



Curriculum Map 2024 – 2025 – COMBINED SCIENCE



Combined Science: Year 10

Term	Assessments	Topics	Skills	Personal Development
Autumn 1	Tests: One 45 mark test at the end of each topic listed below:	B3 Organisation and the Digestive System Tissues and Organs, The Human Digestive System, Chemistry of Food, Catalysts and Enzymes, Factors Affecting Enzyme Action, How the Digestive System Works, Making Digestion Efficient	Investigative skills: Food tests Drawing diagrams to show levels of organisation Analysing graphs of rates	The characteristics and evidence of what constitutes a healthy lifestyle and maintaining a healthy weight (including the links between an inactive lifestyle and ill health, such as cancer and cardio-vascular ill health) How to maintain healthy eating and the links between a poor diet and health risks, including tooth decay and cancer
	B3 Organisation and the Digestive System: https://www.bbc.co.uk/bitesize/topics/zwj22nb	B8 Photosynthesis Photosynthesis, The rate of Photosynthesis, How Plants use Glucose, Making the Most of Photosynthesis	Balancing equations Practical skills: rate of photosynthesis	Students to examine the implications of farmers using carbon dioxide made in the burning of fossil fuels to increase yields of crops and what effect this may have on the environment.
	B8 Photosynthesis B9 Respiration: https://www.bbc.co.uk/bitesize/guides/zp4mk2p/revision/1	B9 Respiration Aerobic Respiration, The Response to Exercise, Anaerobic Exercise, Metabolism and the Liver	Balancing equations	The importance of respiration to life and how our bodies respond to exercise.
	C3 Structure and Bonding: https://www.bbc.co.uk/bitesize/topics/z33rrwx	C3 Structure and Bonding States of Matter, Atoms into Ions, Ionic Bonding & Giant Ionic Structures, Covalent Bonding, Simple Molecular and Giant Covalent Structures, Fullerenes and Graphene, Metallic Bonding and Giant Metallic Structures	Using and rearranging formulae, safely carrying out practical work	
Autumn 2	Tests: One 45 mark test at the end of each topic listed below:	P1 Conservation and Dissipation of Energy Changes in Energy Stores, Conservation of Energy, Energy and Work, Gravitational and Potential Energy Stores, Kinetic and Elastic Energy Stores, Energy Dissipation, Energy and Efficiency, Electrical Appliances, Energy and Power	Using and rearranging formulae	An appreciation that there is the same amount of energy in the Universe now compared to when it began and into the future.
	B5 Communicable Diseases: https://www.bbc.co.uk/bitesize/guides/zcqs2nb/revision/1 B6 Preventing and Treating Disease: https://www.bbc.co.uk/bitesize/guides/zcqs2nb/revision/1	B5 Communicable Diseases Health and Disease, Pathogens and Disease, Preventing Infections, Viral and Bacterial Diseases, Diseases caused by Fungi and Protists, Human Defence Responses	Interpreting data from tables and graphs	An understanding of how diseases are caused, spread and how to prevent them.

	https://www.bbc.co.uk/bitesize/guides/zw8n2nb/revision/1	Current and Energy Transfer, Appliances and Efficiency	Maths skills: percentages	
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Summer 1	One 45 mark test at the end of each topic listed below: B15 Adaptations, Interdependence and Competition: https://www.bbc.co.uk/bitesize/guides/z86gpbk/revision/1	B15 Adaptations, Interdependence and Competition The importance of Communities, Organisms in their Environment, Distribution and Abundance, Competition in Animals, Competition in Plants, Adaptations and Survival, Adaptations in Animals and Plant	Practical skills: Field work Calculating mean, median and mode, estimating population size	The factors which affect biological communities and how humans contribute to this.
	C8 Rates and Equilibrium: https://www.bbc.co.uk/bitesize/topics/zwdqqhv	C8 Rates and Equilibrium Rate of Reaction, Collision Theory and Surface Area, The Effect of Temperature, The Effect of Concentration and Pressure, The Effect of Catalysts, Reversible Reactions, Energy and Reversible Reactions, Dynamic Equilibrium, Changing conditions and Reaction Rates	Calculating rates of reaction using tangents to a curve Practical skills	
Summer 2	Biology Paper I mock exam – 70 marks Past papers: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessmentresources?f.Component%7C7=Paper+I+Biology Chemistry Paper I mock exam – 70 marks Past papers: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessmentresources?f.Component%7C7=Paper+I+Chemistry Physics Paper I mock exam – 70 marks Past papers: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessmentresources?f.Component%7C7=Paper+I+Physics	Biology Paper I Revision Chemistry Paper I Revision Physics Paper I Revision	Revision Skills	

