



Key Stage 5 Biology Curriculum Maps

	AUTUMN															SPRING											SUMMER																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39								
Year 12	Topic – Cells Assessment – Nov exam, Jan exam, Yr 12 exams S –organelles, centrifugation, types of microscopes, movement of molecules, digestion of sugar P – microscopy Sk – microscopy, Data interpretation, analysis and evaluation.									Topic – Infection and response Assessment – Jan exam, Yr 12 exams S – Specific/Non-specific response, HIV, ELISA tests, vaccinations, T/ B cells P Sk – Data interpretation, analysis and evaluation.									Topic DNA Assessment – Jan exam, Yr 12 exams S – DNA structure, replication, Crick/Watson, RNA structure, protein synthesis, cell division, binary fission, mutations P - microscopy, investigative procedures Sk- microscopy, Data interpretation, analysis and evaluation.									Topic – Exchange of material Assessment – Jan exam, Yr 12 exams S – gas exchange in fish, insects and mammals, cohesion-tension theory, mass flow P – limiting factor experiments, process of mass flow Sk – Data interpretation, analysis and evaluation.						Revision and Yr 12 Exams (AS EXAMS)					Topic – Statistical test and mathematical operations Assessment – S – Chi squared, t-test, correlation coefficient, confidence intervals, p values. P – Which statistical test to use, application of tests. Sk – Data interpretation, analysis, and evaluation								
	Topic – Molecules & enzymes Assessment – Jan exam, Yr 12 exams S – monomer/polymers, carbohydrates, lipids proteins, enzymes, ATP , water, ions P - methodology of enzyme practical Sk- practical investigations (CAPS)									Topic – Mass transport Assessment – Jan exam, Yr 12 exams S – Haemoglobin, Bohr effect, Heart, circulatory system, vessel structure, tissue fluid, cardiac output P – dissection of heart, aseptic technique Sk- dissection of heart, data interpretation, aseptic technique									Topic – Diversity, Allele frequency, courtship Assessment – Jan exam, Yr 12 exams S – Causes of genetic diversity (founder effect, bottlenecks), natural selection. Species and taxonomy, index of diversity, courtship behaviour P – measuring diversity Sk – Data interpretation, analysis, and evaluation.									Revision and Yr 12 Exams (AS EXAMS)					Topic – Inheritance + evolution Assessment – S – genetic drift, Natural selection, Alleles, chi squared, populations, Hardy Weinberg. P – carrying out equations, dihybrid inheritance, Hardy-Weinberg equation, Sk – analysing and evaluation of data.														

Year 13	Topic – Energy and Ecosystems Assessment – Jan exam, A2 exams S – Productivity, nutrient cycles, (C, P, N), populations, biotic/abiotic, ecosystems P – sampling techniques, application of. Sk- Investigative procedures, analysing data	Topic – Photosynthesis Assessment – Jan exam, A2 exams S – light dependent/light independent reactions, limiting factors P – chromatography, chlorophyll extraction Sk- Investigative procedures, analysing data	Topic – Gene expression Assessment – A2 exams S – mutations, DNA, totipotency, iPS cells, regulation of transcription/translation, RNAi, cancer P – use iPS cells, influence of methylation/acetylation Sk- evaluating and interpreting data/observations	Topic – DNA technology Assessment – A2 exams S – recombinant technology, PCR, vectors, restriction enzymes, probes, genetic fingerprinting, VNTR's, counselling P – gene markers, PCR, Genetic fingerprinting, gel electrophoresis Sk- gel electrophoresis, data analysis/interpretation	Revision and essay practice	A2 level Exams