Subject: Combined Science (year 10)
Long-term plan

Week	Month	Learning Intentions and/or Key Questions
Aut1-1	September	Physics Electricity: • Current and charge • Series and Parallel circuits • Resistance and Ohms law • LDR's and thermistors • Factors affecting resistance • Mains electricity • Power • National grid Revision, Assessment and Feedback Chemistry: Quantitative Chemistry: • Conservation of mass and balancing equations • Moles • Limiting reactants • Concentrations of solutions • Molar gas volume • Percentage yield and atom economy Revision, Assessment and Feedback
Aut1-2		
Aut1-3		
Aut1-4		
Aut1-5	October	
Aut1-6		
Aut1-7		
		Half term holiday
Aut2-1	November	Chemistry- Chemical changes • Neutralisation and pH scale • Strong and weak acids • Reactions with acids (RP) • The reactivity series • Extracting metals • Electrolysis (RP) • Redox reactions Revision, Assessment and Feedback Biology- Homeostasis and response: • Homeostasis • The nervous system • Reaction time (RP) • Endocrine system • Controlling blood sugar • Menstrual cycle • Contraception • Infertility treatment Revision, Assessment and Feedback
Aut2-2		
Aut2-3		
Aut2-4		
Aut2-5		
Aut2-6	December	
Aut2-7		
		Christmas holiday
Spr1-1	January	Biology: Inheritance, variation and evolution • Sexual and asexual reproduction • Mitosis and meiosis • Gene expression and mutations • Genetic inheritance (diseases) • Variation • Selective breeding • Cloning • Genetic engineering • Theories of evolution • Natural selection • Extinction
Spr1-2		
Spr1-3		
Spr1-4		
Spr1-5		
Spr1-6	February	

		• Classification • Antibiotic resistance <u>Revision, Assessment and Feedback</u> <u>Chemistry: energy changes</u> • Exothermic and endothermic reactions • Energy changes • Energy transfers • Bond energies <u>Revision, Assessment and Feedback</u>
		Half term holiday
Spr2-1 Spr2-2		<u>Chemistry: Rate of reaction:</u> • Rate of reaction • Factors that can affect rate of reaction • Catalyst • Reversible reactions <u>Revision, Assessment and Feedback</u>
Spr2-3 Spr2-4 Spr2-5 Spr2-6	March	<u>Physics: Forces:</u> • Stopping distances • Momentum • Elasticity • Velocity • Pressure • Pressure in liquids • Atmospheric pressure • Upthrust <u>Revision, Assessment and Feedback</u>
	April	**Easter holiday**
Sum1-1 Sum1-2		<u>Physics: Waves:</u> • Waves • Sound waves • Reflection and refraction • Electromagnetic spectrum • Infrared radiation <u>Revision, Assessment and Feedback</u>
Sum1-3 Sum1-4 Sum1-5 Sum1-6	May	<u>Biology: Ecology</u> • Abiotic and Biotic factors • Competition • Distribution • Plant and animal adaptations • Extremophiles • Food chains and webs • Carbon cycle • Biodiversity • Land, water and air pollution • Deforestation • Global warming. <u>Revision, Assessment and Feedback</u>
	June	**Half term holiday**
Sum2-1 Sum2-2 Sum2-3 Sum2-4		<u>Chemistry: Organic</u> • Hydrocarbons • Fractional distillation • Cracking

Sum2-5	July	Revision, Assessment and Feedback
Sum2-6		
Sum2-7		Physics: Electromagnetism and magnetism: • Electromagnets • The motor effect • Flemings left hand rule Revision, Assessment and Feedback