

Subject: Chemistry

Date	Exams/ Assess	Unit(s)	
		Teacher 1 (4)	Teacher 2 (5)
02/09/2024		Atomic structure <ul style="list-style-type: none"> Relative mass of subatomic particles Atomic number & mass number Mass spectroscopy Electron configuration Ionisation energies 	Bonding <ul style="list-style-type: none"> Ionic bonding Nature of covalent and dative covalent bonds Metallic bonding Bonding & physical properties Types of crystalline substances States of matter Shapes of molecules Bond polarity Forces between molecules
09/09/2024			
16/09/2024			
23/09/2024			
30/09/2024			
07/10/2024			
14/10/2024			
21/10/2024			
04/11/2024		Amount of substance <ul style="list-style-type: none"> Chemical formulae Balanced equations The mole and Avogadro constant Calculations involving gases The Ideal Gas equation Determining empirical & molecular formula Combined calculations 	Kinetics <ul style="list-style-type: none"> Collision theory Enthalpy profile diagrams Distribution of molecular energies Maxwell-Boltzmann <p>Required Practical 3. Investigation of how the rate of reaction changes with temperature.</p> Introduction to Organic Chemistry <ul style="list-style-type: none"> Carbon – a unique element Nomenclature Isomerism
11/11/2024			
18/11/2024			
25/11/2024			
02/12/2024			
09/12/2024			
16/12/2024			
06/01/2025		Assessment Weeks Amount of substance <ul style="list-style-type: none"> Calculations involving solutions Titrations Indicators Combined calculations <p>Required Practical 1. Make up a volumetric solution and carry out a simple acid-base titration.</p>	Assessment Weeks Alkanes <ul style="list-style-type: none"> Physical properties Fractional distillation Industrial cracking Combustion Environmental consequences
13/01/2025	Ass 1		
20/01/2025			
27/01/2025			
03/02/2025			
10/02/2025			
24/02/2025		Energetics <ul style="list-style-type: none"> Enthalpy Hess's Law <p>Required Practical 2. Measurement of an enthalpy change.</p>	Halogenoalkanes <ul style="list-style-type: none"> Physical properties Synthesis – free radical substitution Nucleophilic substitution reactions Elimination reactions Alkenes <ul style="list-style-type: none"> E-Z isomerism Addition Polymers Electrophilic addition reactions Industrial production of ethanol (from ethene)
03/03/2025			
10/03/2025			
17/03/2025			
24/03/2025			
31/03/2025			
21/04/2025		Redox reactions <ul style="list-style-type: none"> Oxidation state Proper names & formulae Oxidation & reduction Redox Half equations Organic redox reactions Combining half equations Group 2 -The Alkaline Earth Metals <ul style="list-style-type: none"> Trends down Group 2 Solubility of Group 2 hydroxides Solubility of Group 2 sulfates Uses of Group 2 elements & their compounds Periodicity <ul style="list-style-type: none"> Blocks on the periodic table Trends across Period 3 	Equilibrium <ul style="list-style-type: none"> Chemical equilibria Le Chatelier's principle Industrial examples Equilibrium law Equilibrium constant K_c Calculating K_c Using K_c Effect of changing concentration Effect of changing pressure & temperature Alcohols <ul style="list-style-type: none"> Physical properties Classification Oxidation reactions Elimination reactions <p>Required Practical 5. Distillation of a product from a reaction.</p>
28/04/2025			
05/05/2025			
12/05/2025			
19/05/2025			
02/06/2025		Group 7 - The Halogens <ul style="list-style-type: none"> Physical properties Redox reactions of halogens Identification of halide ions Identification tests End of Year Exams	Alcohols <ul style="list-style-type: none"> Industrial production of ethanol (by fermentation) Biofuels End of Year Exams Organic Synthesis
09/06/2025			
16/06/2025	EOY		
23/06/2025	Exams		
30/06/2025			

Year 12 Long Term Scheme of Learning 2024-25

HELSEBY

High School



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07/07/2025		Required Practical 4. Identifying cations and anions in solution.	<ul style="list-style-type: none">• Mass spectroscopy of organic compounds• Infrared spectroscopy• Chemical test identification of functional groups. Required Practical 6. Test for functional groups.
14/07/2025			