

Chemistry Overview 2016-2019 Y9 with triple

Assumed prior knowledge	Chemistry Y9	Chemistry Y10	Chemistry Y11
	Atomic Structure 5.1 5.1.1.1 Atoms, elements and compounds 5.1.1.2 Mixtures (was Purity) 5.1.1.3 Model of the atom (also in Phys) 5.1.1.5 Size and mass of atoms	Atomic Structure 5.1 5.1.1.4 Relative electrical charges 5.1.1.6 Relative atomic mass 5.1.1.7 Electronic structure 5.1.2.2 Development of the periodic table 5.1.2.3 Metals and non-metals	Atomic Structure 5.1 5.1.2.4 Group 0 5.1.2.5 Group 1 5.1.2.6 Group 7 4.1.3 Properties of transition metals
	Bonding Structure and periodic table 5.2 5.2.2.1 The three states of matter 5.2.2.2 State symbols 5.2.1.1 Chemical bonds 5.2.1.5 Metallic bonding 5.2.2.7 Properties of metal and alloys 5.2.2.8 Metals as conductors	Bonding Structure and periodic table 5.2 5.2.1.2 Ionic Bonding 5.2.1.3 Ionic compounds 5.2.1.4 Covalent Bonding 5.2.2.3 Properties of ionic compounds 5.2.2.4 Properties of small molecules	Bonding Structure and periodic table 5.2 5.2.2.5 Polymers 5.2.2.6 Giant covalent 5.2.3.1 Diamond 5.2.3.2 Graphite 5.2.3.3 Graphene and fullerenes 4.2.4 Bulk and surface properties of matter
	Quantitative Chemistry 5.3 5.3.1.1 Conservation of mass	Quantitative Chemistry 5.3 5.3.1.2 RFM 5.3.1.3 Mass changes when a product is a gas 5.3.1.4 Chemical measurements 5.3.2.1 Moles 5.3.2.2. Amounts of substances in equations 5.3.2.3 Using moles to balance equations	Quantitative Chemistry 5.3 5.3.2.1 Moles 5.3.2.2. Amounts of substances in equations 5.3.2.3 Using moles to balance equations 5.3.2.4 Limiting reactants 5.3.2.5 Concentrations of solutions 4.3.3 Yield and atom economy
	Chemical Changes 5.4 5.4.1.1 Metal Oxides 5.4.1.2 The reactivity series 5.4.1.3 Extraction of metals and reduction 5.4.2.1 Reactions of acids with metals	Chemical Changes 5.4 5.4.2.2 Neutralisation of acids and salt production 5.4.2.3 Soluble salts (RP8) 5.4.1.4 Oxidation and reduction in terms of electrons 5.4.2.4 The pH scale and neutralisation 5.4.2.5 Titrations (RP) 5.4.2.6 Strong and weak acids	Chemical Changes 5.4 5.4.3.1 The process of electrolysis 5.4.3.2 Electrolysis of molten ionic compounds 5.4.3.3 Using electrolysis to extract metals 5.4.3.4 Electrolysis of aqueous solutions (RP9)
	Energy Changes 5.5	Energy Changes 5.5 5.5.1.1 Energy transfer during exo and endothermic reactions (RP10)	Energy Changes 5.5 5.5.1.2 Reaction profiles 5.5.1.3 The energy change of reactions 4.5.2 Chemical cells Fuel cells
	The rate & extent of chemical change 5.6 5.6.1.1 Calculating rates of reaction 5.6.1.2 factors which affect the rates of chemical reactions (RP11) 5.6.1.3 Collision theory and activation energy	The rate & extent of chemical change 5.6 5.6.2.1 Reversible reactions 5.6.2.2. Energy changes in reversible reactions 5.6.2.3 Equilibrium	The rate & extent of chemical change 5.6 5.6.1.4 Catalysts 5.6.2.4 The effect of changing conditions on equilibrium 5.6.2.5 The effect of changing concentration 5.6.2.6 The effect of changing temperature 5.6.2.7 The effect of changing pressure
	Organic Chemistry 5.7 5.7.1.1 Crude oil, hydrocarbons and alkanes 5.7.1.2 Fractional distillation and petrochemicals 5.7.1.3 Properties of hydrocarbons 4.7.2.1 Structure and formula of alkenes	Organic Chemistry 5.7 5.7.1.4 Cracking and alkenes 4.7.2 .2 Reactions of alkenes 4.7.2.3 Alcohols 4.7.2.4 Carboxylic acids	Organic Chemistry 5.7 4.7.3 Synthetic and naturally occurring polymers (in S and B unit)
	Chemical Analysis 5.8 5.8.1.1 Pure substances 5.8.1.2 Formulations 5.8.1.3 Chromatography (RP12) 5.8.2.1 Test for hydrogen 5.8.2.2 Test for oxygen 5.8.2.3 test for carbon dioxide 5.8.2.4 Test for chlorine	Chemical Analysis 5.8 4.8.2 Identification of ions (RP)	Chemical Analysis 5.8
	Chemistry of the Atmosphere 5.9 5.9.1.1 The proportions of different gases in the atmosphere 5.9.1.2 The Earth's early atmosphere 5.9.1.3 How oxygen increased (photosynthesis in y10 bio?) 5.9.1.4 How the carbon dioxide decreased	Chemistry of the Atmosphere 5.9 5.9.2.1 Greenhouse gases 5.9.2.2 Human activities which contribute to an increase in greenhouse gases in the atmosphere 5.9.3.1 Atmospheric pollutants from fuels 5.9.3.2 Properties and effects of atmospheric pollutants	Chemistry of the Atmosphere 5.9 5.9.2.3 Global climate change 5.9.2.4 The carbon footprint and its reduction
	Using resources 5.10	Using resources 5.10 5.10.1.1 Using the Earth's resources and sustainable development 5.10.1.4 Alternative methods of extracting metals 5.10.1.2 Potable water (RP13) 5.10.1.3 Waste water treatment	Using resources 5.10 5.10.2.1 Life cycle assessment 5.10.2.2 Ways of reducing the use of resources 4.10.3 Using Materials 4.10.4 The Haber process and NPK fertilisers

Triple only

Triple HT only

Taught a year later in Trilogy than in triple

(RP) required practical for triple only

(RP) required practical for all