

Year 10: Combined Biology	Curriculum Intent: Year 10 Biology tackles more complex ideas and concepts in the subject. It builds on the key knowledge from years 7,8 and 9 to link together all the areas of the subject. The learning journey goes from the microscopic; looking at cell level systems and processes within cells such as mitosis, through organism and community level systems, to larger scale global issues facing the world of biology. Procedural knowledge and practical skills are developed further, building on experience with microscopy, osmosis and active transport experiments and sampling. The curriculum in year 10 aims to bring everything together so that students have a complete understanding of the Biology aspect of the Combined Science course.					
	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Key ideas and Sequence of Learning	Module B5- Genes, inheritance and selection • Meiosis • Genetic crosses	Module B5- Genes, inheritance and selection • Mutations • Natural Selection • Evidence of evolution • Classification systems • Selective Breeding	Module B6 – Global Challenges • Genetic engineering in agriculture • Producing GE organisms • Biotech in farming	Module B6 – Global Challenges • Health and disease • Spread of communicable disease • Prevention spread of disease Students will revise for PPEs	Students sit their EoY exams. Students will review their PPE exam papers. Module B6 – Global Challenges • Human Infections • Plant disease	Module B6 – Global Challenges • Blood and body defences • Vaccinations • Prevention and treatment of disease • New Medicine • Revisit circulatory system (B2) • Non communicable diseases
Key Questions	1. How does human reproduction, Including meiosis, produce variation? 2. How can we use a Punnet Square to show result of fertilisation.	3. What causes mutations? 4. How does mutations influence phenotype. 5. How does evolution occurs through the process of natural selection. 6. What evidence is there for evolution	1. How do we produce a genetically engineered organisms and how is this advantageous to the human race?	2. How do diseases spread? 3. How do we stop disease spreading?	1. How can communicable diseases spread between plants and animals, including humans	1. How does the body protect itself against disease? 2. How can vaccines be used to provide immunity to a disease? 3, How are new medicine discovered. Developed and tested for human use? 4. What is the link between lifestyle

		7. How do we organise the natural world?				choices and some forms of non-communicable diseases? 5. How can different lifestyles, medical treatment and surgical treatments be used for cardiovascular disease?
Vocabulary	• Dominant allele • Environmental variation • Fertilisation • Gametes • Sex cells • Genetic cross • Genetic variation • Genome • Genotype • Haploid cells • Heterozygous • Homozygous • Meiosis • Phenotype • Punnett square • Recessive allele • Sexual reproduction • Variation	• Mutation • Cancer • Coding DNA • Natural Selection • Evolution • Antibiotic Resistant Bacteria • Advantageous • Antibiotics • Fossils • Extinction • Ancestor • Fossilisation • Anatomy • Molecular Comparison • Species • Artificial Classification • Evolutionary links • Phylogeny	• Genetic engineering • Restriction enzymes • Ligase • Vector • Intensive farming • Selective Breeding • Pesticides • Toxins • Foreign Genes • Cross pollination • Donor organism • Host organism • Sticky Ends • Cloning • Plasmid • Antibiotic Resistance • Incubate • Golden Rice	• Bacteria • Virus • Fungus • Pathogens • Obesity • Zone of inhibition • Vector • Antigens • Antiseptic • Antivirals • Aseptic technique • Clinical trial • Communicable disease	• Contagious • Diagnosis • Disease • Droplet infection • Immunity • Incidence of a disease • Incubation period	• Lymphocytes • Antitoxins • Pathogen • Phagocytes • Placebo • Sterile • Vaccine • Cancer • Ethanol • Tar • Nicotine • Carbon monoxide • Particulates • High blood pressure • Statins • Antiplatelets • Beta blockers • Nitrates • Diabetes • Stent • Bone Marrow

	• Zygote • Alleles • Asexual reproduction • Cancer • Clone • Continuous variation • Diploid cells • Discontinuous variation	• Selective Breeding • Generations • Gene pool • Inheritance • Yield				• Immunosuppressant • Gene therapy • Alleles • Target cell • Receptor
Practical Skills				• Demonstrate the spread of disease B5 Microbiology		PAG B5 Microbiology