Year 13

Subject: Chemistry

Time period	Teacher A Physical Chemistry /Inorganic	Teacher B Organic / Inorganic	Required practical
Autumn 1 2024	 3.1.8. Thermodynamics (Kerboodle chapter 17) – Lattice enthalpy, Born-Haber cycles, Gibbs free energy, Enthalpy of solutions- continue from Y12 3.2.5 Transition metals (Kerboodle chapter 23) - Coloured Ions, Variable Oxidation States, Redox Titrations, Catalysis 	3.3.8 /3.3.9 Aldehydes, ketones, Carboxylic acids and derivatives (Kerboodle chapter 26) – Reactions of the carbonyl group in aldehydes and ketones, reactions of carboxylic acids and esters, acylation	<u>RP10</u> Preparation of a pure organic solid and test its purity a pure organic liquid Assessment
Autumn 2 2024	3.2.6 Reactions of ions in aqueous solutions (Kerboodle chapter 24) - Ligand Substitution Reactions, The reactions of Metal Aqua Ions Recap, online tests, questions and other activities.	 3.3.10 Aromatic chemistry (Kerboodle chapter 27)- Arenes - physical properties, naming and reactivity 3.3.11 Amines (Kerboodle chapter 28)- the properties of amines as bases, amine as nucleophiles and their synthesis 	<u>RP11</u> Carry out simple test-tube reactions to identify transition metal ions in aqueous solution Assessment
		3.3.12 Polymers (Kerboodle chapter 29)- condensation polymers	w/c 27/11- Learning judgement + Forecast Grade

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Spring 1 2024	3.1.9 Rate equations (Kerboodle chapter 18)- The rate equation, The Arrhenius Equation, Gas Equilibria Kp	3.3.13 Amino acids, proteins and DNA (Kerboodle chapter 30)- peptides, polypeptides, proteins, enzymes, DNA, the action of anti-cancer drugs	<u>RP7</u> Measuring the rate of a reaction by an initial rate method by a continuous monitoring method w/c 22/01-29/01/24 – MOCK exams
	 3.1.10 Equilibrium constant Kp for homogenous systems (Kerboodle chapter 19) 3.1.11 Electrode Potentials and Cells (Kerboodle chapter 20) Introduction to electrochemistry, Batteries & Fuel Cells 	3.3.14 Organic synthesis (Kerboodle chapter 31) - synthetic routes	<u>RP8</u> Measuring the EMF of an electrochemical cell
Spring 2 2024	 3.1.11 Electrode Potentials and Cells (Kerboodle chapter 20) – to be completed 3.1.12 Acid and bases (Kerboodle chapter 21)- pH & Strong Acids, Kw & pH of Strong Bases, Ka, pKa and the pH of weak acids, calculating pH – Mixing Acids and Bases, Buffers & pH Calculations, Titration Curves & pH indicators 	 3.3.16 Chromatography (Kerboodle chapter 33) 3.3.15 NMR (Kerboodle chapter 32) – Proton NMR, NMR spectra 	RP12 Separation of species by thin-layer chromatographyRP9 Investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak baseAssessmentw/c 19/02- Learning judgement + Mock + Forecast Grade
Summer 1 2024	3.1.12 Acid and bases (Kerboodle chapter 21) – to be completed	3.2.4 Properties of Period 3 elements and their oxides (Kerboodle chapter 22) Revision	w/c 15/04 – Learning judgement + Forecast Grade
	Revision		
Summer 2 2024	Exams	Exams	