

## Rainford High School – Department: Separate Science

Year 11 Curriculum				
	Term 1	Term 2	Term 3	
Topic	<b>Biology – Ecology and biodiversity, homeostasis</b> <b>Chemistry – Quantitative chemistry and chemical changes</b> <b>Physics – Waves, space physics and electromagnetism</b>	<b>Biology – Genetics and evolution</b> <b>Chemistry – Electrolysis, changes in energy and structure and bonding</b> <b>Physics – Forces and motion</b>	<b>GCSE examination revision</b>	
Essential knowledge, skills and understanding	Biology – Adaptations, carbon cycle, water cycle, maintaining biodiversity, trophic levels & pyramids of biomass, decomposition, food production, homeostasis, nervous system, brain & eye, thermoregulation, kidney & ADH, endocrine system, menstrual cycle, plant hormones Chemistry – Relative formula mass, moles, reacting masses, concentration, titrations, gas collection, reactivity series, reactions of metals, reactions of acids Physics – wave properties, reflection, lenses, sonar & ultrasound, refraction, sound, electromagnetic spectrum, Origin of the universe and red shift, life cycle of a star, circular motion, magnetic fields, motor effect.	Biology – mitosis and meiosis, genetic inheritance, protein synthesis, cloning, genetic diseases, genetic engineering, evolution, extinction, classification Chemistry – Electrolysis, endothermic and exothermic reactions, bond energies, fuel cells, ionic, covalent and metallic bonding Physics – Newton’s Laws of Motion, Hooke’s Law, resolving forces, moments velocity and acceleration, motion graphs, braking forces, momentum, pressure.	Exam preparation: Command words, maths in science, graphicacy, required practical review, quick wins, subject content revision	
Assessments and assessment focus	Y11 Mock exams End of topic test:	End of topic test: Biology – inheritance, variation and evolution	Practice exam papers	

	<p>Biology – Ecology, homeostasis and response</p> <p>Chemistry – Chemical analysis and Earth's atmosphere</p> <p>Physics – Particle model of nature</p> <p>Required practical activities:</p> <p>Biology – Reaction time</p> <p>Chemistry – N/A</p> <p>Physics – Refraction, Infrared radiation</p>	<p>Chemistry – Chemical analysis and Earth's atmosphere</p> <p>Physics – Particle model of nature</p> <p>Required practical activities:</p> <p>Biology – N/A</p> <p>Chemistry – Electrolysis of aqueous solutions</p> <p>Physics – Extension of a spring</p>		
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