

AS and A LEVEL CHEMISTRY A

Lesson Element

Keyword activities

Instructions for teachers

These instructions are for a classroom activity which supports OCR A Level Chemistry A.

AS and A LEVEL CHEMISTRY A	
Key Terms Module 2	
Atomic structure	Mole calculations
Relative mass	Moles of gas
Formulae and equations	Atom economy
The mole	Concentration calculations
empirical formulae	Ideal gas equation
Mole calculations	Neutralisation
Percentage yields	Alkalis
Acids	Bases
Acid-base titrations	Electronic configuration
Oxidation number	Sub shells
Redox reactions	bond polarity
Energy levels	Isotopes
Ionic bonding	Balancing equations
Covalent bonding	Anhydrous
The shapes of simple molecules and ions	Water of crystallisation
Electronegativity	Hydrogen bonding
Intermolecular forces	lattice

AS and A LEVEL CHEMISTRY A	
Key Terms Module 5	
Rate equation	First order
Zero order	Second order
Calculating k	Concentration-time graphs
Rate-concentration graphs	Rate determining step
Effect of temp on rate	Arrhenius equation
Mole fraction	Partial pressure
K_c	Homogeneous
Equilibrium constant	heterogeneous
Bronsted Lowry Acid	Acid dissociation constant
pH	Relationship between K_a and pK_a
K_w	Buffers
pH titration curve	Calculating pH of a buffer solution
indicator	Lattice enthalpy
Entropy	Born-Haber
Redox	Free Energy
Redox titrations	Electrode potentials
Storage and fuel cells	Standard cell
Transition metals	ligands

Just a minute!

To run this activity you will need a set of cards and stopwatch.

The idea of this game is to allow students to talk about particular topics. This is a good revision game, or a nice plenary to summarise at the end of a lesson or the end of a topic. Students can play this by themselves as well as in teams. It is based on the BBC Radio 4 show 'Just a Minute'. If they start to repeat themselves or 'um and ah' they lose the topic and someone else can jump in and finish the topic. The winner is the person who has the most cards at the end.



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What's in the bag?

To run this activity you will need a set of cards.

Round 1:

- Students take turns pulling the cards out of the bag. Once chosen they have to describe what is on the card. Winner is the person who names it first.
- The winner then chooses a card and describes.
- This continues until all the cards are gone.
- Students count up the number of cards they have.

Round 2:

- All cards returned to the bag.
- This time only one word (you can increase this to 3 if this proves too difficult) can be used for identification of the card.
- Winner names the card correctly and then chooses the next card.
- At the end of the round students count up the number of cards they have.

Round 3:

- All cards returned to the bag.
- This time students have to mime the card. (can be very tricky but fun to observe!).
- Winner names the card correctly and then chooses the next card.
- At the end of the round students count up the number of cards they have.



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Key Terms Module 3

The periodic table	Atomic number
Period 2	Period 3
Metallic bonding	Ionisation energy
Melting point	Giant covalent lattice
Reactivity of group 2	Group 2 reactions
Uses of group 2 compounds	Le Chatelier
Disproportionation	Water treatment
K_c	Test for halide ions
How to test for a carbonate ion	How to test for a sulphate ion
Exothermic	Endothermic
Enthalpy profile diagrams	Activation energy
Standard conditions	Enthalpy change of reaction
Enthalpy change of combustion	Enthalpy change of formation
Enthalpy change of neutralisation	$q=mc\Delta T$
Average bond enthalpy	Hess's Law
Catalysts	Collision theory
Boltzmann distribution	Equilibrium



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Key Terms Module 4

Hydrocarbon	IUPAC rules
Alkane	Alkene
Homologous series	Skeletal formula
Functional groups	Aliphatic
Aromatic	Saturated
Isomerism	Homolytic fission
Reaction mechanisms	Heterolytic fission
Radical substitution	Tetrahedral shape
Trigonal planar	Stereoisomerism
E/Z isomerism	CIP rules
Addition reactions	Electrophile
Addition polymerisation	Markownikoffs rule
Reactions of alcohols	Substitution reactions of haloalkanes
Reflux	Halogen radicals
Separating	Drying
Recrystallisation	Distilling
IR	Mass spec



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Oxidation	Reduction
Complex ion	Redox
Ligand substitution	Precipitation reactions
Test for carbonates	Test for halides
Test for ammonium ions	Test for sulphates
Flame tests	Optical isomerism

Key Terms Module 6

Benzene	Electrophilic substitution
Phenol	Aromatic compounds
Directing effects	Carbonyl compounds
Aldehyde reactions	Nucleophilic addition
Test for carbonyl	HCN
Tollens reagent	Esters
Carboxylic acids	Esterification
Acyl chlorides	Hydrolysis of esters
Amines	Polymerisation
Aliphatic amines	Aromatic amines
Amino acid reactions	Amines and acid



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Secondary amines	Primary amines
Condensation polymers	Addition polymerisation
reflux	Distillation
Recrystallization	filtration
Melting point	Chromatography
NMR	Test for alkanes
Test for haloalkanes	Test for phenols
Test for carbonyls	Test for aldehydes
Mass spectra	IR spectra



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