



Curriculum Overview – BIOLOGY

Key Stage 3

Year 7	Year 8	Year 9
N/A – See Lower School Science	N/A – See Lower School Science	Cells and microscopy
		Cell division and the role of stem cells
		Transport in cells – investigating osmosis
		Lungs as an exchange surface
		Plant biology and measuring rate of photosynthesis
		Digestion and investigating rate of enzyme activity

Key Stage 4 – GCSE Exam Board: AQA

Year 10	Year 11
The Heart and the Circulatory system,	Mitosis v Meiosis in Reproduction
Gas Exchange link to exercise and respiration	Structure of DNA and how proteins are made including effect of mutation
Aerobic, Anaerobic respiration and exercise	Mendel and how characteristics are inherited
Non-communicable diseases eg cancer and CHD	Variation & evolution by natural selection including antibiotic resistance, extinction and classification.
Plant diseases and their identification	Gene technology including cloning and genetic engineering
Communicable disease in animals and defences	Ecology including measuring biotic and abiotic factors
Discovery and uses of drugs including the use of monoclonal antibodies	Human impact on the environment
Nervous system and measuring response times	Food security
Structure of brain and eye	
Homeostatic mechanisms and treatment of kidney disease and diabetes	
Role of sex hormones and the menstrual cycle	
Controlling fertility	
Role of plant hormones and investigating the effect of light on seedling growth	

Key Stage 5 – A Level Exam Board: OCR

Year 12	Year 13
Maths in biology throughout the course	
Cells, microscopy, membranes and transport across membranes	Homeostasis and the role of the endocrine and nervous systems
Exchange surfaces and measuring lung volumes	Excretion including the role of the liver and kidneys
Transport in plants and animals including heart dissection and measuring transpiration rate	Respiration and investigating the rate of respiration in yeast
Biological molecules including qualitative and quantitative testing	Photosynthesis & plant hormones including using TLC to separate photosynthetic pigments
Diseases and defences in plants and animals	Behaviour in animals including the role of the brain and muscles
Role of enzymes and investigating factors affecting	Cloning and ethics
Cell division including microscopy and role of stem cells	Biotechnology, DNA sequencing and genetic engineering including culturing microbes
Classification & evolution	Gene regulation and the effect of mutations
Biodiversity & conservation	Inheritance and population genetics
	Ecology including sampling techniques