be taught
Spring 1 2024 What the children should know at the end of this series of lessons	<ul style="list-style-type: none"> 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. <p><u>Working Scientifically</u></p> <ul style="list-style-type: none"> Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries and comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Gather, record, classify and present data in a variety of ways to help answer questions. 	

Vocabulary

Rock, appearance, hard, soft, permeable, impermeable, smooth, rough, shiny, dull, bright, dark, sparkly, plain, geologist, durable, hard-wearing, waterproof, acid, igneous, metamorphic, sedimentary, erosion, soils, decaying, microbes, crust, mantle, outer core, inner core, topsoil, subsoil, rocky soil, bedrock, organism, amber, cast, mould.

Sequence of learning	Learning Objectives/Outcomes	Suggested Lesson Outline
1	Learning Objective:	Recap – What do you already know about rocks? What are rocks used for? How are

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	<p>I can compare and group together different types of rocks based on their appearance.</p> <p>Key Knowledge: If you dig down anywhere on Earth, you will find rock. Rocks can be hard, soft, permeable or impermeable, depending on what type of rock it is. Slate, marble, chalk and granite are all different types of rock and all have different uses. Rocks can be grouped on the basis of their appearance and physical properties.</p> <p>Enquiry Type: Make systematic and careful observations.</p>	<p>rocks made? (As this is the first time the children have been taught about rocks, complete the pre-assessment sheet)</p> <p>An introduction to rocks This is the first lesson in this topic and children will not have learnt about rocks. Ask children to complete the pre-assessment activity. If you dig down anywhere on Earth, you will find rock. Rocks can be hard, soft, permeable or impermeable, depending on what type of rock it is. Slate, marble, chalk and granite are all different types of rock and all have different uses. Allow some thinking time – Do they know any types of rocks and what they may be used for? Partner share. Give children a selection of rocks to explore. Allow them time to look at them closely with magnifying glasses. Collect adjectives to describe the rocks and display them on the science display. Group using the classification sheet. All the names of the rocks have become jumbled! Can you help me identify the different types of rock?</p> <p><i>Children complete the pre-assessment task. Children use the classification pictures to help them sort the given rocks into two different groups. Year 4 children complete the challenge task.</i></p>
2	<p>Learning Objective: I can compare and group together different types of rocks based on their appearance.</p> <p>Key Knowledge: A rock is any naturally occurring solid mineral material so stones, pebbles, boulders and outcrops are all rocks. There are many different types of rocks.</p> <p>Enquiry Type: Gather, record, classify and present data in a variety of ways to help answer</p>	<p>Recap – What names of rocks can you remember from last lesson?</p> <p>Investigate Rocks Start by defining what rocks are and make sure the children know it is a naturally occurring thing. Move on to test rocks in four ways. 1). How hard-wearing they are. 2). How durable they are. 3). How water proof they are. 4). To see if the rock is damaged by acid. At the end of this ensure the children realise different rocks have different properties. This means we use them for different things - slate for example, is good for a roof because it is waterproof.</p>

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	questions. Make systematic and careful observations	<i>Children complete 4 different investigation tasks, recording their results as they go through the tasks. After each task they complete the conclusion section detailing what they have found out. If time, children complete the vocabulary clarification next step.</i>
3	<p>Learning Objective: I can compare and group together different types of rocks based on their appearance.</p> <p>Key Knowledge: Rocks are under our feet all of the time, in every town, city and even under the sea. This is called the Earth's crust; under that is the mantle. Rocks are formed in three different ways. Igneous - formed from molten rock, Sedimentary - formed from layers of sediment, Metamorphic - formed when other rocks are changed by temperature of pressure.</p> <p>Enquiry Type: Make systematic and careful observations</p>	<p>Recap – What did we find out about different types of rocks in the last lesson? Can you remember any of those properties - what might we need to use as a material for a kitchen worktop for example, what about a skateboard park?</p> <p>Igneous, Sedimentary & Metamorphic Introduce children to the layers of the Earth under their feet. Look at formation of rocks in some detail - Igneous, Sedimentary and Metamorphic. Look at the rock cycle and ensure children link this to erosion in physical geography. Move on to recording task.</p> <p><i>Children complete a part filled table to link the name of the three rock types to how they are formed and also to give some examples of rock types based on some of the properties they learnt last week and the names they learnt in lesson 1.</i></p>
4	<p>Learning Objective: Recognise that soils are made from rocks and organic matter.</p> <p>Key Knowledge: Before we reach rock, in most locations there are soils. Just like rocks, there are different kinds of soil. Soils can be made of minerals, rock, decaying plant matter, microbes and water.</p> <p>Enquiry Type: N/A</p>	<p>Recap – What is the name of the layer of rock just under our feet? How are igneous rocks formed? Can you name any sedimentary rocks?</p> <p>What soils are Remind children to the layers of the Earth under their feet. Look at the different kinds of soil. Agree what soil is. Look at the four layers of soil and discuss. Ensure children know there are different types of soil - such as sand, soil and clay. Move on to make a 'dirt pudding'. This part of the lesson will require the cooking area in the canteen. Before eating the dirt pudding - children draw the layers of the pudding, alongside the appropriate label.</p>

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		<i>Children record a drawing of their 'dirt pudding' to help them remember the layers under their feet.</i>
5	<p>Learning Objective: Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>Key Knowledge: A fossil is the preserved remains or traces of dead organisms. The process which forms a fossil is called fossilisation. Fossils are very rare but are really important to show us what lived a long time ago. We can find cast, mould and amber fossils.</p> <p>Enquiry Type: N/A</p>	<p>Recap – Which layer of soil is nutrient rich? What are soils made up of? Are all soils the same? Can you name any types of soil?</p> <p>Formation of Fossils Recap the three main rock types. Define a fossil and agree on rarity and importance to geologists. Look at fossil formation and mention cast, mould and amber fossils. If time, the children could make an example of one of the types of fossil.</p> <p><i>Children complete the comic strip template to show the process of fossilisation.</i></p>
6	<p>Learning Objective: To demonstrate what has been learnt about rocks, soils and fossils.</p>	<p>ASSESSMENT LESSON</p> <p>Children complete short formative assessment.</p>

Learning Outcome/product

Children will have a thorough understanding of the rocks and soils that can be found under their feet. They will know some names and layers of rocks and soils and will know how fossils are formed and how rare they are.

Assessment records	List only those children who have not achieved the expected outcomes.