



MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: Organic	1. Nomenclature	2. Reaction mechanisms	3. Isomerism
LESSONS			
Knowledge & Skills Development	<ul style="list-style-type: none"> Know organic compounds can be represented by: empirical formula, molecular formula, general formula, structural formula, displayed formula, skeletal formula. Know the characteristics of a homologous series, a series of compounds containing the same functional group. Know IUPAC rules for nomenclature. Draw structural, displayed and skeletal formulas for given organic compounds Apply IUPAC rules for nomenclature to name organic compounds limited to chains and rings with up to six carbon atoms each Apply IUPAC rules for nomenclature to draw the structure of an organic compound from the IUPAC name limited to chains and rings with up to six carbon atoms each. Know reactions of organic compounds can be explained using mechanisms. Know free-radical mechanisms: the unpaired electron in a radical is represented by a dot, the use of curly arrows is not required for radical mechanisms. Write balanced equations for the steps in a free-radical mechanism. 	<ul style="list-style-type: none"> Know in mechanisms: the formation of a covalent bond is shown by a curly arrow that starts from a lone electron pair or from another covalent bond, the breaking of a covalent bond is shown by a curly arrow starting from the bond. Outline mechanisms by drawing the structures of the species involved and curly arrows to represent the movement of electron pairs. Define the term structural isomer Draw the structures of chain, position and functional group isomers Define the term stereoisomer Know E–Z isomerism is a form of stereoisomerism and occurs as a result of restricted rotation about the planar carbon–carbon double bond. Know Cahn–Ingold–Prelog (CIP) priority rules. Draw the structural formulas of E and Z isomers Apply the CIP priority rules to E and Z isomers. Draw further isomers after being given one Understand the origin of E–Z isomerism. Draw different forms of isomers. 	
Assessment / Feedback Opportunities	Formative Assessment Teacher questioning Quizzes Exam style questions		Summative assessment End of topic assessment Exam questions in future end of topic assessments to assess recall
Key Vocabulary	Nomenclature, IUPAC, mechanisms, isomerism, empirical, free radical, stereoisomerism, Cahn–Ingold–Prelog (CIP), Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest, Absolute, Uncertainty, Error		

Literacy/Reading Opportunities	Subject specific vocabulary introduced before reading of related texts Word etymology from Latin and Greek roots Reading of simple and complex sentences, paragraphs, articles Scientific writing including structuring methods, comparisons and evaluations
Cross Curricular Themes	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators, significant figures
Personal Development (Including British Values, RSE, Citizenship)	None
Career Opportunities	Pharmacist, pharmaceutical manufacturer, clinical chemist