|  | **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**  Cells  Cell 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 forces  Weight, 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  Respiration  Metabolism 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 disorders  Variation 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 |  |  |