Science – KS3

MAGHULL HIGH SCHOOL – CURRICULUM MAP

	Lessons Sequence					
TOPIC (S) **Ecosystems**	1. Food Chains and Webs 2. Pyramids of numbers and biomass 3. Interdependence 4. Quadrats (sampling)		5. Mid Topic Test 6. Insect pollinated crops 7. Bioaccumulation 8. Organic farming		9. Chemosynthesis 10. End of topic test	
Knowledge & Skills development	• Construct food chains and food webs. • Constructing and interpreting pyramids of numbers and biomass • Describe the interdependence show in a food web. • Calculating energy losses between trophic levels • Understand how organisms interact and depend on biotic and abiotic factors • Practical skills- sampling •			• Numeracy skills – calculating and predicting numbers of organisms in a given area • Describe chemosynthesis including how it was discovered. • Understanding the importance of insect pollination • The human impact on food chains • Assessing the pros and cons of organic farming • Describe the process of chemosynthesis		
Assessment / Feedback Opportunities	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	AWOL assessment – formative teacher assessment in students books	Mid topic assessment – formative assessment	Homework topic quiz – formative assessment	End of topic assessment – teacher summative assessment
Cultural Capital	•					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	• Use of pesticides and impact on the ecosystem • Impact of pollution on the environment • Working in groups during practicals or research tasks					
Reading opportunities	• Method reading. • Bioaccumulation news articles. • Recommended Read: Plant Growth and Life Cycles (Oaka Books)					
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly Chemosynthesis, Mutualistic, Organisms, Nitrogen, Bacteria, Ecosystems, Predators, Carnivore, Herbivore, Omnivore Producer, Consumer, Environments, Adaptation, Combustion, Climate, Bioaccumulation					
Digital Literacy	SharePoint resources including topic quiz Possible use of excel to plot graphs and analyse data, powerpoint, word, etc to present information, internet for research					
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators					
Careers	Horticulture, industrial chemist, floristry, pest control, conservationist, politics.					