

# Curriculum Map

## Year 13 Chemistry

Yr13		Teacher 1 LKL		Teacher 2 AOS		
Date	Week					
		Lesson 1	Lesson 2	Lesson 1	Lesson 2	Lesson 3
01-Sep	1	<b>Chapter 18-Rates</b> Orders and rate equations	Orders and rate equations (practise)	Lessons TBC		
08-Sep	2	Calculation of the rate constant (k, units)	Rate graphs and orders from graphs	<b>C26 Carbonyl Compounds</b> - oxidation	<b>C26 Carbonyl Compounds</b> - nucleophilic addition	<b>C26 Carbonyl Compounds</b> - carboxylic acids properties and reactions
15-Sep	3	Rate determining step Effect of temp on rate constants	Arrhenius equation Effect of temp on rate constants	<b>C26 Carbonyl Compounds</b> - consolidation	<b>C26 Carbonyl Compounds</b> - testing for carbonyls, testing for aldehydes	<b>C26 Carbonyl Compounds</b> - acylation and making acyl chlorides from carboxylic acids
22-Sep	4	Arrhenius equation Effect of temp on rate constants	Buffer	<b>C26 Carbonyl Compounds</b> - hydrolysis of esters, consolidation and exam Qs	<b>C29 - Chromatography</b> - TLC and Rf values	<b>C29 - Chromatography</b> - gas chromatography
29-Sep	5	PAG 9 Rates of reaction – continuous monitoring method	PAG 9 Rates of reaction – continuous monitoring method	<b>Y12 Test</b>	<b>Benzene</b> - structure	<b>Benzene</b> - electrophilic substitution intro
06-Oct	6	<b>Chapter 19-Equilibrium</b> Mole fractions and partial pressures	Effect of Kp on position of equilibrium (ICE tables)	<b>Benzene</b> - electrophilic substitution continued	<b>Y12 Test Review</b>	<b>Benzene</b> - comparison of reactivity to alkenes - explanation
13-Oct	7	Calculating quantities at eqm (Kc and Kp)	Effect of changing conditions on equilibrium constant	<b>Phenols</b> - structure and reactivity	<b>Benzene</b> - activating and deactivating groups, directing properties	<b>Benzene</b> - consolidation and exam Q practice



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20-Oct	8	<b>C29 - Chromatography -</b> TLC and Rf values	Buffer/Test Chapter 18/19	Buffer Week	PAG 10 Rates of reaction – initial rates method (plan)	PAG 10 Rates of reaction – initial rates method (carry out)
Half Term						
03-Nov	9	Chapter 20- Acids and Bases Recap/Conjugate acid/base pairs	pH of strong acids	<b>Organic Synthesis -</b> summary of organic reactions to date (flow chart)	<b>Organic Synthesis -</b> summary of organic reactions to date (flow chart)	<b>C27 - Amines -</b> base properties and preparation
10-Nov	10	pH of weak acids (Ka and pKa)	pH calculations	<b>C27 - Amines -</b> base properties and preparation	<b>C27 - Amino Acids -</b> structure and reactions with acids and bases	<b>C27 - Amino Acids -</b> structure and reactions with acids and bases
17-Nov	11	pH of strong bases (Kw)	pH of acid/base reactions	<b>C27 - Polymers -</b> condensation polymers	<b>C27 - Polymers -</b> hydrolysis of condensation polymers and consolidation	C27 - Polymers
24-Nov	12	pH of acid/base reactions	<b>Revision</b>	<b>Revision</b>	<b>Revision</b>	<b>Revision</b>
01-Dec	13	<b>Mocks</b>				
08-Dec	14	<b>Mocks</b>				
15-Dec	15	<b>Chapter 21- Buffer</b> and Neutralisation (Theory)	Buffer and Neutralisation (calculations)	<b>5.2.1 Energy (Enthalpy)</b> Lattice enthalpy and key definitions	Born-Haber cycles	Enthalpy of solution and hydration
End of Term						
05-Jan	16	Buffer and Neutralisation (calculations)	Buffer and Neutralisation (calculations)	Born-Haber cycles involving enthalpy of solution and hydration	Effect of ionic charge and radius on lattice enthalpy	<b>5.2.2 Energy (Entropy)</b> Entropy
12-Jan	17	Buffer and Neutralisation (calculations)	Titration curves and Indicators	Gibbs Free Energy	Limitations of Gibbs Free Energy and how to predict feasibility	<b>Test review</b>



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19-Jan	18	<b>5.3 Transition elements</b> Electronic configuration of transition elements (atoms and ions)	Properties of transition metals Ligands and Complex ions	<b>Year 2 Nomenclature</b> - functional groups	<b>Year 2 Nomenclature</b> - naming practice	<b>Year 2 Nomenclature</b> - naming practice
26-Jan	19	Stereoisomerism shown by complexes Cis-platin	Ligand substitution and precipitation reactions	<b>C29 - Spectroscopy</b> - recap of Y12 spectroscopy - exam Qs.	<b>C29 - Spectroscopy</b> - carbon-13 NMR	<b>C29 - Spectroscopy</b> - carbon-13 NMR
02-Feb	20	Ligand substitution and precipitation reactions	Redox reactions and colour changes	<b>C29 - Spectroscopy</b> - predicting and analysing NMR spectra	<b>C29 - Spectroscopy</b> - deduction of structures from analytical data	<b>C29 - Spectroscopy</b> - exam Qs.
09-Feb	21	Test review	<b>5.2.3 Energy (Redox and Standard Electrode Potentials)</b> Constructing redox equations from half equations	<b>C29 - Spectroscopy</b> - proton NMR	<b>C29 - Spectroscopy</b> - predicting and analysing NMR spectra	<b>C29 - Spectroscopy</b> - predicting and analysing NMR spectra
Half Term						
23-Feb	22	Redox titrations (calculations)	Redox titrations (calculations)	<b>C29 - Spectroscopy</b> - exam Qs.	<b>C29 - Spectroscopy</b> - deduction of structures from analytical data	<b>C29 - Spectroscopy</b> - deduction of structures from analytical data
02-Mar	23	Calculating standard electrode potentials Measurement of cell potentials	Calculating standard electrode potentials Measurement of cell potentials	<b>Revision</b>	<b>Revision</b>	<b>Revision</b>
09-Mar	24	<b>Mocks</b>				
16-Mar	25	Feasibility of a reaction using standard cell potentials	PAG 8 Electrochemical cells			



		Storage and fuel cells				
23-Mar	26	PAG 12- Iron tablets (planning and researching method	PAG 12- Iron tablets (carrying out practical/analysis)			
Easter Holidays						