

CORE KNOWLEDGE

What I will know and understand by the end of Year 10.



During this year in science we will be developing our scientific knowledge and conceptual understanding of-		This links to:	Key Vocabulary:	
1	<ul style="list-style-type: none"> Assessment Point 1. - All year 9 content. Organisation -Cancer, lifestyle factors, tissues and organs, exchange of gasses, digestion, enzymes, plant tissues. RP- Enzymes, RP- Food Tests. Energy - Energy resources, energy stores and transfers, energy changes, power, energy transfers, efficiency and latent heat. RP- Specific heat capacity. 	<p>Y7 HT1 Y8 HT3 digestion and organ systems.</p> <p>Y7 HT1 energy stores and transfers , Y8 HT1 energy changes, power, energy resources.</p>	<p>Organ system Lifestyle Enzyme Digestion Xylem</p>	<p>Power Specific heat capacity Latent heat Efficiency</p>
2	<ul style="list-style-type: none"> Quantitative Chemistry 2- Calculating masses and concentrations, balancing using moles. Electricity - Circuits Circuit diagrams, charges, potential difference, resistance, I-V graphs, LDRs and thermistors. RP- Resistance , RP I-V characteristics Rates of Reaction -Measuring rate of reaction, collision theory, concentration, temperature, surface area, catalysts, reversible reactions and equilibrium. RP- Rates. 	<p>Y9 HT1 quantitative chemistry</p> <p>Y7 HT circuit symbols Y8 HT3 series and parallel circuits, resistance.</p> <p>Y7 HT6 collision theory, effect of temperature and catalysts.</p>	<p>Moles Concentration Ohmic Potential Difference</p>	<p><u>Half Term 2</u> Resistance Thermistor Current LDR</p>
3	<p>Assessment Point 2.- HT1-2 + synoptic section.</p> <ul style="list-style-type: none"> Bioenergetics -Photosynthesis, limiting factors, uses of glucose, aerobic and anaerobic respiration, fermentation, metabolism and exercise. RP- Photosynthesis. 	<p>Y7 HT2 aerobic respiration Y7 HT3 photosynthesis and plant adaptations. Y8 HT4 anaerobic respiration</p>	<p>Limiting factor Anaerobic Aerobic Fermentation Intensity</p>	<p>Collision Equilibrium Catalyst Reversible Frequency</p>
4	<ul style="list-style-type: none"> Forces - Scalar and vector quantities, distance, displacement, speed, velocity, acceleration, gravity, resultant forces, work done, energy transfer, stopping distance and momentum. RP - Acceleration, RP - Extension of a spring. Organic Chemistry - Fractional distillation, alkanes and cracking Variation - Extinction, classification, variation, DNA, reproduction, mutations, inheritance, genetic engineering, evolution and selective breeding. 	<p>Y7 HT5 non contact forces Y8 HT6 speed, distance time graphs, Hooke's Law</p> <p>Y8 HT4 crude oil and alkanes. Y7 HT2 DNA, genes chromosomes, Y8 HT6 variation, natural selection and extinction.</p>	<p>Scalar Vector Resultant Velocity Acceleration</p>	<p>Hydrocarbon Alkane Cracking Extinction Classification Evolution</p>
5	<ul style="list-style-type: none"> Chemistry of the Atmosphere. - Greenhouse gases, climate change, carbon footprint, pollutants, early and modern atmosphere. Magnetism- Poles of a magnet, magnetic fields, electromagnets, Fleming's left-hand rule, motors. Ecology - Abiotic and biotic factors, distribution of organisms, adaptations, nutrient cycles, feeding relationships, biodiversity, pollution and deforestation. RP - Field investigations. 	<p>Y7 HT2 Earth's atmosphere, Y8 HT5 global warming. Y7 HT3 permanent magnets Y8 HT3 electromagnets. Y7 HT6 feeding relationships Y8 HT6 biodiversity.</p>	<p>Atmosphere Climate Pollutant Atmosphere Greenhouse gas</p>	<p>Electric field Poles Electromagnet Solenoid Motor effect</p>
6	<ul style="list-style-type: none"> Assessment Point 3 - All Paper 1 Content. Chemical Analysis - Gas tests, pure and impure substances, formulations and chromatography. RP- Chromatography. 	<p>Y7 HT5 detecting gases.</p>	<p>Chromatography Formulation Impure Solubility</p>	<p>Biotic Abiotic Biodiversity Distribution Nutrients</p>
Target Grade:		AP1:	AP2:	AP3:

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1	<ul style="list-style-type: none"> Ecology - Abiotic and biotic factors, distribution of organisms, adaptations, nutrient cycles, feeding relationships, biodiversity, pollution and deforestation. RP - Field investigations. Variation - Extinction, classification, variation, DNA, reproduction, mutations, inheritance, genetic engineering, evolution and selective breeding. Organic Chemistry - Fractional distillation, alkanes and cracking Magnetism - Poles of a magnet, electric fields, electromagnets, Fleming's left-hand rule, motors. 	<p>Y7 HT6 feeding relationships Y8 HT6 biodiversity.</p> <p>Y7 HT2 DNA, genes chromosomes, Y8 HT6 variation, natural selection and extinction.</p> <p>Y8 HT4 crude oil and alkanes.</p> <p>Y7 HT3 permanent magnets Y8 HT3 electromagnets.</p>	<p>Biotic Abiotic Biodiversity Distribution Nutrients Extinction Classification Evolution</p>	<p>Hydrocarbon Alkane Cracking Cracking Viscous Electric field Poles Electromagnet Solenoid</p>
2	<ul style="list-style-type: none"> Assessment Point 1 - All paper 1 content. Chemistry of the Atmosphere. - Greenhouse gases, climate change, carbon footprint, pollutants, early and modern atmosphere, changes in oxygen and carbon dioxide. Chemical Analysis - Gas tests, pure and impure substances, formulations and chromatography. RP- Chromatography. Waves - Transverse and longitudinal waves and their properties, Electromagnetic waves, RP- Radiation, RP Wave properties. 	<p>Y7 HT2 Earth's atmosphere, Y8 HT5 global warming.</p> <p>Y7 HT5 detecting gases.</p> <p>Y7 HT3 transverse and longitudinal waves. Y8 HT5 human eye, absorption and transmission, refraction, colour.</p>	<p>Atmosphere Climate Pollutant Atmosphere Greenhouse gas</p>	<p>Chromatography Formulation Impure Solubility Transverse Longitudinal Electromagnetic Spectrum</p>
3	<ul style="list-style-type: none"> Homeostasis - Nervous system, reflexes, homeostasis, regulation of glucose, hormones and fertility. RP - Reaction times. Using Resources - Potable and pure water, purification, sewage treatment, the use of natural resources, extraction of copper, life cycle assessments and recycling. RP- Purification f water 	<p>Y7 HT1 Y8 HT3 organ systems</p> <p>Y8 HT6 recycling, polymers, ceramics and composites.</p>	<p>Fertility Homeostasis Atmosphere Climate Formulation</p>	<p>Extraction Phytomining Bioleaching Distillation Potable Pure Distillation</p>
4	<p>Assessment Point 2. All paper 1 and paper 2 content.</p> <ul style="list-style-type: none"> Paper 1 topics Paper 2 topics 			
5	GCSE Exams.			

Target Grade:		AP1:		AP2:		AP3:	
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