Combined Science: Year 11

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Autumn 1	<p>Tests:</p> <p>One 45 mark test at the end of each topic listed below: the list below:</p> <p>B16 Organising an Ecosystem: https://www.bbc.co.uk/bitesize/topics/zxxhh39</p> <p>B17 Biodiversity and Ecosystems: https://www.bbc.co.uk/bitesize/topics/zxxhh39</p> <p>C9 Crude Oil and Fuels: https://www.bbc.co.uk/bitesize/topics/z9488mn</p> <p>C10 Chemical Analysis: https://www.bbc.co.uk/bitesize/topics/zgbccj6</p> <p>C11 The Earth's Atmosphere: https://www.bbc.co.uk/bitesize/topics/zysvv9q</p>	<p>B16 Organising an Ecosystem Feeding relationships, Materials Recycling, The Carbon Cycle</p>	<p>Analysing food chains and food webs Interpreting data from graphs</p>	<p>The importance of the water, carbon and decomposition cycles to life and food production.</p>
		<p>B17 Biodiversity and Ecosystems The Human Population Explosion, Land and Water Pollution, Air Pollution, Deforestation and Peat Destruction, Global Warming, Maintaining Biodiversity</p>	<p>Analysing and Evaluating data</p>	<p>Students to explain how waste, deforestation and global warming have an impact on biodiversity.</p> <p>Students to explain and evaluate the conflicting societal pressures on maintaining biodiversity</p> <p>Students to understand the conflict between the need for cheap available compost to increase food production and the need to conserve peat bogs and peatlands as habitats for biodiversity and to reduce carbon dioxide emissions.</p>
		<p>C9 Crude Oil and Fuels Hydrocarbons, Fractional Distillation of Oil, Burning Hydrocarbon Fuels, Cracking Hydrocarbons</p>	<p>Practical skills Using comparative language</p>	<p>How the cost of good is affected by oil prices.</p> <p>An appreciation of how everyday fuels are produced.</p>
		<p>C10 Chemical Analysis Pure Substances and Mixtures, Analysing Chromatograms, Testing for Gases</p>	<p>Practical skills: e.g. finding R_f values Calculations</p>	<p>Effects of compound combinations in e.g. drugs.</p>
		<p>C11 The Earth's Atmosphere The History of our Atmosphere, Our Evolving Atmosphere, Greenhouse Gases, Global Climate Change, Atmospheric Pollutants</p>	<p>Analysing oscilloscope diagrams</p>	<p>How ultrasound can be used to check the progress of a growing foetus using a pre-natal scan and the importance of waves in detecting earthquakes early to allow communities to be evacuated,</p>
Autumn 2	<p>Tests:</p> <p>One 45 mark test at the end of each topic listed below:</p> <p>B10 The Human Nervous System: https://www.bbc.co.uk/bitesize/guides/z2374qt/revision/1</p> <p>B11 Hormonal Coordination: https://www.bbc.co.uk/bitesize/topics/zzybb82</p> <p>C12 The Earth's Resources: https://www.bbc.co.uk/bitesize/topics/zzybb82</p>	<p>B10 The Human Nervous System Principals of Homeostasis, The Structure and Function of the Nervous System, Reflex Actions</p>	<p>Practical skills: Measuring reaction times</p>	<p>Ideas around eyesight and the structure of the eye.</p>
		<p>B11 Hormonal Coordination Principals of Hormonal Control, The Control of Blood Glucose Levels and Treating Diabetes, The role of Negative Feedback, Human Reproduction, Hormones and the Menstrual Cycle, The Artificial Control of Fertility and Infertility Treatments</p>	<p>Analysing data</p>	<p>Students to evaluate information around the relationship between obesity and diabetes, and make recommendations taking into account social and ethical issues.</p>
		<p>C12 The Earth's Resources Finite and Infinite Resources, Water that is Safe to Drink, Treating Waste Water, Extracting Metals from Ores, Life Cycle Assessments, Reduce - Reuse - Recycle</p>	<p>Practical skills</p>	<p>The Earth has limited resources and we are responsible for using these wisely, 'reduce, reuse, recycle', how waste water is treated etc.</p>

