Key Stage 3: Year 7

Overall Curriculum Goals - developing the following Big Ideas:

- **Forces predict motion**
- **Structure determines properties**
- **Organisms interact in communities**
- **Forces act through fields**
- **Reactions rearrange matter**
- **Ecosystems cycle matter and energy**
- **Energy is conserved in transfers**
- **Earth systems interact**
- **Characteristics are inherited**
- **Electricity transfers energy**
- **Cells carry out life processes**
- **Species show variation**
- **Energy travels as radiation**
- **Bodies work as systems**

Term 1

WC 02/09 & 09/09	WC 16/09 & 23/09	WC 30/10 & 07/10	WC 14/10 & 21/11	WC 04/11 & 1111	WC 18/11 & 25/12	WC 02/12 & 09/12
Becoming a St Anne's Scientist • Safety • Hazard symbols • equipment	Theme Park (7K & 8L) • Weight and Mass • Friction Springs	Theme Park (7K & 8L) • Balanced and Unbalanced forces • Pressure	Theme Park (7K & 8L) • Magnetism Electrostatic Assessment 1 Close the Gap	What a State! (7G) • Solids, liquids and gases • Particle model • State changes •	What a State! (7G) • Heating curves • Brownian Motion Diffusion	What a State! (7G) • Air Pressure • Reversible Reactions Assessment 2 Close the Gap

Key Vocabulary/Concepts/ideas

Half Term 1 forces, resistance, mass, weight, gravity, magnetism, springs, proportional, friction, pressure, balanced, unbalanced, gravitational field

Half Term 2 Brownian motion, compressed, diffusion, equipment:, hazard, particle, pressure, reversible, safety, state, volume

Term 2

WC 06/01 & 13/01	WC 20/01 & 27/01	WC 03/02 & 10/02	WC 24/02 & 03/03	WC 10/03 & 17/03	WC 24/03 & 31/03
A&E (7A & 7C) • Life Processes • Cells • Specialised Cells • Microscopes	A&E (7A & 7C) • Tissues • Organs and Transplants • Blood • Muscles and breathing	A&E (7A & 7C) □ Skeleton □ Muscles and moving □ Drugs □ Organ Systems □ Assessment 3 Close the Gap	Recipe for Life (7H & 8F) • Elements, compounds and mixtures • Atoms • Periodic Table	Recipe for Life (7H & 8F) • Making Compounds • Chemical Reactions • Word Equations	Recipe for Life (7H & 8F) Assessment 4 Close the Gap

Key Vocabulary/Concepts/ideas

Half Term 3 organism, movement, reproduction, sensitivity, growth, respiration, excretion, nutrition, cell, tissue, organ, organ system, microscope, nucleus, cell membrane, cytoplasm, cell wall, chloroplast, vacuole, gas exchange, respiration, blood, capillaries

Half Term 4 particles, element, compound, mixture, periodic table, atoms, properties, metal, non-metal, flexible, malleable, conductor, magnetic, melting point, boiling point,, reactants, products, thermal decomposition

Term 3

WC 21/04 & 28/04	WC 05/05 & 12/05	WC 19/05	WC 02/06 & 09/06	WC 16/06 & 23/06	WC 30/06 & 07/07 &14/07
SAS Survival (8K) • Conduction • Convection • Radiation • Insulation	SAS Survival (8K) • Energy Transfers Assessment 5 Close the Gap Herbology (7D & 8B) • Adaptations	Herbology (7D & 8B) • Variation Useful Plants • Adaptations of a leaf • Food chains and webs	Herbology (7D & 8B) • Environmental effects and pyramids • Classification • Types of reproduction • Pollination and seed dispersal	Herbology (7D & 8B) • Germination Assessment 6 Close the Gap Potions(7F) • Hazard symbols • Acids and Alkalis	Potions (7F) • indicators • Neutralisation • Neutralisation equations Assessment 7 Close the Gap

