	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Theme/Big Idea	**B10 – The human nervous system** Principles of homeostasis; the structure and function of the human nervous system; reflex actions; the brain; the eye and common problems of the eye. **B11 – Hormonal coordination** Principles of hormonal control; control of blood glucose levels; diabetes; negative feedback; human reproduction; hormones in the menstrual cycle; artificial control of fertility; hormones and fertility treatment; plant hormones and responses. **B12 – Maintaining balance in the body** Controlling body temperature; removing waste products; the human kidney; dialysis;	**B12 – Maintaining balance in the body** Controlling body temperature; removing waste products; the human kidney; dialysis; artificial kidney; kidney transplants. **B13 – Reproduction and genetic inheritance** Types of reproduction; cell division in sexual reproduction; genetic material; DNA and the genome; DNA structure and protein synthesis; genetic expression and mutation; inheritance; genetic disorders; screening. **C10 – Organic reactions** Reactions of alkenes; structures of alcohols, carboxylic acids and esters; reactions and uses of alcohols; carboxylic acids and esters. **C11 – Polymers** Addition polymerisation; condensation polymerisation; natural	**B14 – Variation and selection** Variation; evolution by natural selection; selective breeding; genetic engineering; cloning; ethics of genetic technologies. **P13 – Electromagnetic waves** The electromagnetic spectrum; radio, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays; communications; medical uses; infrared and temperature. **P12 – Waves** The nature of waves; properties of waves; reflection and refraction; sound waves; ultrasound; seismic waves.	**P12 – Waves** The nature of waves; properties of waves; reflection and refraction; sound waves; ultrasound; seismic waves. **P11 – Force and pressure** Pressure and surfaces; pressure in liquids; atmospheric pressure; upthrust and flotation. **Exams – GCSE Combined Science**Final examination preparation and examination period covering the full AQA GCSE Combined Science course.	**Revision – Year 11 consolidation** Retrieval and application of Biology, Chemistry and Physics taught across the GCSE course; required practicals, equations, mathematical skills and scientific terminology.	**Exams – GCSE Combined Science** Final examination preparation and examination period covering the full AQA GCSE Combined Science course.

	artificial kidney; kidney transplants. **P8 – Forces in action** Forces in balance; vectors and scalars; forces between objects; resultant forces; moments; work and energy; pressure and resolution of forces. **P9 – Motion** Speed and distance–time graphs; velocity and acceleration; velocity–time graphs; motion equations. **C9 – Crude oil and fuels**Hydrocarbons; fractional distillation of crude oil; burning hydrocarbon fuels; cracking hydrocarbons.	polymers; DNA; interpreting polymer structures. **Exams – GCSE Combined Science** Final examination preparation and examination period covering the full AQA GCSE Combined Science course.	**C12 – Chemical analysis** Pure substances and mixtures; analysing chromatograms; testing for gases; tests for positive ions and negative ions; instrumental analysis. **P10 – Forces and motion** Force and acceleration; weight and terminal velocity; forces and braking; momentum; conservation of momentum; impact forces; safety; forces and elasticity. **P11 – Force and pressure** Pressure and surfaces; pressure in liquids; atmospheric pressure; upthrust and flotation.			
Content	**B10 – The human nervous system** Principles of homeostasis; the structure and function of the	**B12 – Maintaining balance in the body** Controlling body temperature; removing waste products; the human kidney; dialysis;	**B14 – Variation and selection** Variation; evolution by natural selection; selective breeding;	**P12 – Waves** The nature of waves; properties of waves; reflection and refraction; sound waves; ultrasound;	**Revision – Year 11 consolidation** Retrieval and application of Biology, Chemistry and Physics taught across	**Exams – GCSE Combined Science** Final examination preparation and examination period covering the full AQA

