

	Intent To deliver the first half of the AQA A Level Chemistry Course. To instil a passion for the subject within students and an interest in further developing their knowledge and understanding of Chemistry.		
Year 12 Chemistry	Term 1 September to December Atomic Structure, Amount of Substance, Bonding	Term 2 January to Easter Redox, AS Periodicity	Term 3 April to July Equilibria, Preparation for exam, Start A2 Periodicity
Knowledge (facts, information, concepts and key terminology)	Use the periodic table to identify atomic structure including electron configuration of elements 1-36. Describe how mass spectrometry is used. Methods for numerous mole-based calculations. Characteristics of the different types of bonding. To introduce the concept of systematic nomenclature and familiarise students with the homologous series they will need to learn during the year. To learn the key terms involved in organic mechanisms such as electrophile, nucleophile, addition and substitution.	Learn oxidation state rules. Describe trends in physical and chemical properties of group 2 and group 7 elements. Describe trends in physical properties of period 3. To learn key definitions that relate to enthalpy changes such as Hess' law, enthalpies of combustion and formation	Reversible reactions and the factors affecting them. A2 – describe chemical reactions of period 3. Learn new terminology in the kinetics topic to include order of reactions and rate determining steps
Understanding (ability to connect and synthesise knowledge within a context)	Use electron configuration to explain patterns in ionisation energies in period 3 and group 2. Describe the steps in a titration and explain the importance of accuracy. Identify the type of bonding present in any substance and link this to their properties. To be able to deduce the structures of different compounds applying the rules of systematic nomenclature. To draw and explain mechanisms for reactions with alkenes and alcohols	Apply oxidation state rules to any species/reaction. Explain properties using electron configuration. To understand the different ways to calculate the enthalpy change in a reaction depending on the information provided.	Application of Le Chateliers Principle. A2 – Explain the chemical reactions of period 3. To be able to use the information provided to calculate the order of a reaction, rate or rate constant. To be able to manipulate the Arrhenius equation to calculate different components.
Skills (successful application of knowledge and understanding to a specific task)	Carry out a titration. Apply mathematical principles to a wide variety of scenarios. Carry out distillation and reflux for the oxidation of alcohols.	Write balanced equations, half-equations and ionic equations. Carry out ion tests for identification. Conduct calorimetry experiments to determine the enthalpy of combustion.	Ability to answer a range of style of exam questions in terms of recall and application. Draw together key concepts covered throughout the year and identify the links between topics.
Formal Assessments (those done by all/vast majority of the cohort)	End of unit tests available for all units. Formal assessments carried out following the assessment calendar.	End of unit tests available for all units. Formal assessments carried out following the assessment calendar.	End of unit tests available for all units. Formal assessments carried out following the assessment calendar.
By the end of the year students on course for at least a grade C will... Be able to apply systematic nomenclature to deduce the name and structure of most alkanes, alcohols and alkenes. Be able to draw and explain the stages involved in electrophilic addition (alkenes) and nucleophilic substitution reactions (halogenoalkanes) Be able to calculate the enthalpy of combustion using calorimetry.			