Key Vocabulary/Concepts/ideas	
Half Term 5 temperature, energy, joules, evaporation, radiation, conduction, convection, emit, reflected, absorbed, insulator, transfer, efficiency habitat, species**,** variation, continuous, discontinuous,	**Half Term 6** adaptation, competition, predator, prey, food chain, food web, energy, pyramid of number, biodiversity, sexual, asexual, fertilisation, zygote, pollination, seed dispersal, germination Hazard, acid, alkali, neutralisation, indicator

CEIAG
Cultural capital sheets to introduce each unit. careers displays around the whole department British Science week, BioBakes, BioArtAttack

Key Stage 3: Year 8

Overall Curriculum Goals - developing the following Big Ideas:

- **Forces predict motion**
- **Forces act through fields**
- **Energy is conserved in transfers**
- **Electricity transfers energy**
- **Energy travels as radiation**
- **Structure determines properties**
- **Reactions rearrange matter**
- **Earth systems interact**
- **Cells carry out life processes**
- **Bodies work as systems**
- **Organisms interact in communities**
- **Ecosystems cycle matter and energy**
- **Characteristics are inherited**
- **Species show variation**

Term 1

WC 09/09 & 16/09	WC 23/09 & 30/09	WC 07/10 & 14/10 & 21/10	WC 04/11 & 11/11	WC 18/11 & 25/11	WC 02/12 & 09/12	WC 16/12
Superheroes (8J & 7L) • Waves • Light • Reflection • Refraction • Dispersion • Colours	□ Dispersion □ Colours □ Lenses □ Sound □ □ Assessment 1 □ Close the Gap	Man vs Food (8A) • Nutrients and their uses • Food Tests Balanced diets and deficiency diseases □ Digestion □ Digestive Enzymes	□ Absorption □ `` □ Assessment 2 □ Close the Gap • Living in a greenhouse (8E) • Burning Fuels • Oxidation	• Fire Safety • Air pollution • Global Warming Assessment 3 Close the Gap	Titanic (8i) • Particle model • Changing state • Pressure • Density • Floating & sinking • Drag	Titanic (8i) Assessment 4 Close the Gap

Key Vocabulary/Concepts/ideas

Half Term 1 light, waves, transparent, translucent, transmitted, absorbed, reflected, refracted, scattered, lens, cornea, optic nerve, iris, pupil, cone cells, rod cells, spectrum, dispersion, sound, frequency, volume, pitch, hertz, amplitude, echolocation, nutrients, starch, fat, protein, iodine, biuret, energy, growth, repair, deficiency, kwashiorkor, scurvy, rickets, anaemia, obesity, digestion,

Half Term 2 enzymes, reactants, products, fossil fuels, oxidation, conservation of mass,, exothermic, flammable, extinguisher, pollution, combustion, acid rain, global warming, catalytic converter
Particle, forces, properties, diffusion, Brownian motion, expanding, contracting, density, mass, volume, melting, freezing, boiling, sublimation, evaporation, condensation, pressure, density, drag, friction, streamlined

Term 2

WC 6/01 & 13/01	WC 20/01 & 27/01	WC 03/02 & 10/02	WC 24/02 & 03/03	WC 10/03 & 17/03	WC 24/03 & 31/03
Manchester Marathon (8C & 8D) • Types of respiration • Gas exchange systems • Comparing gas exchange • Diffusion and surface area	Manchester Marathon (8C & 8D) • Yeast • Bacteria • Decomposers • Carbon cycle	Manchester Marathon (8C & 8D) • Water cycle Assessment 5 Close the Gap Formula 1 (8G) • Metal properties	Formula 1 (8G) • Corrosion • Metals and water • Metals and acids • Pure metals and alloys Assessment 6 Close the Gap	Shipwrecked (7I) • Energy from food • Energy transfers and stores • Fuels	Shipwrecked (7I) • Renewable energy resources • Using resources Close the Gap As Close the Gap Assessment 7

Key Vocabulary/Concepts/ideas

Half Term 3 respiration, aerobic, anaerobic, oxygen, glucose, carbon dioxide, surface area, capillary, erythrocyte, diffusion, concentration, decomposition, precipitation, evaporation, condensation

