



Lessons Sequence							
TOPIC (S) The Earth and its Resources	1. Structure of the Earth 2. Types of Rock 3. The Rock Cycle 4. The Atmosphere 5. Carbon Cycle 6. Carbon Dioxide and Human Activity 7. Global Warming 8. Reactivity Series 9. Displacement Reactions 10. Obtaining Metals Using Carbon 11. Ceramics and Composites 12. Polymers 13. Limited Resources and Recycling						
Knowledge & Skills development	<ul style="list-style-type: none"> - Describe properties of the different layers of the Earth's structure - Explain two properties of sedimentary rocks - Explain how sedimentary - Compare the ways that igneous and metamorphic rocks form - Explain how igneous and metamorphic rocks form - Use the rock cycle to explain how the material in rocks is recycled - Describe how changes in a substance like wax or chocolate represent a rock represent the real rock cycle - Describe the composition of the atmosphere - Explain why the concentration of carbon dioxide in the atmosphere did not change for many years - Use the carbon cycle to identify reservoirs of carbon - Describe how different human activities (including transport/cars) impact the amount of carbon dioxide in the atmosphere - Explain why global warming happens - Explain some impacts of global warming <ul style="list-style-type: none"> - Put metals in order of reactivity based on experimental results - Use the reactivity series to explain displacement reactions. - Predict which combinations of metals and metal compounds will lead to displacement reactions. - Describe what an ore is - Explain why different metal require different metals of extraction from their ores - Describe how carbon is used to extract metals from their ores - Explain ceramic properties. - Explain why properties of ceramics make them suitable for their uses. - Describe composite properties. - Explain why composite properties make them suitable for their uses. - Describe polymer properties. - Explain how polymer properties make them suitable for their uses. - Analyse the advantages and disadvantages of recycling 						
Assessment / Feedback Opportunities	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Targeted questioning throughout topic</td> <td style="width: 15%;">Teacher assessment of practical skills during investigation - verbal</td> <td style="width: 15%;">AWOL assessment – formative teacher assessment in students books</td> <td style="width: 15%;">Mid topic assessment – formative assessment</td> <td style="width: 15%;">Homework topic quiz – formative assessment</td> <td style="width: 15%;">End of topic assessment – teacher summative assessment</td> </tr> </table>	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	AWOL assessment – formative teacher assessment in students books	Mid topic assessment – formative assessment	Homework topic quiz – formative assessment	End of topic assessment – teacher summative assessment
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Cultural Capital	<ul style="list-style-type: none"> • Possible recycling project 						
SMSC / Promoting British Values <small>(Democracy, Liberty, Rule of Law, Tolerance & Respect)</small>	<ul style="list-style-type: none"> • Listening to others during presentations • Working in groups during practicals or research tasks 						
Reading opportunities	<ul style="list-style-type: none"> • Recommended Read: Naturetrails: Rocks and Fossils (Usborne Nature Trail) by Struan Reid • Recommended Read: No One Is Too Small to Make a Difference by Greta Thunberg 						

	<ul style="list-style-type: none"> Recommended Read: Greta's Story: The Schoolgirl Who Went On Strike To Save The Planet by Valentina Camerini (Author), Veronica Carratello (Illustrator), Moreno Giovannoni (Translator) Various reading and comprehension activities embedded within scheme of work including current news articles
Key Vocabulary	<p>Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly</p> <p>Layer, Crust, Mantle, Core, Sedimentary (Sediment), Metamorphic, Igneous, Crystal, Cycle, Melt, Solidify, Weathering, Pressure, Atmosphere, Composition, Percentage, Concentration, Reservoir, Combustion, Respiration, Photosynthesis, Decay, Emissions, Global Warming, Climate, Greenhouse Effect, Reactivity, Extract, Ore, Displacement, Ore, Reactivity, Ceramic, Composite, Properties, Monomer, Polymer, Recycle, Advantage, Disadvantage</p>
Digital Literacy	<p>SharePoint resources including topic quiz</p> <p>Possible use of excel to plot graphs and analyse data, PowerPoint, word, etc to present information, internet for research</p>
Cross-Curricular Links	<p>Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators</p> <p>Geography</p>
Careers	<p>Climate scientists, Geologists (Historical and Fossil Fuel Industries), Waste Management, Geophysics, Metal Industry, Mining Industry</p>