

Yr13 Biology – Unit 3.5

MAGHULL HIGH SCHOOL – CURRICULUM MAP



	Sequence				
TOPIC (S) Energy transfers between organisms	1. Photosynthesis 2. Respiration		3. Energy and ecosystems 4. Nutrient Cycles		
Knowledge & Skills development	<ul style="list-style-type: none"> Recall the light dependent reaction in detail Identify environmental factors that limit the rate of photosynthesis Evaluate data relating to common agricultural practices Recall the stages of glycolysis 			<ul style="list-style-type: none"> Recall the equations for aerobic and anaerobic respiration Define gross primary production and net primary production Calculate the net production of consumers Simplify food webs to reduce energy losses to non-human food chains Describe and explain the role of microorganisms in recycling phosphorus and nitrogen Describe the use of fertilisers and the negative impacts they can have on the environment such as leaching and eutrophication 	
Assessment / Feedback Opportunities	Exam questions – teacher assessed	Exam questions – self assessed	Extended writing task – teacher assessed	Deep marking of required practical in lab books	Topic assessment
Cultural Capital	<ul style="list-style-type: none"> 				
SMSC / Promoting British Values <small>(Democracy, Liberty, Rule of Law, Tolerance & Respect)</small>	<ul style="list-style-type: none"> Formulate opinions on modern agricultural practices and their effect on the environment. Discuss the impact humans have on food chains/webs. Look at the environmental issues arising from the use of fertilisers. 				
Reading opportunities	<ul style="list-style-type: none"> Recommended Read: Ernst Mayr: This Is Biology: The Science of the Living World 				
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest, Absolute, Uncertainty, Error, Phoyosynthesis, glucose, photolysis, Chloroplast, thylakloid, stroma, chloroplast, anaerobic, aerobic, glycolysis, oxidation, biomass, trophic level, microorganism, decomposers, eutrophication				
Digital Literacy	The use of excel to plot graphs and analyse data				

	MSoftware35 apps including SharePoint
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators
Careers	Wildlife conservationists, Farmer, botanist, agriculturist, herbilist