Half Term 4 Energy, joule, kilojoule, fuel, renewable, non-renewable, fossil fuel, coal, oil, natural gas, biofuels, nuclear

WC 21/04 & 28/04	WC 05/05 & 12/05	WC 19/05	WC 02/06 & 09/06	WC 16/06 & 23/06	WC 30/06 & 07/07	WC 14/07

Term 3	Let's talk about it (7B) • Life cycles • Puberty • Reproductive organs • Gametes	Let's talk about it (7B) • Menstrual cycle • fertilisation • Gestation and birth Assessment 8 Close the Gap	CSI (7E) • Methods • Mixtures • Solutions	CSI (7E) • Filtration • Evaporation • Chromatography • Distillation Assessment 9 Close the Gap	Short Circuit (7J) • Electricity • Switches and current • Conductors and insulators • Series and parallel circuits	Short Circuit (7J) • Changing the current (resistance) • Using electricity • Static electricity	Assessment 10 Close the Gap
	Key Vocabulary/Concepts/ideas						
	Half Term 5 reproduction, offspring, gamete, specialised, sperm, egg, fertilisation, foetus, labour, uterus, oviduct, ovary, cervix, bladder, urethra, vagina, gland, sperm duct, penis, testis, scrotum, menstrual cycle, puberty, mixture, suspension, colloid, dispersed, opaque, transparent, solution, filter, solute, solvent			**Half Term 6** mixture, suspension, colloid, dispersed, opaque, transparent, solution, filter, solute, solvent, saturated, solubility, evaporation, boiling, chromatography, chromatogram, distillation, desalination Electricity, energy, current, ammeter, circuit, series, parallel, cell, switch, conductor, insulator,,voltmeter, resistance, resistor, fuse, live wire, neutral wire, earth wire, circuit breaker, static		
	CEIAG						
	Cultural capital sheets to introduce each unit. Careers displays around the whole department British Science week, BioBakes, BioArtAttack Nurse/Midwife for Let's Talk About It Action4Conservation Charlotte Beswick Medical Event (Manchester University)						

Key Stage 3: Year 9

	Overall Curriculum Goals - developing the following Big Ideas: • **Forces predict motion** • **Forces act through fields** • **Energy is conserved in transfers** • **Electricity transfers energy** • **Energy travels as radiation** • **Structure determines properties** • **Reactions rearrange matter** • **Earth systems interact** • **Cells carry out life processes** • **Bodies work as systems** • **Organisms interact in communities** • **Ecosystems cycle matter and energy** • **Characteristics are inherited** • **Species show variation**						
	WC 09/09 & 16/09	WC 23/09 & 30/10	WC 07/10 & 14/10 & 21/10	WC 04/11 & 11/11	WC 18/11 & 25/11	WC 2/12 & 09/12	WC 16/12

Term 1

Jurassic Park (9A & 9B) • Environmental variation • Inherited variation • DNA • Genes and extinction	Jurassic Park (9A & 9B) • Natural Selection • Reactions in plants • Plant adaptations • Plant products	Jurassic Park (9A & 9B) • Growing crops • Farming problems Assessment 1 Close the Gap	Living in a material world (9E & 9F) • Ceramics • Polymers • Composite materials	Living in a material world (9E & 9F) • Problems with materials • Recycling materials • Reactivity	Living in a material world (9E & 9F) • Displacement • Extracting metals • Types of explosion	Assessment 2 Close the Gap

Key Vocabulary/Concepts/ideas

Half Term 1 adaptation, biodiversity, characteristic, chromosome, classification, decomposer, ecosystem, endangered, evolution, fertilisation, gamete, gene, germination, nucleus, photosynthesis, species, zygote

Half Term 2 biodegradable, crystals, displacement, elastic, electrolysis, endothermic, exothermic, flammable, hydrocarbon, implosion, impurity, lattice, oxidising, polymerisation, result, sacrificial, thermal decomposition, vulcanisation

