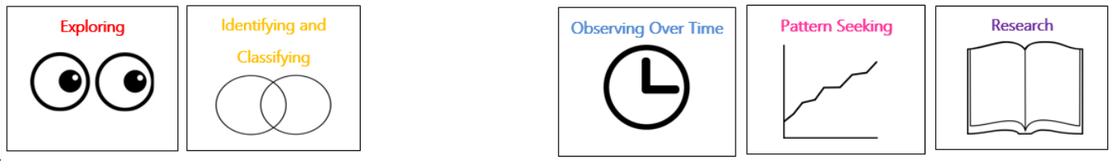
Year 3 Science Medium Term Plan **Topic: Rocks and Soils** **Year group: 3** **Term: Autumn 2022**

Working scientifically objectives which are covered in this unit



- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

National Curriculum Objectives for science unit

- 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

Lesson sequence **include WALTs/LOs and key concept:**	**LO: To know what rocks are and to know the structure of the Earth (2 lessons)** Children to explore what rock is and to share their ideas. Children to explore the structure of the earth and to learn about the different layers. **Success criteria:** **-** observe rocks carefully - use key words to describe rocks - know the structure of the earth	**LO: know how igneous rock is formed** Children learn about igneous rock and the two types – intrusive and extrusive. They will also learn how igneous rock is made using ice and chocolate as a model! **Success criteria:** -I can explain how igneous rock is formed and can name 2 types	**LO: Know how metamorphic rock is formed** Children to learn why it is called metamorphic rock and how it is made. They will look at some different examples of metamorphic rock and discuss how their properties make them fit for their uses. **Success criteria:** - I can explain what metamorphic rock is -I can talk about how it is formed -I can name at least two types of rock and say what they are used for and why	**LO: Know how sedimentary rock is formed** Children to learn about the third type of rock, sedimentary rock. They will look at the steps needed to make sedimentary rock. **Success criteria**: - I can explain the process of how sedimentary rock is formed - I know what a fossil is and how it is formed	**LO: To know the steps in the rock cycle. (2 lessons)** Children will learn each of the steps of the rock cycle. They will learn how igneous, sedimentary and metamorphic rock are all connected through a demonstration involving chocolate! **Success criteria:** -I can draw the rock cycle and talk about it	**LO: To identify different types of rock from their physical appearance** Children to become geologists! They have to make careful observations and be able to identify different rocks. **Success criteria:** -I can observe rocks carefully -I can identify some rocks from their colour, grains, patterns and texture	ASSESSMENT Reporting on Rocks LO: Compare and group together different kinds of rocks on the basis of their properties **Assessment Focus** Can children group rocks based on properties? Can children talk about / draw a diagram / write about their findings? Can children draw conclusions about the least / most wearing rock?	**LO: To explore how the rocks on our earths surface change** Children will learn how rocks change. They will look at rocks as big as mountains and as small as a grain of sand and learn the processes that form each. They will consider erosion, weathering and the movements of tectonic plates. **Success criteria:** -I know and can explain what impact weathering and erosion have on rocks	**LO: To recognise that soils are made from rocks and organic matter** Children to learn how soil is formed and to be able to explain that soil is made from rocks and organic matter. **Success criteria:** -I can explain that soil is composed of different things. -I can describe the 4 processes of soil formation	**LO: To investigate the permeability of different soils** Children to Make systematic and careful observations in the context of investigating the permeability of different soils. Children to Record findings using simple scientific language. They will report on findings from enquiries, including presentations of results and conclusions. Children will present their finding using the key science vocabulary for this lesson. **Success criteria:** -I can present my findings using scientific vocabulary. -I can make careful observations. I can observe how much water has filtered through different types of soil.	**LO: to understand how fossils are formed and the history behind them.** How fossils are formed in sedimentary rock. They will learn what a palaeontologist is and identify some different fossils. Children to learn about Mary Anning and her contribution to palaeontology. **Success Criteria:** -I can explain what a palaeontologist does. -I can understand why Mary Anning's fossil findings were important. -I can describe how palaeontology has changed our understanding of prehistoric animals.

										-I can use appropriate equipment - I can record my observations accurately in a table. - I can contribute to creating a group presentation. -I can use simple scientific language accurately in my presentation	
Key vocabulary to be explicitly taught	Rock, magma, lava	Igneous, magma, intrinsic and extrinsic, lava**,**	metamorphic rocks, heat, pressure, metamorphoisis	Sediments, pressure, sedimentation, compaction, cementatioin, sedimentary rock	Sedimentary, cycle, igneous, metamorphic	Observing, geologist, identifying, charactersitics		Weathering, eriosion, tectonic, movement, processes, mountains	Soil, formation, formed, rock, organic matter, top soil, sub soil, bedrock	Permeability, impermeable, permeable, semi-permeable	Palaeontologist, fossils, sedimentary, Mary Anning
Cross-curricular links					Art- Drawing the rock cycle accurately	Maths – venn diagrams		Geogrpahy – related to mountain formations		English – speaking and language presentation Maths – table recordings (possible graph)	English – Mary Anning Profile