

6 C Carbon	2 He Helium	128 M Mithril	53 I Iodine	16 S Sulphur	121 T Tyberium	130 R Rearden	39 Y Yttrium
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CHEMISTRY

AS Level:

Personalised Learning Checklist



Name:.....

	Confident 😊	Developing 😊	With difficulty 😞	
UNIT 1: 3.1 Physical Chemistry - I have read and fully understand...				
3.1.1 Atomic structure Democracy				
3.1.2 Amount of substance				
3.1.3 Bonding				
3.1.4 Energetics				
3.1.5 Kinetics				
3.1.6 Chemical equilibria and Le Chatelier's principle				
3.1.7 Oxidation, reduction and redox equations				
UNIT 2: 3.2 Inorganic Chemistry - I have read and fully understand...				
3.2.1 Periodicity				
3.2.2 Group 2, the alkaline earth metals				
3.2.3 Group 7(17), the halogens				
UNIT 3: 3.3 Organic Chemistry - I have read and fully understand...				
3.3.1 Introduction to organic chemistry				
3.3.2 Alkanes				
3.3.3 Halogenoalkanes				

3.3.4 Alkenes				
3.3.5 Alcohols				
3.3.6 Organic analysis				

AS assessment at a glance

Two written papers		
Paper 1	50%	1 hour 30 mins 80 marks
Paper 2	50%	1 hour 30 mins 80 marks

AS assessment in more detail

Paper 1: Inorganic and Physical chemistry	+	Paper 2: Organic and Physical chemistry
Content • Inorganic chemistry • Relevant practical skills • Relevant physical chemistry topics eg: - Atomic structure - Amount of substance - Bonding - Energetics - Equilibria - Redox		Content • Organic chemistry • Relevant practical skills • Relevant physical chemistry topics eg: - Amount of substance - Bonding - Energetics - Equilibria - Kinetics
Questions • 65 marks, with a mixture of short and long answer questions • 15 marks of multiple choice questions		Questions • 65 marks, with a mixture of short and long answer questions • 15 marks of multiple choice questions

Command words in Chemistry

Analyse	Interpret data to arrive at a conclusion.	Explain	Set out purposes or reasons.
Calculate	Work out the value of something.	Give	Produce an answer from recall or from given information.
Comment	Present an informed opinion.	Identify	Name or otherwise characterise.
Compare	Identify similarities and/or differences.	Justify	Support a case with evidence.
Complete	Finish a task by adding to given information.	Label	Provide appropriate names on a diagram.
Deduce	Draw conclusions from information provided.	List	List a number of features or points without further elaboration.
Define	Specify meaning.	Name	Identify using a recognised technical term.
Describe	Set out characteristics.	Outline	Set out main characteristics.
Design	Set out how something will be done.	Predict	Give a plausible outcome.
Determine	Use given data or information to obtain an answer.	Show	Provide structured evidence to reach a conclusion.
Draw	Produce a diagram.	Sketch	Draw approximately.
Estimate	Assign an approximate value.	State	Express in clear terms.
Evaluate	Judge from available evidence.	Suggest	Present a possible case/solution.

Chemistry apparatus and techniques



	Apparatus and techniques
AT a	Use appropriate apparatus to record a range of measurements (to include mass, time, volume of liquids and gases, temperature)
AT b	Use water bath or electric heater or sand bath for heating
AT c	Measure pH using pH charts, or pH meter, or pH probe on a data logger
AT d	Use laboratory apparatus for a variety of experimental techniques including:
AT e	Use volumetric flask, including accurate technique for making up a standard solution
AT f	Use acid–base indicators in titrations of weak/strong acids with weak/strong alkalis
AT g	Purify: • a solid product by recrystallisation • a liquid product, including use of separating funnel
AT h	Use melting point apparatus
AT i	Use thin-layer or paper chromatography
AT j	Set up electrochemical cells and measuring voltages
AT k	Safely and carefully handle solids and liquids, including corrosive, irritant, flammable and toxic
AT l	Measure rates of reaction by at least two different methods, for example: • an initial rate method such as a clock reaction • a continuous monitoring method

Chemistry required activities (1-6 AS), (1-12 A-level)



AQA

Required activity	Apparatus and technique reference
1. Make up a volumetric solution and carry out a simple acid–base titration	a, d, e, k
2. Measurement of an enthalpy change	a, d, k
3. Investigation of how the rate of a reaction changes with temperature	a, b, k
4. Carry out simple test-tube reactions to identify cations and anions in aqueous solution	b, d, k
5. Distillation of a product from a reaction	b, d, k
6. Tests for alcohol, aldehyde, alkene and carboxylic acid	b, c, d, k
7. Measuring the rate of reaction: • by an initial rate method • by a continuous monitoring method	a, k, l a, k, l
8. Measuring the EMF of an electrochemical cell	j, k
9. Investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base	a, c, d, f, k
10. Preparation of: • a pure organic solid and test of its purity • a pure organic liquid	a, b, d, g, h, k b, d, g, k
11. Carry out simple test-tube reactions to identify transition metal ions in aqueous solution	b, c, d, k
12. Separation of species by thin-layer chromatography	i, k

	Confident 😊	Developing 😊	With difficulty 😞	
PRACTICAL SKILLS				
I can follow written procedures				
I can apply investigative approaches and methods when using instruments and equipment				
I can safely use a range of practical equipment and materials				
I can make and record observations				
I know how to research, provide references and compose reports				