Term 2

WC 06/01 & 13/01	WC 20/01 & 27/01	WC 03/02 & 10/02	WC 24/02 & 03/03	WC 10/03 & 17/03	WC 24/03 & 31/03
May the force be with you (9I & 9J) • Forces • Balanced and unbalanced forces • Energy stores	May the force be with you (9I & 9J) Energy transfer • Speed/distance/time • Formula	May the force be with you (9I & 9J) • Distance – time graphs • Ramps and pulleys • Work done	May the force be with you (9I & 9J) • Formula – workdone/ force/ distance moved • Conservation of energy Assessment 3 Close the Gap	Our World (8L & 8H) • Seasons • Gravity in space • Beyond the solar system • Rocks and their uses	Our World (8L & 8H) • Materials in the earth • Extraction of metals from ores Assessment 4 Close the Gap

Key Vocabulary/Concepts/ideas

Half Term 3 accelerate, balanced, deform, dissipate, efficiency, electricity, electromagnet, fulcrum, lever, moment, nucleus, parallel, pivot, pulley, series, voltage, voltmeter, weight, work

Half Term 4 accelerate, balanced, deform, dissipate, efficiency, electricity, electromagnet, fulcrum, lever, moment, nucleus, parallel, pivot, pulley, series, voltage, voltmeter, weight, work

Term 3

WC 21/04 & 28/04	WC 05/05 & 12/05	WC 19/05 & 26/05	WC 02/06 & 09/06	WC 16/06 & 23/06	WC 30/06 & 07/07 & 14/07
Key Concepts in Biology CB1 • Microscopes • Plant and animal cells • Core practical – using microscopes (method, prepare a slide, calculations) • Specialised cells • Bacteria	• Transporting substances • Core practical – osmosis (%change, conclusion, variables)	Assessment CB1a Close the Gap Topic 1.1 Atomic Structure • Atomic structure • History of the atom • Atomic number • Mass number Isotopes	Topic.1.1 The Periodic Table Mendeleev Elements and the periodic table Atomic number and the periodic table Atomic number and the periodic table Assessment Topic 1.1 Close the Gap	Motion CP1 • Vectors & Scalars • Distance and displacement • Speed and velocity	• Acceleration • Distance/time graph • Velocity/time graph • Assessment CP1 Close the Gap

Key Vocabulary/Concepts/ideas

Half Term 5 microscope, objective lens, magnification, resolution, cells, eukaryotic, prokaryotic, specialised, nucleus, cell membrane, cytoplasm, ribosome, mitochondria, cell wall, chloroplast, vacuole , enzyme, biological catalyst, active site, denature, substrate, polymer, monomer, temperature, pH, substrate concentration, collision, enzyme - substrate complex, diffusion, osmosis, active transport, gradient

Half Term 6 Period, group, electronic configuration, shells

Scalars, vectors, speed, velocity, resultant force, balance, unbalanced, centripetal force, mass, weight, gravitational field strength, inertial mass, equilibrium, collisions, momentum, stopping distance, reaction times, crumple zone, force, weight, magnitude, vector quantities, mass, scalar quantities, distance, speed, velocity, acceleration, momentum, speed, light gates, distance/time graph, deceleration, acceleration, gradient, velocity/ time graph

	Atom, element, subatomic, proton, neutron electron, nucleus, mass, charge, periodic table, isotopes, property, chemical, physical, predictions	

CEIAG
Cultural capital sheets to introduce each unit. Careers displays around the whole department British Science week, BioBakes, BioArtAttack Brilliant Club Zoologist talk Cambridge University Physics Event