What are they learning? (including keywords)	human nervous system; reflex actions; the brain; the eye and common problems of the eye. **Keywords:** homeostasis, nervous system, neurone, stimulus, receptor, sensory neurone, relay neurone, motor neurone, synapse, reflex arc, effector, brain, eye, retina **B11 – Hormonal coordination** Principles of hormonal control; control of blood glucose levels; diabetes; negative feedback; human reproduction; hormones in the menstrual cycle; artificial control of fertility; hormones and fertility treatment; plant hormones and responses. **Keywords:** hormone, endocrine gland, target organ, negative feedback, insulin, glucagon, diabetes, oestrogen, progesterone, testosterone, FSH, LH, contraception, fertility	artificial kidney; kidney transplants. **Keywords:** homeostasis, temperature regulation, excretion, urea, kidney, nephron, filtration, selective reabsorption, dialysis, transplant **B13 – Reproduction and genetic inheritance** Types of reproduction; cell division in sexual reproduction; genetic material; DNA and the genome; DNA structure and protein synthesis; genetic expression and mutation; inheritance; genetic disorders; screening. **Keywords:** sexual reproduction, asexual reproduction, meiosis, gamete, chromosome, gene, allele, DNA, genome, mutation, protein synthesis, dominant, recessive, genotype, phenotype, genetic disorder **C10 – Organic reactions** Reactions of alkenes; structures of alcohols, carboxylic acids and esters; reactions and uses of alcohols;	genetic engineering; cloning; ethics of genetic technologies. **Keywords:** variation, mutation, natural selection, evolution, adaptation, selective breeding, genetic engineering, cloning, recombinant DNA, antibiotic resistance **P13 – Electromagnetic waves** The electromagnetic spectrum; radio, microwaves, infrared, visible light, ultraviolet, X-rays and gamma rays; communications; medical uses; infrared and temperature. **Keywords:** electromagnetic spectrum, wavelength, frequency, amplitude, radio, microwave, infrared, visible,	seismic waves. **Keywords:** wave, amplitude, wavelength, frequency, period, wave speed, transverse, longitudinal, reflection, refraction, ultrasound, seismic **P11 – Force and pressure** Pressure and surfaces; pressure in liquids; atmospheric pressure; upthrust and flotation. **Keywords:** pressure, force, area, atmospheric pressure, liquid pressure, depth, density, upthrust, flotation **Exams – GCSE Combined Science** Final examination preparation and examination period covering the full AQA GCSE Combined Science course. **Keywords:** retrieval, application, calculation, data interpretation, graph, equation, practical, evaluation, evidence, command words	the GCSE course; required practicals, equations, mathematical skills and scientific terminology. **Keywords**: retrieval, application, calculation, graph, data interpretation, equation, practical, evaluation, evidence, command words	GCSE Combined Science course. **Keywords:** retrieval, application, calculation, data interpretation, graph, equation, practical, evaluation, evidence, command words

	B12 – Maintaining balance in the body Controlling body temperature; removing waste products; the human kidney; dialysis; artificial kidney; kidney transplants. **Keywords:** homeostasis, temperature regulation, excretion, urea, kidney, nephron, filtration, selective reabsorption, dialysis, transplant **P8 – Forces in action** Forces in balance; vectors and scalars; forces between objects; resultant forces; moments; work and energy; pressure and resolution of forces. **Keywords:** force, vector, scalar, resultant force, equilibrium, moment, pivot, pressure, work done, Newton **P9 – Motion** Speed and distance–time graphs; velocity and acceleration; velocity–time graphs; motion equations. **Keywords**: speed,	carboxylic acids and esters. **Keywords**: alkene, alcohol, carboxylic acid, ester, functional group, addition reaction, fermentation, oxidation, esterification, structural formula **C11 – Polymers** Addition polymerisation; condensation polymerisation; natural polymers; DNA; interpreting polymer structures. **Keywords:** polymer, monomer, repeat unit, addition polymerisation, condensation polymerisation, natural polymer, polyester, polyamide, DNA **Exams – GCSE Combined Science** Final examination preparation and examination period covering the full AQA GCSE Combined Science course. **Keywords:** retrieval, application, calculation, data interpretation, graph, equation, practical, evaluation,	ultraviolet, X-ray, gamma ray, ionising radiation **P12 – Waves** The nature of waves; properties of waves; reflection and refraction; sound waves; ultrasound; seismic waves. **Keywords:** wave, amplitude, wavelength, frequency, period, wave speed, transverse, longitudinal, reflection, refraction, ultrasound, seismic **C12 – Chemical analysis** Pure substances and mixtures; analysing chromatograms; testing for gases; tests for positive ions and negative ions; instrumental analysis. **Keywords:** chromatography, chromatogram, Rf value, solvent, ion, cation, anion, precipitate, flame			

	velocity, acceleration, distance, displacement, distance–time graph, velocity–time graph, gradient, resultant force **C9 – Crude oil and fuels** Hydrocarbons; fractional distillation of crude oil; burning hydrocarbon fuels; cracking hydrocarbons. **Keywords:** hydrocarbon, alkane, crude oil, fraction, fractional distillation, boiling point, viscosity, flammability, combustion, cracking	evidence, command words	test, gas test, instrumental analysis **P10 – Forces and motion** Force and acceleration; weight and terminal velocity; forces and braking; momentum; conservation of momentum; impact forces; safety; forces and elasticity. **Keywords:** force, acceleration, mass, weight, terminal velocity, momentum, conservation of momentum, impact force, braking distance, stopping distance, elasticity **P11 – Force and pressure** Pressure and surfaces; pressure in liquids; atmospheric pressure; upthrust and flotation. **Keywords:** pressure, force, area, atmospheric pressure, liquid			

