

12/ 13	Cell Ultrastructure Disease Immunity Totipotency Organelles Muscles Nerves Membranes	DNA technology DNA structure Transcription Translation Cancer Genes Hybridisation Epigenetics Crosses Multiple alleles GM	DNA structure Enzymes Respiration Photosynthesis Gene technology 2nd messenger Transport	N cycle Feedback loops Ecological Biodiversity Cell Cycle Courtship predator/prey Homeostasis	Electron configurations Bonding Polarisation Shapes of molecules Periodicity-gp2,7 and period 3 Isomerism Transition metals Inorganic complexes	Kinetics Equilibria Titrations Amino acids, DNA,aromatic, Halogenoalkanes, alkanes,alkenes, alcohol, esters,enzymes Acids and bases Synthesis	Mass spectrometry IR, NMR, Chromatography Redox Fuel cells Distillation Reflux Fractional distillation Purification Recrystallisation Waste disposal	Titration Amount of substance Energetics Enthalpy Entropy Kc, Kp, Ka, Kw Electrode potentials Rate	Work, energy power. Ideal gas laws Kinetic Theory Thermal energy transfer Types of nuclear radiation. Nuclear Fission Nuclear fusion	Particle classification and interactions Quantum phenomena Electromagnetic Radiation. Types of wave Wave phenomena	Forces and motion, momentum Projectiles Mechanical properties of materials Circular motion Simple harmonic motion. Gravitational fields	Circuit theory. Resistivity, resistance, EMF, superconductivity. Electric fields Magnetic fields Capacitors	Hazards Economics Evolution Environment Atmosphere Telescopes Star classification Stellar Evolution Cosmology
GCSE	Brain Microscopy Cell structure Stem cells Bacteria Immunity Cell division Disease Plant systems Metabolism Nervous system Cloning	Specialisation differentiation Protein synthesis Evolution Structure Bacterial resistance GM	Enzymes Digestion Transport of molecules Disease treatment History of drug development Respiration Photosynthesis Exercise Food tests	Menstrual Hormones Cardiac Water Homeostatic cycles - temp, glucose Cell cycle N cycle Biodiversity Sustainable development	Atomic structure History of the atom and periodic table Bonding Trends Nanoscience State changes Gas tests Atmosphere Ceramics, composites	Acids and bases Metal reactions Exothermic Endothermic Rates of reaction Equilibria Cracking Functional groups	Distillation Chromatography Filtration Crystallisation Electrolysis Fractional distillation Redox Extraction of metals Fuel cells Haber process Pollution Water treatment Recycling	Limiting reagent Moles Conservation of mass Concentrations Gas calculations Bond energies Carbon footprint Life cycles	Internal energy Energy transfers and efficiency. National and global energy resources. Work and power. Kinetic, potential and elastic energy equations Particle model and pressure Atoms and isotopes Radioactivity Hazards and uses Nuclear power	Waves in air, fluids and solids Properties, hazards and uses of electromagnetic waves Ultrasound* Seismic waves* Lenses* Black body radiation*	Newtons Laws Momentum Scalars and vectors Graphing motion Acceleration Stretching materials Moments* Pressure in fluids*	Current, potential difference and resistance Components and I/V curves Electrical energy Domestic uses and safety Electrostatics* Electric Fields* Permanent and induced magnetism, magnetic forces and fields. Electromagnetism and its uses.. National grid	Solar system and satellites* Structure of the Universe.* Life cycle of stars*. How the Universe began*.
	9	Adaptations	Family tree Heredity Evolution GM	Food tests Photosynthesis	Sustainable development Predator/prey	Reactivity series	Displacement Symbol equations Conservation	Corrosion Oxidation Neutralisation	Word/symbol equations	Work, power, Efficiency Generating electricity. Heat energy and heat transfer	Speed Friction Pressure Moments Levers Gravity	Day/night Seasons Solar System Gravity	
8	Organs/ systems Diet Fitness Bacteria Disease		Enzymes Respiration	Cardiac Ventilation	Solubility Saturation	Acids,alkalis Neutralisation	Distillation Filtration Evaporation Chromatography			Light Reflection Refraction Lenses Color/Filters Sound Ultrasound Speed Volume/Pitch	Magnets Electromagnets Fields Permanent Induced	Earth Structure Types of rock Rock Cycle Fossil fuels	
7	Living things Cells, tissues ,organs Microscopy Plant structure	Heredity Specialisation,differentiation	Fertilisation Transport of molecules	Menstrual Cell division	Structure Periodic table States of matter Particle theory Density metals , non metals	Word equations		Solubility	Types of Energy Thermal transfer Energy sources Renewable v Non renewable		Pushes and pulls Balanced forces Floating/sinking Mass/Weight Friction	Current Voltage Circuit symbols Types of circuit	

Cells

DNA

Reactions

Cycles

Atoms

Reactions

Processes

Quantitative

Energy

Waves

Forces

Electricity and Magnetism

Earth and Space

Biology

Chemistry

Physics