Key Stage 4: Year 10

	Overall Curriculum Goals - developing the following Big Ideas: • **Forces predict motion** • **Forces act through fields** • **Energy is conserved in transfers** • **Electricity transfers energy** • **Energy travels as radiation** • **Structure determines properties** • **Reactions rearrange matter** • **Earth systems interact** • **Cells carry out life processes** • **Bodies work as systems** • **Organisms interact in communities** • **Ecosystems cycle matter and energy** • **Characteristics are inherited** • **Species show variation**					
	WC 09/09 & 16/09	WC 23/09 & 30/09	WC 07/10 & WC 14/10	WC 21/10 & 04/11	WC 11/11 & 20/11	WC 18/11 & 25/11	WC 2/12 & 9/12 & 16/12

Term 1	• Enzymes and nutrition Enzyme action and activity Core practical – pH and enzymes (variables, conclusion) Cells and Control CB2 • Mitosis	• Percentile Growth Charts • Nervous System • Synapses and reflexes	Suggested practical – reaction times (variables, conclusion) □ Assessment CB2 □ Close the Gap	Genetics CB3 □ Meiosis □ DNA □ Suggested practical -DNA Extraction (Method, safety)	□ Alleles □ Inheritance	Gene mutation • Assessment CB3 Close the Gap	Review CB 1, 2 & 3
	Review Topic 1.1	Topic 1.2 • Ions • Ionic bonds • Ionic lattices	• Ionic lattices • Covalent bonds • Covalent properties • Molecular compounds	• Review ionic and covalent bonding • Bonding models	• Assessment Topic 1.2 Close the Gap	Topic 1.3 Calculations involving masses • Calculating concentration • Relative formula mass	• Empirical formula • Conservation of mass
	Review SP1 Forces and motion SP2 • Newton's first law • Weight and mass	• Newton's second law • Core practical – Investigating acceleration (method, calculations, conclusion) • Newton's third law • Momentum	• Stopping distances • Braking distance and energy • Crash hazards Assessment SP2 Close the Gap	Conservation of energy CP3 • Energy stores and transfers • Energy efficiency • Sankey diagrams • Insulation	• Stored energies • Non-renewable resources • Renewable resources Assessment CP3 Close the Gap •	Waves CP4 • Properties of waves Wave speeds	• Core Practical – Investigating waves (method, calculations) • Refraction Assessment CP4 Close the Gap Review CP2

Key Vocabulary/Concepts/ideas

Half Term 1 mitosis, chromosomes, stem cells, interphase, prophase, metaphase, anaphase, telophase, cytokinesis, meiosis, gametes, genome, gene, chromosome, DNA, complementary, bases, hydrogen bonds,

Bonds, ions, cations, anions, electrons, electrostatic forces, ionic compounds, lattice structure, properties, melting point, boiling, anode, cathode, covalent, molecular., valency, polymer, monomer, intermolecular, allotropes, fullerenes, graphene, delocalised, metallic, malleable, conduct

Energy, chemical, thermal, kinetic, elastic potential, gravitational potential, atomic, nuclear, conservation of energy, Sankey diagram, joules, conservation, dissipated, lubrication, insulation, conduction, thermal, convection, fluid, radiation, infrared, absorbed, emitted, thermal conductivity, kinetic, nuclear fuels, renewable

Half Term 2 alleles, homozygous, heterozygous, dominant, recessive, genotype, phenotype, Punnett squares, inheritance, mutation, variation, continuous, discontinuous

Bonding, ionic, simple molecular, giant covalent, metallic, empirical formula, molecular formula, relative formula mass, conservation of mass, Avogadro constant,

Waves, transverse, sound, longitudinal, seismic, electromagnetic, frequency, hertz, period, wavelength, amplitude, velocity, refraction , interface,

WC 06/01 & 13/01	WC 20/01 & 27/01	WC 03/02 & 10/02	WC 24/02 & 03/03	WC 10/03 & 17/03	WC 24/03 & 31/03
Natural Selections and Genetic Modification CB4 • Evidence for human evolution • Darwin	• Classification • Breeds and varieties	• Genes in agriculture and medicine	Assessment CB4 Close the Gap	CB3 review	CB4 review

