Ravens Wood School

KS3 Curriculum Plan

Subject: Year 8 Earth's Resources

Overarching Topic: Earth's Resources			
Why is this topic being studied at this time? How does it fit into the wider subject curriculum?	• Earth has many resources for humans to survive and thrive. Some resources, such as water, wind and sun, are abundant and nonrenewable. Others, such as petroleum and natural gas, are available in limited quantities and are considered nonrenewable. As technology develops and fossil fuels dwindle, cleaner renewable power is becoming a more viable option for electricity every day • Students would already have studied metals and non-metals giving them an understanding of the reactivity series, this also allows students to understand the unique properties of metals and their importance. Natural resources includes the use of fossil fuels and their combustion, students will have the required knowledge for this from the chemical energy and types of reactions content from earlier in the year 8 syllabus. This topic links closely with the KS4 science curriculum along with DT and geography in KS3 and KS4. In KS3 it leads into the topic on Climate change where the effects of fossil fuel combustion are explored in more depth.		
	Critical	**Core**	**Pinnacle**
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	What is recycling and how does it differ from reusing? What is the reactivity series? What methods of metal extraction are available? Give examples of the Earth's resources and their uses.	What is the importance of recycling different materials? How are Earth's resources turned into useful materials or recycled? Can students justify an extraction method for a metal, given data about reactivity? What factors affect the practicality of metal extraction?	How can changes in behaviour and the use of alternative materials limit the consumption of natural resources? How can waste products from industrial processes be reduced? Can students effectively use data to evaluate proposals for recycling materials?
The Key Skills/ Techniques	**The sophistication and application of skills will become more advanced as students' progress through the critical, core and pinnacle knowledge.**		
	Skill/Technique	**How will this skill be developed?**	
	1. Graphing & Drawing	Draw graphs with suitable scales, axes and units. Correct line of best fit. Appreciation of anomalies and processed data. Scientific drawing of cells, concepts and scientific equipment.	
	2. Variables	Identify independent, dependent and control variables and devise experiments to include these to ensure valid results. Appreciation of uncertainty.	
	3. Data Analysis	Describe, explain and predict trends. Graph and table data interpretation. Identify links and patters within and between topics. Statistical analysis of data to include mode/median/mean/range determination. Drawing justified conclusions from presented data.	
	4. Application	Apply known and taught theory in unfamiliar contexts. Making links to taught theory and extracting key ideas. Communicating using correct scientific terminology.	
	5. Working Scientifically	Identify hazards and planning to limit risk. Describe how to improve accuracy/precision/repeatability/reproducibility/validity. Evaluate reliability of methods and investigations, taking in to account data analysis.