



Year 10 Curriculum Grid

Separate Chemistry

Year/Term	Unit	Intent
Curriculum purpose		<ul style="list-style-type: none"> • Ensure students have a secure understanding of the key concepts of Chemistry, building on knowledge from KS3. • Encourage students to carry out practical work safely with increasing independent skills. • Enthuse students with a love of Chemistry by incorporating a holistic approach and relating concepts to actions and behaviours.
Autumn	SC11 - Obtaining and using metals SC12 - Reversible reactions and equilibria SC13 - Transition metals, alloys and corrosion	<ul style="list-style-type: none"> • Explain the reactivity series of metals and relate it to metal extraction • Explain displacement reactions as redox reactions • Evaluate the advantages of recycling metals • Explain what is meant by dynamic equilibrium • Explain how electroplating can be used to improve the appearance and/or the resistance to corrosion of metal objects • Explain why iron is alloyed with other metals to produce alloy steels • Explain how the uses of metals are related to their properties
Spring	SC8 - Acids SC14 - Quantitative analysis SC15 - Dynamic equilibria and calculations involving volumes of gases	<ul style="list-style-type: none"> • Describe the use of hazard symbols on containers • Recall that acids in solution are sources of hydrogen ions and alkalis in solution are sources of hydroxide ions • Describe a neutralisation reaction as a reaction between an acid and a base • Calculate the percentage yield of a reaction • Use Avogadro's law to calculate volumes of gases • Describe the Haber process as a reversible reaction between nitrogen and hydrogen to form ammonia
Summer	SC16 - Chemical cells and fuel cells SC17 - Groups in the periodic table SC18 - Rates of reaction SC1 - SC18 Revision	<ul style="list-style-type: none"> • Recall that a chemical cell produces a voltage until one of the reactants is used up • Evaluate the strengths and weaknesses of fuel cells • Explain why some elements can be classified as alkali metals (group 1), halogens (group 7), or noble gases (group 0), based on their position in the periodic table • Explain the relative reactivity of Groups 1, 7 and 0 in terms of electronic configurations • Interpret graphs of mass, volume or concentration of reactant or product against time • Explain how reactions occur using collision theory • Explain the effects on rates of reaction of changes in temperature, concentration, surface area to volume ratio of a solid, and pressure (on reactions involving gases) in terms of frequency and/or energy of collisions between particles • Explain how the addition of a catalyst increases the rate of a reaction in terms of activation energy