Term 2	• Moles •Stoichiometry	• Assessment Topic 1.3 Close the Gap	• Review Topic 1	Topic 6 Groups in the periodic table 1. Group 1 2. Group 7 Halogen reactivity	1. Group 0 Assessment Topic 6 Close the gap Topic 7 Rates of reaction Factors affecting reaction rates	Core practical – investigating reaction rates (method, calculations, conclusion) Catalysts and activation energy Exothermic and endothermic reactions
	Review CP3 & 4	Light and the EM Spectrum CP5 • Electromagnetic spectrum • Core practical – Investigating refraction (method, measuring angles, conclusion0	• The electromagnetic spectrum • Uses of EM waves	• Dangers of EM waves Assessment CP5 Close the Gap	RadioactivityCP6 • Atomic model • Inside atoms • Electrons and orbits	• Background radiation • Types of radiation
	Key Vocabulary/Concepts/ideas					
	Half Term 3 evolution, fossils, binomial system, species, classification, *Ardipithecus ramidus, Australopithecus afarensis,* natural selection, competition, kingdom, genus, domain, eukaryote, archaea, bacteria Particle model, solid, liquid, gas, physical, chemical, melting, insoluble, filtration, cystallisation, solution, solute, solvent, filtrate, residue, risk assessment, hazard, chromatography, stationary phase, mobile phase, chromatogram Electromagnetic wave, frequencies, visible light, ultraviolet, transverse, vacuum, infrared, refraction, electromagnetic spectrum, visible spectrum, microwaves, radio waves, x-rays, gamma rays, fluorescence, gamma, radiotherapy, mutations, radiation			**Half Term 4** Artificial selection, selective breeding, genetic engineering, recombinant DNA, restriction enzyme, plasmid, ligase, vector, sticky ends Distillation, mixture, evaporates, condensed, fractional distillation, precipitates, aquifers, sedimentation, chlorination, Particle theory, elements, atoms, subatomic particles, electrons, alpha particles, nucleus, nucleons, protons, neutrons, relative mass, mass number, isotopes, electronic configuration, emission spectrum, ionization, radioactivity, ionizing radiation, penetrating radiation		
	WC 21/04 & 28/04	WC 05/05 & 12/05	WC 19/05 & 26/05	WC 02/06 & 09/06	WC 16/06 & 23/06	WC 30/06 & 07/07 & 14/07
Term 3	Health, disease and the development of medicines CB5 • Health and disease • Non-communicable disease	• Pathogens • Spreading pathogens Suggested practical – agar plates & fingerprints (risk assessment, conclusion) • Physical and chemical barriers	• The immune system • Antibiotics and drug development	• Cardiovascular disease Assessment CB5 Close the Gap	Review Paper 1 CB 1,2 & 3	Review Paper 1 CB 1,4 & 5
	1. Energy changes in reactions Assessment Topic 7 Close the Gap	Topic 8 Fuels 1. Hydrocarbons in crude oil and natural gas 2. Fractional distillation of crude oil	Alkane homologous series Combustible fuels and pollution Breaking down hydrocarbons	The early atmosphere The changing atmosphere Climate change The greenhouse effect	Assessment Topic 8 Close the Gap Review Paper 2 Topic 1	Review Paper 2 Topic 6,7,8
	• Radioactive decay • Half life	• Dangers of radioactivity Assessment CP6 Close the Gap	Review Paper 5 (CP1-6)	Review Paper 5 (CP1-6)	Forces and Energy CP7 & 8 • Work and power • Objects affecting each other	• Vector diagrams Assessment CP7 & 8 Close the Gap

Key Vocabulary/Concepts/ideas	
Half Term 5 health, pathogen, communicable, non-communicable, deficiency, cholera, tuberculosis, chalara dieback, malaria, HIV, AIDs, bacteria, fungi, virus, protist, pathogen, lymphocyte, antibody, antigen, vaccination, barriers Aqueous solution, acidic, alkaline, neutral, pH scale, polyatomic ions, dissociate, neutralise,, state symbols, crystallization, Radioactive decay, nuclear equation, becquerels, half-life, mutation, contaminated, irradiated	**Half Term 6** cardiovascular disease, heart attack, body mass index, waist:hip ratio, artery, stroke, antihypertensives, anticoagulants, stent Ions, neutralisation,,titration, burette, pipette, end-point, reactivity series, effervescence, ionic equation, carbonates, precipitation, precipitate, insoluble Energy, work done, power, watts, contact forces, non-contact forces, vectors, action-reaction forces, force field, gravitational field, magnetism, static electricity, magnet, electric field, resultant force,

