Lessons TBAT	Key Knowledge	Practical	Assessment
TBAT: Describe and identify alkenes using different formula.	**3.3.4 Alkenes**	Testing for saturated or unsaturated hydrocarbons with bromine water.	End of topic test
	3.3.4.1 Structure, bonding and reactivity Alkenes are unsaturated hydrocarbons. Bonding in alkenes involves a double covalent bond, a centre of high electron density.		**Maths focus** Balanced equations
TBAT: Describe the properties of alkenes. TBAT: Construct addition reaction mechanisms of alkanes. TBAT: Construct formula to outline monomers and polymers.	**3.3.4.2 Addition reactions of alkenes** Electrophilic addition reactions of alkenes with HBr, H2 SO4 and Br2 The use of bromine to test for unsaturation. The formation of major and minor products in addition reactions of unsymmetrical alkenes. Students should be able to: • 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. **3.3.4.3 Addition polymers**		Prior knowledge: **AS Chemistry** - *E–Z* isomerism (3.3.1). - Principles of curly arrow mechanisms (3.3.1). - Shapes of molecules (3.1.3).

| | Addition polymers are formed from alkenes and substituted alkenes. The repeating unit of addition polymers.

IUPAC rules for naming addition polymers.

Addition polymers are unreactive.

Appreciate that knowledge and understanding of the production and properties of polymers has developed over time.

Typical uses of poly(chloroethene), commonly known as PVC, and how its properties can be modified using a plasticiser.

Students should be able to:

• 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. | | |