**Year 3 Science Curriculum – Autumn 1**

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| **Theme: Rocks, fossils and soils** |
| **Curriculum objectives** | **Vocabulary** | **Links across the curriculum** |
| Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.Recognise that soils are made from rocks and organic matter.Describe in simple terms how fossils are formed when things that have lived are trapped within rock. | **Appearance** | How something looks | **Similar** | Not identical but very alike | English:* Writing about the life and history of Mary Anning culminating in a diary entry
* Oracy for presentation and debate

ICT:* Using technology for secondary research
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| **Compare** | To estimate, measure or note the similarity or difference between items | **Structure** | The way that the parts of something are joined together |
| **Drain** | To remove water or other liquid from a container or area | **Texture** | How a surface or material feels |
| **Flood** | To cover or fill with a flow of water |  |  |
| **Layer** | A band of material which is different to the ones above and below it |  |  |
| **Tier 3 vocabulary** [SNAP23\_Y3\_M1\_rocks\_ms.docx (live.com)](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fstatic.collins.rhapsode.com%2FSnap_Science%2FTeaching_Science%2FYear_3%2FSNAP23_Y3_M1_rocks_ms.docx&wdOrigin=BROWSELINK) |
| **Prior knowledge:** *What specifically have pupils learned that is relevant to this unit that they are building upon?* | **Future knowledge:** *What specifically will pupils learn in the future that is relevant to this unit?* |
| Children have previously learnt:- To identify and name a variety of everyday materials and their properties (Year 1 Chemistry –Everyday materials)- To recognise how a material’s properties make it suitable for particular purposes (Year 2 Chemistry – Uses of everyday materials). | This prepares children for later learning:- About solids, liquids and gases (Year 4 Chemistry – States of matter)- About how fossils provide information about living things from the past (Year 6 Biology –Evolution and inheritance). |
| **Lesson Sequence** | **Key Knowledge** | **Key Skills** |
| How are rocks different and what rock is this? | * Rocks can be grouped by their physical properties.
* Describe and compare rocks according to their observable properties.
* Name rocks – sandstone, slate, granite, chalk, marble, pumice.
 | Working scientifically:- recording ﬁndings using simple scientiﬁc language, drawings, labelled diagrams, [keys, bar charts and tables]- making systematic and careful observations [and, where appropriate, taking accurate measurements using standard units], using a range of equipment, [including thermometers and data loggers]Scientific enquiry type:- identifying and classifying |
| What are rocks used for? | * Specific properties of different rocks make them useful for different purposes.
* Use the term hardness accurately, that a material is resistant to scratching, not that it doesn’t break easily.
* Someone who makes things out of rock by hand is called a stonemason.
* Shaping rocks by hand is called sculpting. Explain that rocks can also be cut by machine.
* How rocks change over time depends on their physical properties.
* Test the properties of a selection of rocks using appropriate equipment.
* How to use a table of results to record evidence from their tests.
 | Working scientifically:- setting up simple practical enquiries, comparative [and fair] tests- recording findings using simple scientific language, [drawings, labelled diagrams, keys, bar charts] and tablesScientific enquiry type:- comparative testing |
| How are soils different? | * Soils are made from rock that has broken down into smaller pieces and the remains of living things that have died.
* Very small pieces of rock that have been broken down over a very long time mix with organic materials to make soil. Organic materials are made from natural materials, for example, plants and small animals that have died and rotted and animal waste.
* There are different types of soil because they are made from different rocks and have different amounts of organic material.
* Recognise that the action of water or wind can cause rocks to wear away, suggesting contexts where this might have happened. For example: ‘Cliffs at the coast that are made of rocks are worn away by waves and wind. Fragments falling onto the beach are then broken down even more by the waves.’
* Weathering and the action of frost and heat causing rocks to break down. For example: ‘We saw walls made of rock that had cracks and had been worn away by frost and rain.’
 | Working scientifically:* using straightforward scientific evidence to answer questions or to support their findings
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| Which soil holds water? | * Different types of soil have different properties including permeability.
* The properties of some soils means that they do not let water through easily.
* Explain that other types of soil allow water to drain much more freely.
 | Working scientifically:* using straightforward scientific evidence to answer questions or to support their findings

Scientific enquiry type:* comparative testing
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| What is this fossil? | * The rocks that make up our world are millions of years old. Some types of rock contain hidden information about life on Earth long, long ago.
* Deep inside these rocks are remains of animals and plants that have been fossilised. Introduce, in simple terms, the process by which a fossil is formed: dead animals (or plant material) fall to the seabed.
* They are buried by layers of sediment (small pieces of rock). Finally, after a very long period of time, the remains turn into fossils that are located deep inside some types of rock.
* Palaeontologists are scientists who study fossils.
* Rocks made of sediment (tiny pieces that build up in layers over time and become hardened due to pressure) are those mostly likely to contain fossils.
 | Working scientifically:* identifying differences, similarities or changes related to simple scientific ideas and processes
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| Who was Mary Anning and how did she become a palaeontologist? | * In the early 19th century when Mary was growing up, there was not the equality across society that we expect to see today.
* Mary Anning was a poor, ill-educated woman, yet despite this she came to be highly regarded (by many) for her knowledge of fossils; but this was unusual.
* Science today is inclusive, and everyone can be a scientist, but in earlier centuries some people (especially women) were not considered as having anything worthwhile to say and opportunities were very limited indeed.
 | Working scientifically:* reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

Scientific enquiry type:* research using secondary sources
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| **Themes and links** |
| **Themes (types of enquiry)** | **Where these are covered:** | **Links across the science curriculum** |
| **Observation over time** |  |

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| **EYFS**  |  |
| **1**  | Seasons |
| **2**  | Growing |
| **3**  |  |
| **4**  | Electricity |
| **5**  | Materials |
| **6** | Classification of living things |

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| **Research** | * Lesson 6
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| **Pattern seeking** |  |
| **Comparative and fair testing** | * Lesson 2
* Lesson 3
* Lesson 4
* Lesson 5
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| **Identifying, classifying and grouping** | * Lesson 1
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