AQA GCSE Chemistry (Higher) - Specification Checklist

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PPQs = Past paper questions

Paper 1H

4.1 Atomic structure and the periodic table

4.1.1 - A simple model of the atom, symboles, relative atomic mass, electronic charge and isotopes

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.1.1.1	Atoms, elements and compounds				
4.1.1.2	Mixtures				
4.1.1.3	The development of the model of the atom (common content with physics)				
4.1.1.4	Relative electrical charges of subatomic particles				
4.1.1.5	Size and mass of atoms				
4.1.1.6	Relative atomic mass				
4.1.1.7	Electronic structure				

4.1.2 - The periodic table

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.1.2.1	The periodic table				
4.1.2.2	Development of the				

	periodic table				
4.1.2.3	Metals and non-metals				
4.1.2.4	Group 0				
4.1.2.5	Group 1				
4.1.2.6	Group 7				

4.1.3 - Properties of transition metals

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.1.3.1	Comparison with group 1 elements				
4.1.3.2	Typical properties				

4.2 Bonding, structure, and the properties of matter

4.2.1 - Chemical bonds, ionic, covalent and metallic

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.2.1.1	Chemical bonds				
4.2.1.2	Ionic bonding				
4.2.1.3	Ionic compounds				
4.2.1.4	Covalent bonding				
4.2.1.5	Metallic bonding				

4.2.2 - How bonding and structure are related to the properties of substances

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.2.2.1	The three states of matter				
4.2.2.2	State symbols				
4.2.2.3	Properties of ionic compounds				

4.2.2.4	Properties of small molecules				
4.2.2.5	Polymers				
4.2.2.6	Giant covalent structures				
4.2.2.7	Properties of metals and alloys				
4.2.2.8	Metals as conductors				

4.2.3 - Structure and bonding of carbon

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.2.3.1	Diamond				
4.2.3.2	Graphite				
4.2.3.3	Graphene and fullerenes				

4.2.4 - Bulk and surface properties of matter including nanoparticles

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.2.4.1	Sizes of particles and their properties				
4.2.4.2	Uses of nanoparticles				

4.3 Quantitative chemistry

4.3.1 - Chemical measurements, conservation of mass and the quantitative interpretation of chemical equations

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.3.1.1	Conservation of mass and balanced chemical equations				
4.3.1.2	Relative formula mass				

4.3.1.3	Mass changes when a reactant or product is a gas				
4.3.1.4	Chemical measurements				

4.3.2 - Use of amount of substance in relation to masses of pure substances

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.3.2.1	Moles				
4.3.2.2	Amounts of substances in equations				
4.3.2.3	Using moles to balance equations				
4.3.2.4	Limiting reactants				
4.3.2.5	Concentration of solutions				

4.3.3 - Yield and atom economy of chemical reactions

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.3.3.1	Percentage yield				
4.3.3.2	Atom economy				

4.3.4 - Using concentrations of solutions in mol/dm^3

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.3.4	Using concentrations of solutions in mol/dm^3				

4.3.5 - Use of amount of substance in relation to volumes of gases

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.3.5	Use of amount of substance in relation to volumes of gases				

4.4 Chemical changes

4.4.1 - Reactivity of metals

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.4.1.1	Metal oxides				
4.4.1.2	The reactivity series				
4.4.1.3	Extraction of metals and reduction				
4.4.1.4	Oxidation and reduction in terms of electrons				

4.4.2 - Reactions of acids

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.4.2.1	Reactions of acids with metals				
4.4.2.2	Neutralisation of acids and salt production				
4.4.2.3	Soluble salts				
4.4.2.4	The pH scale and neutralisation				
4.4.2.5	Titrations				
4.4.2.6	Strong and weak acids				

4.4.3 - Electrolysis

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.4.3.1	The process of electrolysis				
4.4.3.2	Electrolysis of molten ionic compounds				
4.4.3.3	Using electrolysis to extract metals				
4.4.3.4	Electrolysis of aqueous solutions				
4.4.3.5	Representation of reactions at electrodes as half equations				

4.5 Energy changes

4.5.1 - Exothermic and endothermic reactions

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.5.1.1	Energy transfer during exothermic and endothermic reactions				
4.5.1.2	Reaction profiles				
4.5.1.3	The energy change of reactions				

