

Curriculum Mapping

A Level Biology – KS5 Y13

Students follow AQA A - Level Biology (7402)

<https://filestore.aqa.org.uk/resources/biology/specifications/AQA-7401-7402-SP-2015.PDF>

HT1	<p>Section 5 Energy transfer in and between organisms</p> <p><i>Photosynthesis</i></p> <ul style="list-style-type: none">• Overview of photosynthesis• The light-dependant reaction• The light independent reaction <p><i>Respiration</i></p> <ul style="list-style-type: none">• Glycolysis• Link reaction and Krebs cycle• Oxidative phosphorylation• Anaerobic respiration <p><i>Energy and Ecosystems</i></p> <p>Revise / Recap / Review as this should have been taught HT6 Y12</p> <ul style="list-style-type: none">• Food chains and energy transfer• Energy transfer and productivity• Nutrient cycles• Use of natural and artificial fertilisers• Environmental issues concerning use of nitrogen-containing fertilisers
HT2	<p>Section 6 Organisms respond to changes in their environment</p> <p><i>Response to stimuli</i></p> <ul style="list-style-type: none">• Survival and response• Plant growth factors• A reflex arc• Receptors• Control of heart rate <p><i>Nervous coordination and muscles</i></p> <ul style="list-style-type: none">• Neurones and the nervous system• The nerve impulse• Passage of an action potential• Speed of the nerve impulse• Structure and function of synapses• Transmission across a synapse• Structure of skeletal muscle• Contraction of skeletal muscle <p><i>Homeostasis</i></p> <ul style="list-style-type: none">• Principles of homeostasis• Feedback mechanisms• Hormones and the regulation of blood glucose concentration• Diabetes and its control• Control of blood water potential – structure of the nephron• Role of the nephron in osmoregulation• The role of hormones in osmoregulation

HT3	<p><u>Section 7 Genetics, populations, evolution and ecosystems</u></p> <p><i>Inherited change</i></p> <ul style="list-style-type: none"> • Studying inheritance • Monohybrid inheritance • Probability and genetic crosses • Dihybrid Inheritance • Codominance and multiple alleles • Sex-Linkage • Autosomal Linkage • Epistasis • The chi-squared test <p><i>Populations and evolution</i></p> <ul style="list-style-type: none"> • Population genetics • Variation in phenotype • Natural selection • Effects of different forms of selection on evolution • Isolation and speciation <p><i>Populations in ecosystems</i></p> <p>Revise / Recap / Review as this should have been taught HT6 Y12</p> <ul style="list-style-type: none"> • Populations in ecosystems • Variation in population size • Competition • Predation • Investigating populations • Succession • Conservation of habitats
HT4	<p><u>Section 8 The control of gene expression</u></p> <ul style="list-style-type: none"> • <i>Gene expression</i> • Gene mutations • Stem cells and totipotency • Regulation of transcription and translation • Epigenetic control of gene expression • Gene expression and cancer • Genome projects <p><i>Recombinant DNA Technology</i></p> <ul style="list-style-type: none"> • Producing DNA fragments • In Vivo gene cloning – the use of vectors • In vitro gene cloning – the polymerisation chain reaction • Locating genes, genetic screening and counselling • Genetic fingerprinting
HT5	<p><u>Preparation for external examinations</u></p> <ul style="list-style-type: none"> • Review / Recap / Recover – Focus on Application / Challenge • Review / Recap / Recover – Focus on Compulsory practical skills • Review / Recap / Recover – Focus on Math skills