Home-School Learning Collaboration – KS3 Science

Topics in this cycle:	Taught:	Year Group:
Earth's resources	Summer 1	8

Key knowledge/concepts to be learnt ('Tell me about….')	Websites/blogs/YouTube links and further reading to deepen and consolidate learning
• **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, igneous rocks and metamorphic rocks?** Describe how sedimentary rocks are formed. Describe how igneous rocks are formed. Describe how metamorphic rocks are 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.	**Extracting metals** Extracting Metals (youtube.com) **Recycling** Recycling - YouTube **Structure of the Earth** Structure of the Earth - The Earth and atmosphere - KS3 Chemistry - BBC Bitesize - BBC Bitesize **Sedimentary rocks, igneous and metamorphic rocks** Rock types - The Earth and atmosphere - KS3 Chemistry - BBC Bitesize - BBC Bitesize **The rock cycle** The rock cycle - The Earth and atmosphere - KS3 Chemistry - BBC Bitesize - BBC Bitesize **Videos:** **Structure of the Earth** How Hot is the Centre of the Earth? | My Amazing Earth | BBC Earth Lab - YouTube **Sedimentary rocks, igneous and metamorphic rocks** Types of rocks | Igneous, sedimentary & metamorphic rocks | Educational science lesson - YouTube **The rock cycle** The rock cycle - YouTube

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Key Vocabulary and Definitions To Be Learnt	
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.
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
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

What Will The Assessment Look Like?

Extended writing – A company has discovered a new source of Iron ore. Suggest factors to consider when deciding whether or not to extract the metal from its ore.

End of Unit test: 25 minutes/25 marks

- Short answer questions
- Extended writing
- 3 marks for SPAG

Family Learning Opportunities

Tips to get your child to recycle – The Waste Management & Recycling Blog (forgerecycling.co.uk)

Create your own volcano using bicarbonate of soda, vinegar and food colouring.

How to make a volcano | Natural History Museum (nhm.ac.uk)

Interactive rock cycle including rock formation parent and child learning activity with quizzes.

Geological Society - The Rock Cycle (KS3) (geolsoc.org.uk)

Devise a quiz on the rock cycle and test your family.