4.5.2 - Chemical cells and fuel cells

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.5.2.1	Cells and batteries				
4.5.2.2	Fuel cells				

Paper 2H

4.6 The rate and extent of chemical change

4.6.1 - Rate of reaction

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.6.1.1	Calculating rates of reactions				
4.6.1.2	Factors which affect the rates of chemical reactions				
4.6.1.3	Collision theory and activation energy				
4.6.1.4	Catalysts				

4.6.2 - Reversible reactions and dynamic equilibrium

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.6.2.1	Reversible reactions				
4.6.2.2	Energy changes and reversible reactions				
4.6.2.3	Equilibrium				
4.6.2.4	The effect of changing conditions on equilibrium				
4.6.2.5	The effect of changing concentration				
4.6.2.6	The effect of temperature changes on equilibrium				
2.6.2.7	The effect of pressure changes on equilibrium				

4.7 Organic chemistry

4.7.1 - Carbon compounds as fuels and feedstock

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.7.1.1	Crude oil, hydrocarbons and alkanes				
4.7.1.2	Fractional distillation and petrochemicals				
4.7.1.3	Properties of hydrocarbons				
4.7.1.4	Cracking and alkenes				

4.7.2 - Reactions of alkenes and alcohols

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.7.2.1	Structure and formulae of alkenes				
4.7.2.2	Reactions of alkenes				
4.7.2.3	Alcohols				
4.7.2.4	Carboxylic acids				

4.7.3 - Synthetic and naturally occurring polymers

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.7.3.1	Addition polymerisation				
4.7.3.2	Condensation polymerisation				
4.7.3.3	Amino acids				
4.7.3.4	DNA (deoxyribonucleic acid) and other naturally occurring polymers				

4.8 Chemical analysis

4.8.1 - Purity, formulations and chromatography

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.8.1.1	Pure substances				
4.8.1.2	Formulations				
4.8.1.3	Chromatography				

4.8.2 - Identification of common gases

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.8.2.1	Test for hydrogen				
4.8.2.2	Test for oxygen				
4.8.2.3	Test for carbon dioxide				
4.8.2.4	Test for chlorine				

4.8.3 - Identification of ions by chemical and spectroscopic means

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.8.3.1	Flame tests				
4.8.3.2	Metal hydroxides				
4.8.3.3	Carbonates				
4.8.3.4	Halides				
4.8.3.5	Sulfates				
4.8.3.6	Instrumental methods				
4.8.3.7	Flame emission spectroscopy				

4.9 Chemistry of the atmosphere

4.9.1 - The composition and evolution of the Earth's atmosphere

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.9.1.1	The proportions of different gases in the atmosphere				
4.9.1.2	The Earth's early atmosphere				
4.9.1.3	How oxygen increased				
4.9.1.4	How carbon dioxide decreased				

4.9.2 - Carbon dioxide and methane as greenhouse gases

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.9.2.1	Greenhouse gases				
4.9.2.2	Human activities which contribute to an increase in greenhouse gases in the atmosphere				
4.9.2.3	Global climate change				
4.9.2.4	The carbon footprint and its reduction				

4.9.3 - Common atmospheric pollutants and their sources

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.9.3.1	Atmospheric pollutants from fuels				
4.9.3.2	Properties and effects of atmospheric pollutants				

4.10 Using resources

4.10.1 - Using the Earth's resources and obtaining potable water

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.10.1.1	Using the Earth's resources and sustainable development				
4.10.1.2	Potable water				
4.10.1.3	Waste water treatment				
4.10.1.4	Alternative methods of extracting metals				

4.10.2 - Life cycle assessment and recycling

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.10.2.1	Life cycle assessment				
4.10.2.2	Ways of reducing the use of resources				

4.10.3 - Using materials

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.10.3.1	Corrosion and its prevention				
4.10.3.2	Alloys as useful materials				
4.10.3.3	Ceramics, polymers and composites				

4.10.4 - The Haber process and the use of NPK fertilisers

Num.	Topic Name	Topic covered?	Flashcards made?	Flashcards learnt?	PPQs Done?
4.10.4.1	The Haber process				
4.10.4.2	Production and uses of NPK fertilisers				