|  | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2**  | **Summer 1** | **Summer 2** |
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| Year 10  | **ATOMIC STRUCTURE AND THE PERIODIC TABLE**Atomic structure and nuclear symbols Elements and compounds Equations, mixtures and chromatography Separation techniques Atomic and electronic structure The periodic table Metals and non-metals Group 1 and group ) elements Group 7 elements **STRUCTURES AND BONDING** Ions and ionic bonding Covalent bonding and simple molecules Covalent structures metallic bonding States of matter and changing state | **ENERGY** Energy stores, transfers and systems Energy, power and efficiency Reducing unwanted energy transfers Non-renewables and renewable**ELECTRICITY** Current V=IR and circuit symbols I-V characteristics and circuit devices Series and parallel circuits Electricity in the home Energy, power and the National grid **PARTICLE MODEL**The particle model Motion in gases Density, Internal energy and states Heating and cooling | **CELL BIOLOGY** CellsCell division Cell specialisation Stem cells Transport in cells Exchanging substances **ORGANISATION** Cell organisation Enzymes The lungs and heart Blood vessels and Blood Cardiovascular disease Health and disease Risk factors for diseases and cancer Plant cell organisation Transpiration | **QUANTITATIVE CHEMISTRY** Mass and concentration **CHEMICAL CHANGES** Acids, bases and their reactions Reactivity of metals Electrolysis **ENERGY CHANGES** Exothermic and endothermic reactions Using energy transfers from reactions Reaction profiles Bond energy calculations | **ATOMIC STRUCTURE** Developing the model of the atom Isotopes and nuclear radiation Nuclear radiation and half life Contamination, Irradiation and Risk **FORCES** Scalars, vectors and forcesWeight, resultant forces and work done Forces and elasticity motion D-T and V-T graphs newton's laws of motion Terminal velocity and reaction times Stopping distances | **INFECTION AND RESPONSE** Communicable disease Fighting disease Drugs **BIOENERGETICS** Photosynthesis RespirationMetabolism and exercise |
| Year 11 | **RATES OF REACTION** Rate of reaction Collision Theory and Catalysts Factors affecting rates of reaction Reversible reactions**ORGANIC CHEMISTRY** Crude oil Fractional distillation Alkanes Crackin**g** **CHEMICAL ANALYSIS** Purity, formulation and gas tests Paper chromatography**CHEMISTRY OF THE ATMOSPHERE** The evolution of the atmosphere Greenhouse gases and climate change Carbon footprints and air pollution **USING RESOURCES** Resources and life cycle assessment Reuse and recycling Treating water Desalination and treating waste water | **WAVES** Transverse and Longitudinal waves Speed of sound, Refraction EM waves Uses and dangers of EM waves **ELECTROMAGNETS** Magnets Compasses Electromagnetism | **HOMEOSTASIS AND RESPONSE** Homeostasis and the nervous system Synapse, reflexes and hormones Blood glucose,Diabetes and Puberty The Menstrual cycle Contraception **INHERITANCE, VARIATION AND EVOLUTION** DNA Reproduction Genetic diagrams Inherited disordersVariation and evolution Uses of genetics Fossils and antibiotic resistance Classification and extinction | **ECOLOGY** Basics of ecology Food chains and biodiversity Cycling of materials Human effects on ecosystems Maintaining ecosystems |  |  |