

Brough Primary School – Curriculum Intention Plan 2021 - 2022



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 2022 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, sandstone, limestone, chalk, granite, slate, marble, classification, observation, Petrologist, man-made rocks, brick, tile, concrete, Igneous, sedimentary, metamorphic, permeable, impermeable, acid, erosion, identification key, bedrock, properties, Fossil, ichthyosaur, plesiosaur, ammonite, sediment, minerals, mould, cast, Soil, micro-organisms, organic matter, particles, sand, silt, fair test, compare, sort, predict,

Sequence of learning	Objectives and suggested details provided by subject leader.
1	i) Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

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	<p>ii). Ask relevant questions and use different types of scientific enquiries to answer them. iii). Make systematic and careful observations. iv). Record findings using simple scientific language, drawings and labelled diagrams.</p> <ul style="list-style-type: none"> • Ask questions that can be answered through scientific enquiry. • Make detailed drawings of 6 common rocks and write descriptions of their observable features. • Learn the names of 6 common rocks. • Year 4 - Work in groups of 3-4 to write a short script to introduce the series. If you have time and resources, record the children presenting their script to camera. • Year 3 - Work in groups to create a presentation of the 6 rocks introduced this session. Use the task sheet and Rock Sheet to help with ideas. If you have time and resources, record the children presenting their script to camera. <p>Weblinks 2 child presenters doing a science experiment from www.YouTube.com</p>
2	<p>i) Understand that rocks are formed in 3 different ways. ii). Devise comparative tests for rocks, record and evaluate observations and results.</p> <ul style="list-style-type: none"> • Learn the 3 different ways that rocks can be formed (Yr3&4). • Conduct a rock test for either hardness (Yr4) or permeability (Yr3) and try to make it fair. • Conduct an acid test to help identify samples of rock using an identification key (Yr3&4). • Practise presenting information to viewers on what they have learnt this session (Yr3&4). • Year 3 - Conduct water and hardness tests and write notes to explain to the viewers what this shows. • Year 4 - Conduct an acid test and write notes to explain to the viewers what this tells us.
3	<p>i) Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. ii). Gather, record, classify and present data in a variety of ways to help answer questions. iii). Identify differences, similarities or changes related to simple scientific ideas and processes.</p> <ul style="list-style-type: none"> • Collect evidence of the local bedrock and other rocks in the local area by doing a Rock Quest. • Use knowledge of the properties of rocks to determine why particular rocks were selected for different tasks. • Take part in an active quiz game to assess and reinforce prior learning on rocks (Yr3&4). • Take part in an off-site Rock Quest to gather information on rocks used in the local area (Yr3&4). • Determine the local bedrock (Yr3&4).

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	<ul style="list-style-type: none"> Find evidence of rock erosion (Yr3) or how different rocks are used for different jobs and why (Yr4).
4	<p>i) i) Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>ii). Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <ul style="list-style-type: none"> Take part in an active quiz game to assess and reinforce prior learning on rocks (Yr3&4). Take part in an off-site Rock Quest to gather information on rocks used in the local area (Yr3&4). Determine the local bedrock (Yr3&4). Find evidence of rock erosion (Yr3) or how different rocks are used for different jobs and why (Yr4). Year 3 - Tell the story of Mary Anning and her discoveries through role play and explanation. Year 4 - Explain the stages of fossil formation using a sequence of illustrations to help. <p>Weblinks 15-minute, child-friendly summary of Mary's life from www.bbc.co.uk Short animation explaining how fossils are formed from www.planet-science.com A good, illustrated child-friendly account of how fossils are made from www.oum.ox.ac.uk</p>
5	<p>i) Recognise that soils are made from rocks and organic matter.</p> <ul style="list-style-type: none"> Play a guessing game to learn some amazing facts about soil and the role it plays in supporting life (Yr3&4). Closely observe soil with hand lenses and list and classify the constituent parts (Yr3&4). Actively investigate and compare 3 different soils and their properties, recording findings (Yr3&4). With support, draw conclusions on the reasons for variation between soils (Yr3&4). Investigate, discover and classify the different components of soil. Gather evidence on how different soils can vary and suggest reasons for this. Year 3 - Conduct a drainers and soakers test to compare 3 different soils. Year 4 - Conduct a shakeup test to compare different soils. <p>Weblinks A very short clip which shows different types of soil from www.bbc.co.uk</p>
6	<p>i). Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.</p> <p>ii). Describe in simple terms how fossils are formed when things that have lived are trapped within rock.</p> <p>iii). Recognise that soils are made from rocks and organic matter.</p>

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	<p>iv). Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>v). Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings.</p> <p>vi). Participate in discussions, presentations, performances, role play, improvisations and debates.</p> <ul style="list-style-type: none"> • Work as a team to produce a film that explains and presents an aspect of their learning in this block (Yr3&4). • Give clear explanations of scientific content using appropriate technical vocabulary (Yr3&4). • Review the task through the sharing of results and discussion (Yr3&4). • Year 3 /Year 4 - Work together in mixed ability groups. Have higher expectations with regard to year 4s on the level of explanation.
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Learning Outcome/product

It's time to make some films. In the final part of this series of lessons, work as a team to present, film, direct and produce your own section for the pilot TV series This Planet Rocks. Your teacher will make sure you are in mixed Y3/4 groups and that you have a range of resources to help you so that within the classroom a 'film' is produced about the six rocks we met at the start of the series, a group talks about the acid test, a group does the hardness test, a group does fossils and a group does soils.

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

Assessment records	List only those children who have exceeded the expected outcomes.

End of unit assessment task

E.g. Produce a short film about the area of learning linked to rocks which is given to you show casing your knowledge and the technical vocabulary of rocks that you have learnt.