

SUBJECT CURRICULUM OUTLINE

Year11 TRILOGY

Term	Topic/Unit of work	Knowledge	Skills	Assessment
Autumn Term 1	Rates of reactions, Ecology, Chemical Analysis, Magnets, Forces (L25-28),	<p>RATES: Calculating rates of reactions, Understanding the factors which affect the rates of chemical reactions. Collision theory and activation energy. Catalysts. Reversible reactions and dynamic equilibrium.</p> <p>ECOLOGY: Adaptations, interdependence and competition. Organisation of an ecosystem. Biodiversity and the effect of human interactions on ecosystems.</p> <p>CHEMICAL ANALYSIS: Purity, formulations and chromatography. Identification of common gasses</p> <p>MAGNETS: Permanent and induced magnetism, magnetic forces and fields. The motor effect.</p> <p>FORCES (and MOTION): Forces and their interactions. Work done and energy transfer. Calculate speed, momentum and stopping distances. Explain vector and scalar quantities.</p>	<p>RATES: Drawing and interpretation graphs to determine rate. Calculating gradients from graphs. Use fractions, ratio's and percentages. Calculating mean rates of reactions.</p> <p>ECOLOGY: Extract and interpret information from charts and tables, record observations of organisms, explain how waste, deforestation and global warming have an impact on biodiversity. Interpret and explain the carbon and water cycle. Understand the conflict between the need for cheap available compost to increase food production and the need to conserve peat bogs and peatlands as habitats for biodiversity and to reduce carbon dioxide emissions. Evaluate given information about methods that can be used to tackle problems caused by human impacts on the environment.</p> <p>CHEMICAL ANALYSIS: Recognise and use expressions in decimal form. Use ratios, fractions and percentages. Make estimates of the results of simple calculations.</p> <p>MAGNETS: Describe how to plot the magnetic field pattern of a magnet using a compass. Draw the magnetic field pattern of a bar magnet showing how strength and direction change</p>	STAMPs every two weeks

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			<p>from one point to another. Explain how the behaviour of a magnetic compass is related to evidence that the core of the Earth must be magnetic. Explain how a solenoid arrangement can increase the magnetic effect of the current.</p> <p>FORCES: Recall, apply, explain and use equations.</p>	
Autumn Term 2	Organic Chemistry, Using resources,	<p>ORGANIC: Carbon compounds for fuels and feedstock's.</p> <p>USING RESOURCES: Using the Earth's resources, obtaining potable water and sustainable development. Life cycle assessments and recycling.</p>	<p>ORGANIC: Investigate the properties of hydrocarbons. Determine chemical formula and balance equations. Identify trends in properties of hydrocarbons.</p> <p>USING RESOURCES: LCAs should be done as a comparison of the impact on the environment of the stages in the life of a product, and only quantified where data is readily available for energy, water, resources and wastes. Interpret LCAs of materials or products given appropriate information. Recognise and use expressions in decimal form. Use ratios, fractions and percentages. Make estimates of the results of simple calculations. Use an appropriate number of significant figures. Translate information between graphical and numeric form.</p>	MOCKs: Unit 1

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Spring Term 1	Inheritance and variation, Waves	<p>INHERITANCE and VARIATION: Reproduction. Genetic disorders. Variation. Evolution</p> <p>WAVES: Waves in air, fluids and solids. Electromagnetic waves</p>	<p>INHERITANCE and VARIATION: Modelling behaviour of chromosomes during meiosis. Consider ethical issues associated with embryonic screening and gene therapy. Explain the evidence for evolution. Explain the benefits and risks of selective breeding. Interpret information about genetic engineering techniques and to make informed judgements about issues concerning cloning and genetic engineering, including GM crops.</p> <p>WAVES: Recall, apply, explain and use equations.</p>	<p>STAMPs every two weeks</p> <p>MOCKs: Unit 2</p>
Spring Term 2	Revision Unit 1	Detailed knowledge of the 21 required practical's. The scientific concepts and processes they are based on. (see AQA specification for skills development)	<ul style="list-style-type: none"> - Data analysis / interpretation and explanations. - Exam technique - Key language/ vocabulary. - Numeracy skills 	
Summer Term 1	Revision Unit 2	Detailed knowledge of the 21 required practical's. The scientific concepts and processes they are based on. (see AQA specification for skills development)	<ul style="list-style-type: none"> - Data analysis / interpretation and explanations. - Exam technique - Key language/ vocabulary. - Numeracy skills 	
Summer Term 2	N/A			6 GCSE EXAMS