	o.uk/bitesize/topic/zptnng8 P8 Forces and Balance: https://www.bbc.co.uk/bitesize/topic/zmtttv4 P9 Motion: https://www.bbc.co.uk/bitesize/topic/zmtttv4	P8 Forces and Balance Vectors and Scalars, Forces Between Objects, Resultant Force and the Centre of Mass, Parallelogram of Forces, Resolution of Forces P9 Motion Speed and Distance Time Graphs, Velocity and Acceleration, Velocity Time Graphs, Analysing Motion Graphs	Drawing and analysing vector diagrams Using and rearranging formulae Interpreting data from graphs, including calculating area and gradient Practical skills	
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Spring 1	Tests: One 45 mark test at the end of each topic listed below: P10 Forces and Motion: https://www.bbc.co.uk/bitesize/topics/zmtttv4 P11 Wave Properties: https://www.bbc.co.uk/bitesize/topics/z2j22nb B12 Reproduction: https://www.bbc.co.uk/bitesize/topics/zpb7cj6 B13 Variation and Evolution: https://www.bbc.co.uk/bitesize/topics/zpb7cj6	P10 Forces and Motion Forces and Acceleration, Weight and Terminal Velocity, Forces and Braking, Momentum	Evaluating and drawing force diagrams Using and rearranging formulae Practical skills	Using physics to evaluate car safety features and why it is important to, e.g. wear a seatbelt and not use a mobile phone whilst driving
		P11 Wave Properties: The Nature and Properties of Waves, Reflection, Refraction, Waves in Context	Chemical equations Analysing trends in data	Greenhouse gases and climate change. What is causing these changes and discussions of how this can be combatted.
		B12 Reproduction Types of Reproduction, Cell Division in Sexual Reproduction, DNA and the Genome, Inheritance in Action, More about Genetics, Inherited Disorders and Screening for Genetic Disorders	Using punnett squares for genetic crosses Calculating ratios and proportionality	Screening for inherited disorders The facts about reproductive health, including fertility and the potential impact of lifestyle on fertility for men and women. That they have a choice to delay sex or to enjoy intimacy without sex as a method of not becoming pregnant. The facts about the full range of contraceptive choices, efficacy and options available The benefits of regular self-examination and screening Key facts about puberty, the changing adolescent body and menstrual wellbeing The main changes which take place in males and females, and the implications for emotional and physical health
		B13 Variation and Evolution Variation, Evolution by Natural Selection, Selective Breeding, Genetic Engineering, Ethics of Genetic Technologies	Evaluating data in tables and graphs	Exploring differences between individuals, variation and evolution Genetic Engineering and selective breeding. Ethical debates on screening for inherited disorders, terminations, selective breeding, cloning and genetic engineering.

Spring 2	<p>Tests:</p> <p>One 45 mark test at the end of each topic listed below:</p> <p>B14 Genetics and Evolution: https://www.bbc.co.uk/bitesize/topics/zpb7cj6</p>	<p>B14 Genetics and Evolution History of Genetics, Theories of Evolution and Accepting Darwin's Ideas, Evolution and Speciation, Evidence for Evolution, Fossils and Extinction – Including Why Extinction can Occur, Antibiotic Resistant Bacteria, Classification, New Systems of Classification</p>		
	<p>P12 Electromagnetic Waves: https://www.bbc.co.uk/bitesize/guides/z9bw6yc/revisions/3</p>	<p>P12 Electromagnetic Waves The EM Spectrum, Radio waves to Light Waves, Communications using Waves, UV to Gamma Rays</p>	Orders of magnitude and prefixes	The hazards and uses of electromagnetic waves, including their use in medicine and the risks and benefits of using e.g. X-rays or gamma rays in radiotherapy.
	<p>P13 Electromagnetism : https://www.bbc.co.uk/bitesize/topics/z39ry4</p>	<p>P13 Electromagnetism Magnetic Fields, Magnetic Fields of Electric Currents, The Motor Effect</p>	Interpreting diagrams using physical laws	The importance of electromagnetic devices in our daily lives,

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<p>Summer</p>	<p>Summer Examinations:</p> <ul style="list-style-type: none"> • Biology Paper 1 – 70 marks • Chemistry Paper 1 – 70 marks • Physics Paper 1 – 70 marks • Biology Paper 2 – 70 marks • Chemistry Paper 2 – 70 marks • Physics Paper 2 – 70 marks 	<p>Biology Paper 1 and Paper 2 Revision</p> <p>Chemistry Paper 1 and Paper 2 Revision</p> <p>Physics Paper 1 and Paper 2 Revision</p> <p>Revision materials:</p> <p>Biology: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessmentresources?f.Component%7C7=Paper+1+Biology&f.Component%7C7=Paper+2+Biology</p> <p>Chemistry: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessmentresources?f.Component%7C7=Paper+1+Chemistry&f.Component%7C7=Paper+2+Chemistry</p> <p>Physics: https://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464/assessmentresources?f.Component%7C7=Paper+1+Physics&f.Component%7C7=Paper+2+Physics</p>	<p>Revision skills</p>	