

Year 9: Combined Chemistry	<p>- Curriculum Intent: Year 10 Chemistry tackles more complex ideas and concepts in the subject. It builds on the key knowledge from years 7 and 8 to link together all the areas of the subject. The key areas of particles, reactions, monitoring reactions and earth and environmental science are developed through more challenging topics such as structure and bonding, advanced chromatographic methods, mole calculations, electrolysis and trends in the periodic table. Knowledge of key industrial chemical processes is also developed. Procedural knowledge and practical skills are developed further, building on experience with making salts, neutralisation, redox and displacement reaction. The curriculum in year 10 aims to bring everything together so that students have a complete understanding of the Chemistry aspect of the Combined Science course.</p>						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
Key ideas and sequence of learning	Chemistry module C1 - particles <ul style="list-style-type: none"> • Particles • Chemical & physical changes • Atomic structure • History of the development of the atom 	Chemistry module C2 – elements & compounds <ul style="list-style-type: none"> • Relative formula mass • Empirical formula • Filtration and crystallisation • Distillation 	Chemistry module C2 – elements & compounds <ul style="list-style-type: none"> • Fractional distillation • Chromatography • Metals and non-metals 	Chemistry module C2 – elements & compounds <ul style="list-style-type: none"> • Electronic structure • Forming ions • Ionic compounds • Simple molecules • Giant covalent 	Chemistry module C2 – elements & compounds <ul style="list-style-type: none"> • Polymer • Structure of metals • Allotropes of carbon • Bulk properties 	<p>Students revise for their EoY exams and sit exams</p> <p>Students will review their PPE exam papers.</p> <p>Students will complete practical investigations</p>	
Key Questions	<ol style="list-style-type: none"> 1. How are particles arranged in solids, liquids and gases? 2. What is inside the atoms? 3. How did we discover the atom? 	<ol style="list-style-type: none"> 1. How do we separate chemical compounds? 2. How can we determine masses of reactants? 3. How can we purify and analyse chemicals? 	<ol style="list-style-type: none"> 1. How can we purify and analyse chemicals? 	<ol style="list-style-type: none"> 1. How are chemical bonds formed? 2. What are the allotropes of carbon? 3. What is the structure of metals and plastics? 	<ol style="list-style-type: none"> 1. What is the structure of metals and plastics? 		

<p>Vocabulary</p>	<ul style="list-style-type: none"> • Solid • Liquid • Gas • Melting Point • Boiling Point • Ion • Isotope • Group • Period 	<ul style="list-style-type: none"> • Relative Formula Mass • Group • Period • Ionic • Filtration • Distillation • Pure and impure substances 	<ul style="list-style-type: none"> • Distillation • Fractional Distillation • Chromatography • Rf value 	<ul style="list-style-type: none"> • Ionic Compound • Covalent Compound • Dot And Cross Diagram • Metals • Lattice 	<ul style="list-style-type: none"> • Giant Lattice • Allotrope • Polymer 	
<p>Practical Skills</p>	<ul style="list-style-type: none"> • Comparing chemical and physical changes 	<ul style="list-style-type: none"> • Filtration • Crystallisation • Distillation 	<ul style="list-style-type: none"> • Fractional distillation • Chromatography 	<ul style="list-style-type: none"> • Comparing properties of metals, ionic compounds and covalent compounds 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •