Subject	Science		
	Interpretation of National Curriculum into Year group Endpoints		
Year	**Term 1**	**Term 2**	**Term 3**
11	Students will describe and explain the concepts of: **B5 Homeostasis and response** • principles of nervous coordination and control in humans • the relationship between the structure and function of the human nervous system • the relationship between structure and function in a reflex arc • principles of hormonal coordination and control in humans • hormones in human reproduction, hormonal and non-hormonal methods of contraception	**B6 Inheritance, variation and evolution** • single gene inheritance and single gene crosses with dominant and recessive phenotypes • sex determination in humans • genetic variation in populations of a species • the process of natural selection leading to evolution • the evidence for evolution • developments in biology affecting classification • the importance of selective breeding of plants and animals in agriculture • the uses of modern biotechnology including gene technology; some of the practical and ethical considerations of modern biotechnology **P7 Magnetism and electromagnetism** • exploring the magnetic fields of permanent and induced magnets, and the Earth's magnetic field, using a compass • magnetic effects of currents, how solenoids enhance the effect • how transformers are used in the national grid and the reasons for their use.	Students will take the six exams which make up the assessment for GCSE Combined Science.

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	Chemical changes (Chemistry) • Understanding of chemical changes began when people began experimenting with chemical reactions in a systematic way and organizing their results logically. • Knowing about these different chemical changes meant that scientists could begin to predict exactly what new substances would be formed and use this knowledge to develop a wide range of different materials and processes. • It also helped biochemists to understand the complex reactions that take place in living organisms. • The extraction of important resources from the earth makes use of the way that some elements and compounds react with each other and how easily they can be 'pulled apart'.	**Quantitative Chemistry** • Chemists use quantitative analysis to determine the formulae of compounds and the equations for reactions. • Given this information, analysts can then use quantitative methods to determine the purity of chemical samples and to monitor the yield from chemical reactions. • Chemical reactions can be classified in various ways. • Identifying different types of chemical reaction allows chemists to make sense of how different chemicals react together, to establish patterns and to make predictions about the behaviour of other chemicals. • Chemical equations provide a means of representing chemical reactions and are a key way for chemists to communicate chemical ideas.	

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	P6 Waves • amplitude, wavelength, frequency, relating velocity to frequency and wavelength • transverse and longitudinal waves • electromagnetic waves, velocity in vacuum; waves transferring energy; wavelengths and frequencies from radio to gamma-rays • velocities differing between media: absorption, reflection, refraction effects • production and detection, by electrical circuits, or by changes in atoms and nuclei • uses in the radio, microwave, infra-red, visible, ultra-violet, X-ray and gamma ray regions, hazardous effects on bodily tissues.		