Year 11 Biology Curriculum End Points and Key Vocabulary

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Unit of Work	Organisms - Homeostasis and Response	Inheritance, Variation and Evolution		Revision		
Ethos links	**STEM –** How the body works. Using science to treat infertility, kidney dialysis and treating organ failure by transplant or mechanical device, using plant hormones as weedkillers	**STEM** – how technology was used to discover the structure of DNA. Explaining observable phenomena. Theories and models developing over time due to technological advances				
Knowledge	By the end of this unit students will know and understand: - What homeostasis is and why it is important - Key components of control systems - The structure and function of the human nervous system, including neurones, the CNS and reflex arcs - The key parts of the brain and how this is studied (triple only) - The structure of the eye and how they relate to the functions accommodation to focus and adaptation to light levels (triple only) - How the body keeps temperature constant (triple only) - What the endocrine system is and the key components of the system, and where key glands are located - How blood glucose level is controlled - How water and nitrogen levels are controlled (triple only) - Which hormones are involved in reproduction and what their functions are - How different types of contraception work - How hormones can be used to treat infertility, and the associated risks and ethical issues (HT) - The role of thyroxine and adrenaline in the body, and how they are controlled by negative feedback - The hormones produced by plants for control and coordination, and the uses of plant hormones (triple only)	By the end of this unit students will know and understand: - Sexual and asexual reproduction, including the processes of mitosis and meiosis - Advantages and disadvantages of sexual and asexual reproduction (triple only) - The structure of DNA and the meaning of genome - That DNA is a polymer made from nucleotides and how this is related to sugar, phosphate, bases, amino acids and proteins (triple only) - How characteristics are inherited, including inherited disorders and sex determination - The causes of variation - The theory of evolution - The evidence for the theory of evolution and Charles Darwin's work, as well as other theories such as that of Jean-Baptiste Lamarck (triple only) - What selective breeding is and why it is done, and how it can be useful - The process of genetic engineering and its use in food production and producing insulin - How cloning happens in plants, embryo transplants and adult cell cloning (triple only) - What is meant by speciation, and the work of Darwin and Wallace (triple only) - The work that contributed to the understanding of genetics, carried out by Mendel (triple only) - How fossils are formed - The causes of extinction - How bacteria become resistant to antibiotics - How living organisms are classified according to Linnaean system and how technology has led to new models of classification, such as the three-domain system		By the end of this unit students will know and understand: *Please see previous unit knowledge sections for a breakdown of individual topic knowledge*		

Key vocabulary	Homeostasis Hormone Gland Endocrine Reflex Accommodation Adaptation Contraception Negative feedback Fertility	Gene Chromosome Gamete Mitosis Meiosis Allele Dominant Recessive Homozygous Heterozygous Genotype Phenotype Evolution DNA Nucleotide Phosphate Protein Amino acid Ribosomes Mutation		