			pressure, depth, density, upthrust, flotation			
Skills How are they learning it?	**B10 – The human nervous system** Interpret nervous-system diagrams; explain reflex arcs; analyse reaction-time data; evaluate models of the brain and eye; interpret evidence and communicate conclusions. **Required practical:** No AQA required practical specified **B11 – Hormonal coordination** Interpret control-system diagrams and hormone graphs; explain negative feedback; analyse blood-glucose data; evaluate treatments; explain hormonal control of reproduction and plant responses. **Required practical:** No AQA required practical specified **B12 – Maintaining balance in the body** Interpret homeostasis data; explain temperature regulation and excretion; compare	**B12 – Maintaining balance in the body** Interpret homeostasis data; explain temperature regulation and excretion; compare dialysis and transplant; evaluate evidence and ethical arguments. **Required practical:** No AQA required practical specified **B13 – Reproduction and genetic inheritance** Use genetic diagrams and Punnett squares; interpret pedigrees; explain DNA and protein synthesis; calculate probabilities; evaluate genetic screening and ethical issues. **Required practical:** No AQA required practical specified **C10 – Organic reactions** Draw structural formulae; identify functional groups; write equations for organic reactions; compare properties; explain uses and reaction conditions.	**B14 – Variation and selection** Interpret variation data; explain natural selection; evaluate selective breeding and genetic engineering; analyse evidence; discuss benefits, risks and ethical considerations. **Required practical:** No AQA required practical specified **P13 – Electromagnetic waves** Compare electromagnetic waves by wavelength, frequency and energy; explain communication and medical applications; evaluate risks and benefits; interpret spectra and data. **Required practical:** Investigate how infrared radiation absorbed or radiated by a	**P12 – Waves** Measure wavelength, frequency and wave speed; interpret wave diagrams; investigate reflection/refraction; explain sound, ultrasound and seismic waves; analyse data. **Required practical: measure** The frequency, wavelength and speed of waves in a ripple tank and in a solid. **P11 – Force and pressure** Calculate pressure; interpret pressure-depth relationships; explain atmospheric pressure; investigate flotation and upthrust; use data to support conclusions. **Required practical:** No AQA required practical specified **Exams – GCSE Combined Science** Apply knowledge to unfamiliar contexts; use equations and mathematical skills;	**Revision – Year 11 consolidation** Retrieval practice; exam-question analysis; practical-method questions; calculations; graph and data interpretation; six-mark responses; identifying misconceptions and improving answers. Revisit all required practicals: methods, variables, measurements, safety, processing data, graphs, conclusions, errors and improvements.	**Exams – GCSE Combined Science** Apply knowledge to unfamiliar contexts; use equations and mathematical skills; interpret practical data; evaluate evidence; construct clear extended responses. Required practical knowledge is assessed through written examination questions; revisit methods, variables, results, graphs, conclusions, errors and improvements.

	dialysis and transplant; evaluate evidence and ethical arguments. **Required practical:** No AQA required practical specified **P8 – Forces in action** Draw force diagrams; distinguish vectors and scalars; calculate resultant forces, moments, work and pressure; analyse equilibrium; resolve forces where required. **Required practical:** No AQA required practical specified **P9 – Motion** Calculate speed and acceleration; interpret and construct distance–time and velocity–time graphs; determine gradients and areas; use motion equations and evaluate data. **Required practical:** No AQA required practical specified	**Required practical:** No AQA required practical specified **C11 – Polymers** Draw repeat units; identify monomers; compare addition and condensation polymerisation; interpret polymer structures; explain properties and uses. **Required practical:** No AQA required practical specified **Exams – GCSE Combined Science** Apply knowledge to unfamiliar contexts; use equations and mathematical skills; interpret practical data; evaluate evidence; construct clear extended responses. Required practical knowledge is assessed through written examination questions; revisit methods, variables, results, graphs, conclusions, errors and improvements.	surface depends on the nature of the surface. **P12 – Waves** Measure wavelength, frequency and wave speed; interpret wave diagrams; investigate reflection/refraction; explain sound, ultrasound and seismic waves; analyse data. **Required practical:** Measure the frequency, wavelength and speed of waves in a ripple tank and in a solid. **C12 – Chemical analysis** Use chromatography; calculate/interpret Rf values; carry out qualitative tests for ions and gases; interpret instrumental-analysis data; identify unknown substances from evidence. **Required practical:** No AQA	interpret practical data; evaluate evidence; construct clear extended responses. Required practical knowledge is assessed through written examination questions; revisit methods, variables, results, graphs, conclusions, errors and improvements.		

