

MAGHULL HIGH SCHOOL – CURRICULUM MAP

Unit: Alkenes	1. Structure bonding and reactivity	2. Addition reactions of alkenes	3. Addition polymers
LESSONS			
Knowledge & Skills Development	<ul style="list-style-type: none"> Know alkenes are unsaturated hydrocarbons. Know bonding in alkenes involves a double covalent bond, a centre of high electron density. Know electrophilic addition reactions of alkenes with HBr, H₂SO₄ and Br₂ Know the use of bromine to test for unsaturation. Know the formation of major and minor products in addition reactions of unsymmetrical alkenes. Outline the mechanisms for these reactions Explain the formation of major and minor products by reference to the relative stabilities of primary, secondary and tertiary carbocation intermediates. Test organic compounds for unsaturation using bromine water and record their observations Know addition polymers are formed from alkenes and substituted alkenes. Know the repeating unit of addition polymers. 	<ul style="list-style-type: none"> Know IUPAC rules for naming addition polymers. Know addition polymers are unreactive. Appreciate that knowledge and understanding of the production and properties of polymers has developed over time. Know typical uses of poly(chloroethene), commonly known as PVC, and how its properties can be modified using a plasticiser. Draw the repeating unit from a monomer structure Draw the repeating unit from a section of the polymer chain Draw the structure of the monomer from a section of the polymer Explain why addition polymers are unreactive Explain the nature of intermolecular forces between molecules of polyalkenes. Make poly(phenylethene) from phenylethene. 	
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	Alkenes, unsaturated, electrophilic addition, carbocations, plasticisor, polyalkenes, addition polymerisation, substitution, 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	Plastic manufacture, materials engineer, fisheries consultant, recycling plant engineer