Year (Lesson per fortnight)	Autumn 1 (7 wks)	Autumn 2 (7)	Spring 1 (7)	Spring 2 (6)	Summer 1 (5)	Summer 2 (7)
Year 10 (4) Approx 78 Lessons total	Approx 14 Lessons **C1c - Bonding** **What will be learnt** 1-States of matter 2-Atoms and ions 3-Ionic bonding 4-Giant ionic substances 5-Covalent bonding 6-Simple molecules 7-Giant covalent structures 8-Fullerenes and graphene 9-Metallic bonding 10-Nanoparticles and their applications **Main outcomes** To understand how the type of bonding effects the properties of a substance, specifically related to ionic, covalent and metallic substances. To analyse data to explain properties and assign a structure to a substance. To link bonding type to real life applications **Skills involved** **Practical skills** Follow methods and record observations to describe and explain the properties of ionic, covalent and metallic structures. **Maths skills**	Approx 14 Lessons **C1d-Chemical Changes-Reactivity** **What will be learnt** 1-Reactivity of metals 2-Extraction of metals 3-Reactions of acids and metals 4-Neutralisation and salt production 5-pH and Neutralisation 6-Strong and weak acids 7-Titrations 8-Revision 9-Test **Main outcomes** To understand how and why materials react with each other as defined by set rules and patterns. To be able to describe and explain chemical reactions and make predictions based upon previous results. **Skills involved** **Practical skills** Making and recording observations. Making predictions based upon observations. Accurate measuring and recording. Synthesis and purification of salts. Chemical analysis using titration methodology. **Maths skills**	Approx 14 Lessons **C1e-Chemical Changes-Electrolysis** **What will be learnt** 1-Intro to electrolysis 2-Changes at the electrode 3-Extraction of aluminium 4-Electrolysis of aqueous solutions 5-Revision 6-Test **Main outcomes** To understand the role that electrolysis plays in our world. To apply the understanding of ions to a new situation. To appreciate the significance of the movement of electrons. To be able to describe and explain oxidation and reduction. **Skills involved** **Practical skills** Use of electrolysis equipment to extract elements from compounds. Collection of gases from solution. Analysis of gases. Chemical analysis. **Maths skills** Use of half equations. Balanced equations. Data analysis. Graphs. Mean calculation.	Approx 10 Lessons **C1f-Quantitative Chemistry** **What will be learnt** 1-Relative formula mass 2-Conservation of mass 3-Reacting masses 4-Moles 5-Calculation concentration 6-Titration calculations 7-Atom economy 8-Amounts in gases 9-Revision 10-Test **Main outcomes** To understand the role of quantitative analysis in Chemistry and therefore the word around us. To using mathematical equations and techniques to analyse substances and predict chemical reactions and their yields. **Skills involved** **Practical skills** Measuring reactants and products. Measuring gases. Titrations. Conservation laws. **Maths skills** Analysing data. Use of data from periodic table. Ratios. Graphs. Data comparison. Making predictions using data.	Approx 12 Lessons **C1f-Quantitative Chemistry continued** **C1g-Energy Changes** **What will be learnt** 1-Endothermic and Exothermic reactions 2-Energy changes required practical 3-Reaction profiles 4-Energy change of reactions 5-Cells and batteries 6-Fuel Cells 7-Revision 8-Test **Main outcomes** To understand and investigate the energy changes in chemical reactions and classify them as either exothermic or endothermic. Link this classification to bond breaking and making and apply knowledge to real world applications such as fuels and fuel cells and batteries. **Skills involved** **Practical skills** Measuring energy changes. Measuring and	Approx 14 Lessons **End of year 10 exam** **C1g-Energy Changes continued** **C2a-Atmosphere** **What will be learnt** 1 – History of the atmosphere 2 – Our evolving atmosphere 3 – Greenhouse gases 4 – Global climate change 5 – Atmospheric pollutants 6 – Revision 7 – Test **Main outcomes** To understand the make-up of the Earth's atmosphere, how it has evolved over time and how it is changing due to the impact of atmospheric pollutants. **Skills involved** **Practical skills** Production and analysis of gases. **Maths skills** Ratios, fractions and percentages. Comparisons within sets of data.

	Analysing melting and boiling point data to compare substances to each other to assign bonding types and compare and contrast bonding types. **How will it be assessed?** Exam Q booklet. End of half term synoptic test.	Ordering by reactivity. Ratios, fractions and percentages. Orders of magnitude and use of standard form. **How will it be assessed?** Exam Q booklet. End of half term synoptic test. 2xRequired practicals.	**How will it be assessed?** Exam Q booklet. End of half term synoptic test. 1xRequired practical.	**How will it be assessed?** Exam Q booklet. End of half term synoptic test. 1xRequired practical	recording temperatures and evaluating a method. Measuring a potential difference in an electrochemical cell. **Maths skills** Calculating changes. Calculating a mean value. Identifying anomalies. Graph (reaction profiles). **How will it be assessed?** Exam Q booklet. End of half term synoptic test. 1xRequired practical.	Mean calculations. Graphs. **How will it be assessed?** Exam Q booklet. End of half term synoptic test.