	C9 – Crude oil and fuels Represent hydrocarbons; explain fractional distillation; write combustion equations; interpret trends in fractions; explain cracking and evaluate fuel use. **Required practical:** No AQA required practical specified		required practical specified; qualitative-analysis practical work should develop these skills. **P10 – Forces and motion** Investigate force, mass and acceleration; calculate momentum; apply conservation of momentum; analyse terminal velocity and braking; interpret force–extension data. **Required practical:** Investigate the effect of varying force on acceleration at constant mass, and varying mass on acceleration at constant force. **P11 – Force and pressure** Calculate pressure; interpret pressure-depth relationships; explain atmospheric			

			pressure; investigate flotation and upthrust; use data to support conclusions. **Required practical:** No AQA required practical specified.			
Key Questions	**B10 – The human nervous system•** How does the nervous system coordinate responses? Why are reflex actions important? How do the eye and brain work together? **B11 – Hormonal coordination•** How does negative feedback maintain stable conditions? How is blood glucose controlled? How do hormones control reproduction? **B12 – Maintaining balance in the body•** How does the body maintain a stable internal environment? How do the kidneys remove waste? How can kidney failure be treated?	**B12 – Maintaining balance in the body•** How does the body maintain a stable internal environment? How do the kidneys remove waste? How can kidney failure be treated? **B13 – Reproduction and genetic inheritance•** How is genetic information passed from parents to offspring? How does DNA control protein production? How can genetic disorders be inherited? **C10 – Organic reactions•** How are organic compounds related by functional groups? How do alkenes, alcohols, carboxylic acids and esters react?	**B14 – Variation and selection•** How does natural selection produce evolution? How can humans change the characteristics of organisms? What are the risks and benefits of genetic technologies? **P13 – Electromagnetic waves•** How are electromagnetic waves different? How are they used in communication and medicine? What are the risks of ionising radiation? **P12 – Waves•** How are waves described? How do waves transfer energy? What happens when	**P12 – Waves•** How are waves described? How do waves transfer energy? What happens when waves reflect or refract? **P11 – Force and pressure•** How does pressure depend on force and area? How does pressure change with depth? Why do objects float or sink? **Exams – GCSE Combined Science•** Can I apply the full course confidently? Can I interpret unfamiliar data and practical evidence?	**Revision – Year 11 consolidation•** Can I apply knowledge to unfamiliar contexts? Can I select the correct equation? Can I explain and evaluate practical evidence?	**Exams – GCSE Combined Science•** Can I apply the full course confidently? Can I interpret unfamiliar data and practical evidence?

	P8 – Forces in action• What determines whether forces are balanced? How do moments and pressure depend on force and distance? **P9 – Motion•** How can motion be represented using graphs? How are speed, velocity and acceleration related? **C9 – Crude oil and fuels•** How is crude oil separated? Why do different fractions have different properties? Why are hydrocarbons cracked?	**C11 – Polymers•** How are polymers formed? What is the difference between addition and condensation polymerisation? How does polymer structure affect properties? **Exams – GCSE Combined Science•** Can I apply the full course confidently? Can I interpret unfamiliar data and practical evidence?	waves reflect or refract? **C12 – Chemical analysis•** How can unknown substances be identified? How does chromatography separate substances? What tests identify ions and gases? **P10 – Forces and motion•** How do forces affect acceleration? What is terminal velocity? How is momentum conserved? How do safety features reduce impact forces? **P11 – Force and pressure•** How does pressure depend on force and area? How does pressure change with depth? Why do objects float or sink?			
Assessment (specific assessed	**B10:** End of topic assessment **B11:** End of topic assessment	**B12:** End of topic assessment **B13:** End of topic assessment	**B14:** End of topic assessment **P13:** End of topic assessment	**P12:** End of topic assessment **P11:** End of topic assessment	**Revision:** End of topic assessment **Revision:** Cumulative GCSE-style	**Exams:** End of topic assessment **Final assessment:** GCSE examinations

piece(s); milestone(s))	**B12:** End of topic assessment **P8:** End of topic assessment **P9:** End of topic assessment **C9:** End of topic assessment **Milestone:** Retrieval / marking milestone	**C10:** End of topic assessment **C11:** End of topic assessment **Exams:** End of topic assessment **Milestone:** Retrieval / marking milestone	**P12:** End of topic assessment **C12:** End of topic assessment **P10:** End of topic assessment **P11:** End of topic assessment **Milestone:** Retrieval / marking milestone	**Exams:** End of topic assessment **Milestone:** Retrieval / marking milestone	assessment and targeted reteaching	