CEIAG
Cultural capital sheets to introduce each unit. Careers displays around the whole department British Science week, BioBakes, BioArtAttack Why Study? Talks Medical Mavericks (PE & Health&Social)

Key Stage 4: Year 11

Overall Curriculum Goals - developing the following Big Ideas:

- **Forces predict motion**
- **Structure determines properties**
- **Organisms interact in communities**
- **Forces act through fields**
- **Reactions rearrange matter**
- **Ecosystems cycle matter and energy**
- **Energy is conserved in transfers**
- **Earth systems interact**
- **Characteristics are inherited**
- **Electricity transfers energy**
- **Cells carry out life processes**
- **Species show variation**
- **Energy travels as radiation**
- **Bodies work as systems**

WC 09/09 & 16/09	WC 23/09 & 30/09	WC 07/10 & WC 14/10	WC 21/10 & 04/11	WC 11/11 & 20/11	WC 18/11 & 25/11	WC 2/12 & 9/12 & 16/12

Term 1

Exchange and transport in animals CB8 • Efficient transport and exchange • The circulatory system • The heart	• The heart • Suggested practical – heart dissection (risk assessment) • Cellular respiration	• Core practical – respiration rates (method, variables, conclusion) Assessment CB8 Close the Gap	Animal coordination, control and homeostasis CB7 • Hormones • Hormonal control of metabolic rate	• Menstrual cycle • Hormones and the menstrual cycle	• Control of blood glucose • Type 1 Diabetes	• Type 2 diabetes • Suggested practical – testing for glucose (method, conclusion) Assessment CB7 Close the Gap
Review Chem Paper 2 Topic 2 States of matter • States of matter • Mixtures • Filtration and crystallisation	1. Paper chromatography 2. Distillation 3. Core practical – investigating inks (method, conclusion0	Drinking water Review Assessment Topic 2 Close the gap	Topic 3.1 Acids and Alkalis •Indicators •Acids and bases Concentration Calc Reactions of acids	Core practical – investigating neutralisation (method, risk assessment, equations Alkalis and balancing equations	Core practical – preparing copper sulfate (method, risk assessment, conclusion) Solubility Titrations	Assessment Topic 3.1 Close the Gap Review Topic 1.2, 1.3 and 7
Electricity and circuits CP9 • Symbols • Current • Potential difference	• Energy and charge • Resistance • Core practical – investigating resistance (method, calculations, conclusion) • Transferring energy	• Power • Transferring energy by electricity	• Electrical safety • Assessment CP9 Close the Gap •	Review CP1, 2, 3 & 4	Magnetism CP10 & 11 • Magnets and magnetic fields Electromagnetism	• Magnetic forces • Transformers

Key Vocabulary/Concepts/ideas

Half Term 1 gas exchange, respiration, aerobic, anaerobic, alveoli, plasma, platelets, lymphocytes, erythrocytes, haemoglobin, antibodies, atria, ventricle, artery, capillary, vein, cardiac output, stroke volume

Electrolysis, electrolyte, electrodes, cations, anions, cathode, anode, oxidation, reduction, half equation, displacement, redox, native state, extraction, bioleaching, leachate, phytoextraction, corrosion, recycling

Atom, nucleus, protons, neutrons, electrons, shells, current, series, parallel, circuit, amperes, ammeter, potential difference, voltage, volts, charge, coulombs, resistance, ohms, diodes, energy transfer, power watts, national grid, mains electricity, direct voltage, alternating voltage,

