

Year 12

Subject: Chemistry

Time period	Teacher A Physical Chemistry	Teacher B Organic/ Inorganic	Required practical/Notes
Autumn 1 2023	3.1.2 Amount of substance (Kerboodle chapter 2) Relative atomic and molecular masses, Moles in solutions, The ideal gas equation, Empirical and molecular formula, Atom economy, % yield, concentrations	3.3.1 Introduction to organic chemistry (Kerboodle chapter 11)- Nomenclature, Isomerism 3.3.2 Alkanes (Kerboodle chapter 12) - Fractional distillation, cracking, combustion, formation of halogenoalkanes	RP1 Make up a volumetric solution and carry out a simple acid-base titration Assessment
Autumn 2 2023	3.1.2 Amount of substance - (Kerboodle chapter 2), to be completed 3.1.1 Atomic structure (Kerboodle chapter 1) – mass number, atomic number, isotopes, the arrangement of electrons, the mass spectrometer, Ionisation energy 3.1.3 Bonding (Kerboodle chapter 3) – Covalent, metallic bonding, electronegativity, forces acting between molecules, the shapes of molecules, bonding and physical properties	3.3.3 Halogenoalkanes (Kerboodle chapter 13) - Nucleophilic substitution, elimination reactions 3.3.4 Alkenes (Kerboodle chapter 14) – Reactions of alkenes, addition polymers	w/c 27/11-Learning judgement + Forecast Grade Assessment
Spring 1 2024	3.1.3 Bonding (Kerboodle chapter 3) – continue 3.1.4 Energetics (Kerboodle chapter 4) – Exothermic and endothermic reactions,	3.3.5 Alcohols (Kerboodle chapter 15) – Ethanol production, the reactions of alcohols	RP5 Distillation of a product from a reaction RP2 Measurement of an enthalpy change

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	enthalpy, Hess's Law, Enthalpy changes of combustion, bond enthalpies, Thermochemical cycles)	3.3.6 Organic analysis (Kerboodle chapter 16) – test -tube reactions, Mass spectrometry, IR spectroscopy	Assessment
Spring 2 2024	3.1.4 Energetics (Kerboodle chapter 4) - continue 3.1.5 Kinetics (Kerboodle chapter 5) – Collision theory, The Maxwell-Boltzmann distribution, Catalyst	3.3.6 Organic analysis (Kerboodle chapter 16) to be completed 3.2.1 Periodicity (Kerboodle chapter 8) – The Periodic table, trends in the properties of elements Period 3, Ionisation energies 3.2.2 Group 2 The Alkaline Earth Metals (Kerboodle chapter 2) – The physical and chemical properties of Group 2	RP6 Tests for alcohol, aldehyde, alkene and carboxylic acid RP3 Investigation of how the rate of a reaction changes with temperature Assessment w/c 11/03 – Learning judgement + Forecast Grade
Summer 1 2024	3.1.6 Equilibria (Kerboodle chapter 6) – Changing the condition of an equilibrium reaction, The equilibrium constant, Kc 3.1.7 Oxidation, reduction, redox (Kerboodle chapter 7) – Oxidations states, redox equations	3.2.3 Group 7(17), The Halogens (Kerboodle chapter 10)- The chemical reactions of the halogens, reactions of halide ions, use of chlorine	RP4 Carry out simple test-tube reactions to identify cations and anions in aqueous solution w/c 15/04-22/04/24- MOCK exams w/c 13/05 – Learning judgement+ Mock + Forecast Grade
Summer 2 2024	3.1.7 Oxidation, reduction, redox (Kerboodle chapter 7) to be completed Start A2 3.1.8. Thermodynamics (Kerboodle chapter 17)	Start A2 3.3.7 Optical isomerism (Kerboodle chapter 25)	Assessment