

Yr12 Chemistry – Unit 3.3

MAGHULL HIGH SCHOOL – CURRICULUM MAP



	Sequence				
TOPIC (S) ALKENES	1. Structure bonding and reactivity 2. Addition reactions of alkenes		3. Addition polymers		
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. 			<ul style="list-style-type: none"> Know the repeating unit of addition polymers. 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	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"> Visit to a recycling plant 				
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<ul style="list-style-type: none"> Is plastic use/disposal the responsibility of people or the government 				
Reading opportunities	<ul style="list-style-type: none"> Recommended Read: The Plastic Problem 60 Small Ways to Reduce Waste and Help Save the Earth by Lonely Planet Kids 				
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				

Digital Literacy	The use of excel to plot graphs and analyse data MSOffice35 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	Plastic manufacture, materials engineer, fisheries consultant, recycling plant engineer