Half Term 2 hormones, endocrine, pituitary, thyroid, adrenal, pacers, testes, ovaries, metabolic rate, thyroxine, adrenaline, menstrual cycle, FSH, oestrogen, LH, progesterone, ovulation, menstruation, diabetes, insulin, pancreas, glucose, glycogen, glucagon, homeostasis

Periodic table, alkali metals, reactivity, halogens, diatomic, salts, halide, displacement, redox, oxidation, reduction, noble gases, inert, rate of reaction, activation energy, exothermic, endothermic, catalysts, protein, active site, denature, neutralization, displacement

Safety, circuit breakers, magnet, magnetic fields, plotting compasses, electromagnet

Term 2

WC 06/01 & 13/01	WC 20/01 & 27/01	WC 03/02 & 10/02	WC 24/02 & 03/03	WC 10/03 & 17/03	WC 24/03 & 31/03
Plant structures and their functions CB6 • Photosynthesis • Factors that affect photosynthesis • Core practical – light intensity and photosynthesis (method, variables, conclusion, calculating rate)	• Absorbing water and mineral ions • Transpiration and translocation Assessment CB6 Close the Gap	Ecosystems and material cycles CB9 • Ecosystems • Abiotic factors and communities • Core practical – Quadrats and transects (method, calculations)	• Biotic factors and communities • Parasitism and mutualism • Biodiversity and humans • Preserving biodiversity	• Water cycle • Carbon cycle • Nitrogen cycle	Assessment CB9 Close the Gap

	Topic 4 Extracting Metals LCA Recycling Reactivity Series Reactivity of metals	Displacement Redox Extracting metals Biological methods	• Dynamic equilibrium • Le Chatelier's principle Topic 4 Assessment Close the gap	Topic 3.2 Electrolysis Molten electrolysis half equations	Aqueous electrolysis Core practical – electrolysis of copper sulfate (method, conclusion)	Topic 3.2 Assessment Close the gap
	• Transformers and energy • Assessment CP10&11 Close the Gap •	Particle model & matter CP12 • States of matter • Density Core practical – investigating densities (method, calculations)	• Energy changes and changes of state • Energy calculations • Core practical – investigating water (method, calculations)	• Gas temperature and pressure • Bending and stretching • Core practical – investigating springs (method, calculations, conclusion)	• Extension and energy transfers • Assessment CP12 Close the Gap	Review CP 6,7 8,9
	Key Vocabulary/Concepts/ideas					
	Half Term 3 photosynthesis, glucose, biomass, producer, chloroplast, endothermic, stomata, guard cell, limiting factors, inverse square law, root hair cell, diffusion, osmosis, active transport, xylem, phloem, transpiration, translocation Crude oil, natural gas, hydrocarbons, fractional distillation, evaporate, condense, viscosity, ignite, alkanes, homologous, molecular formulae, structural formulae, combustion, complete, incomplete Fleming's left hand rule, magnetic flux density, tesla, transformers, potential; difference, induction, alternating current			**Half Term 4** ecosystem, community, population, habitat, interdependent, abundance, quadrat, belt transect, biotic, abiotic, competition, predation, mutualism, parasitism, eutrophication, indigenous, non-indigenous, biodiversity, conservation, water cycle, desalination, potable, carbon cycle, nitrogen cycle, crop rotation Impurities, pollutants, cracking, alkene, saturated, unsaturated, composition, atmosphere, volcanic activity, photosynthesis, infrared, emit, absorb, greenhouse effect, global warming, Sublimation, states of matter, kinetic theory, compressed, density, thermal energy, specific heat capacity, specific latent heat, pascals, kelvin, elastic, inelastic, extension, linear relationship, directly proportional, spring constant, work done		
Term 3	Term 3					
	Revision GCSE Exams					
	Key Vocabulary/Concepts/ideas					
	Half Term 5			**Half Term 6**		

CEIAG
Cultural capital sheets to introduce each unit. Careers displays around the whole department British Science week, BioBakes, BioArtAttack