

Home-School Learning Collaboration – KS3 Science



| Topics in this cycle: Earth's resources | Taught: Summer 1 | Year Group: 8 |
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| Key knowledge/concepts to be learnt ('Tell me about...') | | Websites/blogs/YouTube links and further reading to deepen and consolidate learning |
| <ul style="list-style-type: none"> • How do we extract metals? State what an ore is. Recall methods of extracting metals. Describe how the Earth's resources are extracted. Justify the choice of extraction method for a metal, given data about reactivity. Suggest factors to consider when extracting metals. • What is recycling? State why certain natural resources will run out. Explain why recycling some materials is particularly important. Describe how the Earth's resources are recycled. • What is the structure of the Earth? Name and label the three rock layers of the Earth. Compare the rock layers of the Earth. • What are sedimentary rocks? Describe how sedimentary rocks are formed. Explain why a sedimentary rock has a particular property based on how it was formed. • What are igneous rocks? Describe how igneous rocks are formed. Explain why igneous rocks have particular properties based on how they were formed. • What are igneous and metamorphic rocks? Describe how metamorphic rocks are formed. Explain why metamorphic rocks have particular properties based on how they were formed. • What is the rock cycle? List the processes that interconvert sedimentary, igneous and metamorphic rocks. Construct a labelled diagram to explain the processes of rock formation. | | <p>Notes:</p> <p>Extracting metals Extracting Metals (youtube.com)</p> <p>Recycling Recycling - YouTube</p> <p>Structure of the Earth Structure of the Earth - The Earth and atmosphere - KS3 Chemistry - BBC Bitesize - BBC Bitesize</p> <p>Sedimentary rocks, igneous and metamorphic rocks Rock types - The Earth and atmosphere - KS3 Chemistry - BBC Bitesize - BBC Bitesize</p> <p>The rock cycle The rock cycle - The Earth and atmosphere - KS3 Chemistry - BBC Bitesize - BBC Bitesize</p> <p>Videos:</p> <p>Structure of the Earth How Hot is the Centre of the Earth? My Amazing Earth BBC Earth Lab - YouTube</p> <p>Sedimentary rocks, igneous and metamorphic rocks Types of rocks Igneous, sedimentary & metamorphic rocks Educational science lesson - YouTube</p> <p>The rock cycle The rock cycle - YouTube</p> |

| Key Vocabulary and Definitions To Be Learnt | | What Will The Assessment Look Like? |
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| Ore | A naturally occurring rock that contains enough of a mineral to make it worth getting the mineral- and then the metal it includes- out of the rock. | <p>Extended writing – A company has discovered a new source of iron ore. Suggest factors to take into account when deciding whether or not to extract the metal from its ore.</p> <p>End of Unit test: 25 minutes/25 marks</p> <ul style="list-style-type: none"> • Short answer questions • Extended writing • 3 marks for SPAG |
| Natural resources | Minerals from the Earth, its atmosphere, and the oceans, which act as raw materials for making a variety of products. | |
| Extraction | Separation of a metal from a metal compound. | |
| Minerals | Chemicals that rocks are made from | |
| Electrolysis | Using electricity to split up a compound into its elements. | |
| Weathering | The breaking down of rock into smaller pieces by physical, chemical or biological processes | <p>Family Learning Opportunities</p> <p>Tips to get your child to recycle – The Waste Management & Recycling Blog (forgerecycling.co.uk)</p> <p>Create your own volcano using bicarbonate of soda, vinegar and food colouring.</p> <p>How to make a volcano Natural History Museum (nhm.ac.uk)</p> <p>Interactive rock cycle including rock formation parent and child learning activity with quizzes.</p> <p>Geological Society - The Rock Cycle (KS3) (geolsoc.org.uk)</p> <p>Devise a quiz on the rock cycle and test your family.</p> |
| Sediments | Pieces of rock that have broken away from their original rock | |
| Erosion | The breaking of a rock into sediments and their movement away from the original rock | |
| Recycling | Collecting and processing a material so that it can be used again. | |
| Deposition | The settling of sediments that have moved away from their original rock | |
| Strata | Layers of sedimentary rock | |
| Durable | A property of a material meaning it is difficult to damage | |
| Magma | Liquid rock below the Earth's surface | |
| Rock cycle | Sequence of processes where rocks change from one type to another, over a timescale of millions of years | |
| Uplift | Uplift happens when huge forces from inside the Earth push rocks upwards | |

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