Week number	Lesson content
1 2 3 4 5 6 7	Topic 1: Atomic Structure and The Periodic Table • Atomic number and mass, electron configuration • Periodicity in the Periodic Table • Explaining trends in periods 2 and 3 To include a WCF and MMA Topic 5: Formulae, Equations and Amounts of Substance • Full and ionic equations for reactions • Moles and the Avogadro constant • Calculations in moles • Calculations for titrations To include a WCF and MMA
8 9 10 11 12	Topic 2: Bonding • Ionic and covalent bonding • Types of structure • Electronegativity, bond polarity and intermolecular forces • Formation of solutions To include a WCF and MMA Topic 3: Redox • Oxidation and reduction • Oxidation numbers • Ionic half equations To include a WCF and MMA
13 14 15 16 17 18 19 20 21 22 23 24 25	Topic 4: The Elements of Groups 1, 2 and 7 • Reactions of groups 1, 2 and 7 • Explaining the trends in groups 1, 2 and 7 • Explaining redox reactions of group 7 using oxidation numbers To include a WCF and MMA Topic 6: Organic Chemistry • Naming of organic compounds • Alkanes and radical substitution reactions • Alkenes and their reactions • Electrophilic addition reactions, polymer formation and their uses • Reactions of the haloalkanes • Trends in Reactivity of Nucleophilic Substitution Reactions • Reactions and uses of alcohols • Carrying Out a Preparation of an Organic Liquid To include a WCF and MMA

Week number	Lesson content
26 **27** **28** **29** **30**	Topic 8: Energetics I • Enthalpy changes and Hess' Law To include a WCF and MMA Topic 13: Lattice energy and Entropy • Born-Haber cycles, enthalpy changes • Entropy in chemical reactions • Gibbs free energy in chemical reactions To include a WCF and MMA
31 **32** **33** **34** **35**	Topic 10: Equilibrium I • Reversible reactions and industrial processes Topic 11: Equilibrium II • Equilibrium constants in homogenous and heterogenous systems To include a WCF and MMA Topic 12: Acid-base equilibria • Proton donors and acceptors • Defining pH mathematically • Acid dissociation constants and the ionic product of water • Titration curves and buffer solutions To include a WCF and MMA
36 **37** **38** **39** **40** **41** **42** **43**	Topic 14: Redox II • Electrode potentials • Electrochemical cells • Redox equilibria • Redox titrations To include a WCF and MMA Topic 15: The Transition Elements • Properties of transition metals and their compounds • Transition metal complexes and ligands • Redox reactions of transition metals • Stability of complexes and transition metals as catalysts To include a WCF and MMA
44 **45** **46** **47** **48** **49**	Topic 9: Kinetics I • Explaining how factors affect rates of reaction Topic 16: Kinetics II • Rate equations • Half life and catalysts • Using kinetics to investigate mechanisms.

Week number	Lesson content
50	To include a WCF and MMA Topic 17: Organic Chemistry II • Stereoisomers and mechanisms • Chemistry of carbonyls • Chemistry of carboxylic acids and derivatives To include a WCF and MMA
51	Topic 18A and B: Organic Chemistry III • Arenes • Electrophilic substitution reactions • Organic compounds containing nitrogen, amino acids • Condensation polymers and amino acids To include a WCF and MMA Topics 7: Mass Spectrometry and Infrared (IR) Spectroscopy • Methods to find the structure of organic compounds
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56	Topic 19: Modern Analytical Techniques II • Chromatography • NMR spectroscopy • Identifying organic compounds using mass spectrometry To include a WCF and MMA Topic 18C: Organic Synthesis • Planning and synethsising organic compounds To include a WCF and MMA
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