



SUBJECT: Curriculum Overview

Year 11

Half Term	Topic studied	What will I learn?	How will I be assessed?	National Curriculum Map
Year 11 Autumn	1. Origin of Life 2. Hazard Management and risk reduction 3. Earth Resources	1. Cambrian Explosion 2. Major fossil groups – Trilobites, corals, brachiopods, dinosaurs 3. Mass extinctions 4. Anthropocene. 5. What is risk? 6. Managing Volcano risk. 7. Managing Earthquake risk.	Hazard resistance building project Exam questions from Paper 1 End of topic tests using the above sources for each topic area.	The origin and development of life • the probable origin of life in the oceans ~3500 Ma (black smokers/hydrothermal pools) • simple evolutionary tree diagrams (cladograms) • the evolutionary change in zone fossils over time • the diversity in the evolution of life from the fossil record • major extinction events which punctuate the evolution of life on Earth as exemplified by the Cretaceous/Palaeogene [K-T] mass extinction Earth resources and engineering • the use of mapping (including micropalaeontology) and geophysical techniques (seismic, magnetic and ground penetrating radar) and geochemical techniques (soil and river sediment analysis) in prospecting for new resources Earth hazards and their mitigation • the concept of a geological hazard as a risk to life and property • the distribution, measurement and possible causes of earthquakes, volcanic eruptions, landslides and associated tsunamis (as part of an Earth systems approach) • a minimum of two techniques used in natural hazard prediction (e.g. correlation spectrometer (COSPEC) in volcanic eruption

				prediction) • the limited accuracy of natural hazard prediction
Year 11 Spring	4- Engineering Geology 5 - Hydrogeology	8. Oil and Gas exploration techniques 9. Geothermal energy 10. Metallic mineral mining 11. Construction and waste 12. Water resources	Year 11 Mock exams Online practice Paper 1 Exam questions from Paper 1 End of topic tests using the above sources for each topic area.	Earth resources and engineering • the characteristic structures of potential gas/oilfield resources (on-shore and offshore) • the role of porosity and permeability in the accumulation and migration of oil and gas from source beds to reservoir rock • the main types of oil and gas traps (anticline, fault, unconformity and salt dome) 8 • the technological difficulties and environmental issues involved in the exploration and exploitation of hydrocarbon deposits (including fracking) • the suitability of different rock types as aquifers (porosity and permeability) • the monitoring and restoration of polluted water and contaminated ground • the potential impact of domestic and hazardous waste disposal on vulnerable aquifers • the geological and engineering issues involved in waste disposal and the long term storage of hazardous waste • the geological factors affecting the siting of engineering projects such as reservoirs, dams, tunnels and cuttings (permeability, stability of bedrock, dip of strata, presence of joints and faults)
Year 11 Summer	Revision/Exams	Revision and complete prep for pre-release	<u>Range of new and old spec exam papers</u>	