Chemistry OCR. A

	TERM 1 TOPIC LIST
2.1	**Foundations in chemistry**
2.1.1	Atoms and reactions
	Atomic structure and isotopes
	relative mass, mass spectrometry
2.1.3	Compounds, formulae and equations
	formulae and equations
2.1.4	Amount of substance
	the mole
	determination of formulae
	calculating reacting masses, gas volumes and mole concentrations
	percentage yields & atom economy
2.1.4	Acids
	acids, bases, alkalis and neutralisation
	acid-base titrations
2.1.5	Redox
	oxidation number
	redox reactions
2.2	**Electrons, bonding and structure**
2.2.1	energy levels, shells, sub-shells, atomics orbitals & electron configuration
2.2.3	Bonding and structure
	ionic bonding
	covalent bonding
	shapes of simple molecules and ions
	electronegativity and bond polarity
	intermolecular forces
3.1	**Periodic table and energy**
3.1.1	Periodicity
	structure of the periodic table
	electron configuration and ionisation energy
	structure & melting points
3.1.2	Group 2
	redox reactions and group 2 metals reactivity
	reactions of group 2 compounds
3.1.3	The halogens
	Physical properties
	redox reactions and halogens reactivity
	Characteristic reactions of halide ions

	TERM 2 TOPIC LIST
3.1.4	**Qualitative analysis**
3.2	Physical chemistry
3.2.1	Enthalpy changes
	bond enthalpies
	Hess' law and enthalpy cycles
3.2.2	Reaction rates
	simple collision theory
	catalysts
	the Boltzmann distribution
3.2.3	Chemical equilibrium
	Dynamic equilibrium & Le Chatelier's principle
	the equilibrium constant
4.1	**Core organic chemistry**
4.1.1	Basic concepts of organic chemistry
	naming and representing the formulae of organic compounds
	functional groups
	isomerism
	reaction mechanisms

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4.1.2	alkanes
	properties of alkanes
	reactions of alkanes
4.1.3	alkenes
	properties of alkenes
	stereoisomerism in alkenes
	addition reactions of alkenes
	polymers from alkenes
	waste polymers and alternatives
4.2.1	alcohols
	properties of alcohols
	reactions of alcohols
4.2.2	haloalkanes
	substitution reactions of haloalkanes
	environmental concerns for organohalogen compounds
4.2.3	organic synthesis
	practical skills
	synthetic routes
4.2.4	Analytical techniques
	infrared spectroscopy
	mass spectrometry
	combined techniques