

Science – Year 11

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 11	<p>Topic: The Earth’s atmosphere, Our Atmosphere (Triple only), The Earth’s resources, Using our resources (Triple only), Electromagnetic waves</p> <p>Knowledge: History of our atmosphere Our evolving atmosphere Greenhouse gases Global climate change Atmospheric pollutants Finite and renewable resources Water safe to drink RP: Analysis and purification of water samples Treating waste water Extracting metals from ores Life cycle assessments Reduce, reuse, and recycle Rusting (Triple only) Useful alloys (Triple only) The properties of polymers (Triple only)</p>	<p>Topics: Variation and evolution, Genetics and evolution, Adaptations interdependence and competition, Organising an ecosystem</p> <p>Knowledge: Variation Evolution by natural selection Selective breeding Genetic engineering Cloning (Triple only) Adult cell cloning (Triple only) Ethics of genetic technologies The history of genetics (Triple only) Theories of evolution (Triple only) Accepting Darwin’s ideas (Triple only) Evolution and speciation (Triple only) Evidence for evolution Fossils and extinction More about extinction Antibiotic resistant bacteria Classification New systems of classification</p>	<p>Topics: Biodiversity and ecosystems, Electromagnetism, Light (Triple only), Space (Triple only)</p> <p>Knowledge: The human population explosion Land and water pollution Air pollution Deforestation and peat destruction Global warming The impact of change (Triple only) Maintaining biodiversity Trophic levels and biomass (Triple only) Biomass transfers (Triple only) Factors affecting food security (Triple only) Making food production efficient (Triple only) Sustainable food production (Triple only) Reflection of light (Triple only) Refraction of light (Triple only)</p>	<p>Topic: Revision</p>	<p>Topic: Exams</p>	

	<p>Glass, ceramics, and composites (Triple only) Making ammonia – the Haber process (Triple only) The economics of the Haber process (Triple only) Making fertilisers in the lab (Triple only) Making fertilisers in industry (Triple only) The electromagnetic spectrum Light, infrared, microwaves, and radio waves RP: Absorption and emission of infrared radiation Communications Ultraviolet waves, X-rays, and gamma rays X-rays in medicine</p> <p>Skills: Writing instructions Evaluating theories of how the atmosphere has changed Describing the effect of different factors on chemical processes e.g. Haber process Suggest explanations for the conclusion</p>	<p>The importance of communities Organisms in their environment Distribution and abundance RP: Investigating population size Competition in animals Competition in plants Adapt and survive Adaptation in animals Adaptations in plants Feeding relationships Materials cycling The carbon cycle Rates of decomposition (Triple only) RP: The rate of decay (Triple only)</p> <p>Skills: Comparing two different processes Spotting anomalies and reasons for them Spotting errors (random, systematic, zero errors) Reasons for random, systematic and zero errors) Issues and improvements of method Histogram Frequency Table</p>	<p>RP: Investigating refraction of light (Triple only) Light and colour (Triple only) RP: Surface tests (Triple only) Lenses (Triple only) Using lenses (Triple only) Magnetic fields Magnetic fields of electric currents Electromagnets in devices (Triple only) The motor effect The generator effect (Triple only) The alternating-current generator (Triple only) Transformers (Triple only) Transformers in action (Triple only) Formation of the Solar System (Triple only) The life history of a star (Triple only) Planets, satellites, and orbits (Triple only) The expanding universe (Triple only) The beginning and future of the Universe (Triple only)</p>			
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	<p>Assessments: Chemistry of the atmosphere Test Using resources Test (Triple only) Waves Test</p>	<p>Assessments: Inheritance Test Mock 1 (Dec/Jan): AQA paper 1 June (of the previous year) x 3 (either separate or combined)</p>	<p>Skills: Draw electrical circuits and circuit symbols. Using and rearranging equations Naming apparatus Using a manual or digital scale Sketch graph Suggest explanations for the conclusion</p> <p>Assessments: Ecology Test Waves Test (Triple only) Magnetism Test Space Test (Triple only) Mock 2 (Feb/March): AQA paper 2 June (of the previous year) x 3 (either triple or combined)</p>			
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