



QPHS Year 12 Chemistry Curriculum Map

Half term	Title	Unit summary	Assessment
1	T1: Atomic Structure	<ul style="list-style-type: none"> Fundamental particles Mass number and isotopes Electron configuration 	<ul style="list-style-type: none"> Assessed homework on atomic structure End of topic test on atomic structure
	T2: Amount of substance	<ul style="list-style-type: none"> Moles and mole calculations Concentration calculations and titrations. Ideal gas equation. Percentage yield and atom economy 	<ul style="list-style-type: none"> Required Practical 1: Make up a volumetric solution and carry out a simple acid–base titration Assessed homework on empirical formula and reacting masses. Assessed homework on moles and the ideal gas equation. End of topic test on amount of substance
2	T1: Bonding	<ul style="list-style-type: none"> Ionic, Covalent and Metallic bonding Bonding and physical properties Shapes of simple molecules and ions Bond polarity and forces between molecules 	<ul style="list-style-type: none"> End of topic test on bonding with cumulative knowledge from atomic structure. Assessed homework on bonding End of topic test on Bonding with cumulative knowledge from atomic structure
	T1: Introduction to Organic Chemistry and alkanes	<ul style="list-style-type: none"> Nomenclature and Isomerism Fractional distillation of crude oil and modification of alkanes by cracking Combustion of alkanes Chlorination of alkanes 	<ul style="list-style-type: none"> Assessed homework on introduction to Organic Chemistry Assessed homework on alkanes End of topic test on introduction to organic chemistry and alkanes with cumulative knowledge from bonding and atomic structure
3	T2: Energetics	<ul style="list-style-type: none"> Enthalpy and bond enthalpies Measuring enthalpy changes Hess's Law 	<ul style="list-style-type: none"> Required Practical 2: Measurement of an enthalpy change Assessed homework on energetics End of topic test on energetics with cumulative knowledge from bonding
	T2: Kinetics	<ul style="list-style-type: none"> Collision Theory and Rate Graphs Catalysts Maxwell Boltzmann distribution curves 	<ul style="list-style-type: none"> Required Practical 3: Investigation of how the rate of a reaction changes with temperature Assessed homework on kinetics
4	T1: Haloalkanes and alkenes	<ul style="list-style-type: none"> Nucleophilic Substitution and Elimination reactions of haloalkanes Ozone Depletion Structure, bonding and reactivity of alkenes Addition reaction of alkenes Addition polymers 	<ul style="list-style-type: none"> Assessed homework on Haloalkanes Assessed homework on alkenes End of topic test on haloalkanes and alkenes with cumulative knowledge from organic chemistry and alkanes
	T2: Equilibrium and REDOX	<ul style="list-style-type: none"> Redox rules and identifying redox reaction Equilibrium Equilibrium constant 	<ul style="list-style-type: none"> Assessed homework on Equilibrium and REDOX End of topic test on equilibrium and REDOX with cumulative knowledge from kinetics
5	T1: Alcohols	<ul style="list-style-type: none"> Alcohol production Oxidation of alcohols Elimination 	<ul style="list-style-type: none"> Required Practical 5: Distillation of a product from a reaction Assessed homework on alcohols End of topic test on alcohols with cumulative knowledge from all organic topics so far
	T2: Periodicity	<ul style="list-style-type: none"> The periodic table Periodicity 	<ul style="list-style-type: none"> Assessed homework on Periodicity
6	T2: Group 2 and 7	<ul style="list-style-type: none"> The Alkaline earth metals and their reactions. Introduction to halogens and halide displacement. Reactions between chlorine and water. The reactions between halides and concentrated sulfuric acid Chemical tests 	<ul style="list-style-type: none"> Assessed homework on group 2 Assessed homework on group 7 Required Practical 4: Carry out simple test-tube reactions
	T1: Organic analysis	<ul style="list-style-type: none"> Identification of functional groups by test-tube reactions Mass spectrometry Infrared spectroscopy 	<ul style="list-style-type: none"> Required Practical 6: Tests for alcohol, aldehyde, alkene and carboxylic acid
	T1 and T2: Revision and exam skills	Revision of all content from year 12 Chemistry	Mock exam covering all content from year 12 Chemistry