

YEAR 10

Biology – Units 1-5

Biology Unit	Unit overview
CB1 Key biological concepts [Paper 1 & 2]	This unit introduces some of the central ideas in biology, including ideas about cells, microscopy, enzymes, nutrition, diffusion, osmosis and active transport.
CB2 Cells and Control [Paper 1]	This unit introduces how plants and animals develop from single cells the size of full stops to become complex organisms made of many different types of cells, which all need to be controlled and coordinated.
CB3 Genetics [Paper 1]	This unit introduces you to DNA code that produces our features and the processes that allow features to be passed on from parents to their offspring.
CB4 Natural Selection and Genetic Modification [Paper 1]	This unit introduces you to how organisms are changed genetically by natural selection and by humans.
CB5 Health, Disease and the Development of Medicines [Paper 1]	This unit will help you define health, learn about some pathogens and the diseases they cause, medicines and about the immune system.

Chemistry – Units 1-16

Chemistry Unit	Unit overview
CC1/2 States of Matter / Methods of separating and purifying substances [Paper 1]	This unit introduces how materials can be separated from one another using their properties.
CC3/4 Atomic structure / The Periodic Table [Paper 1]	These units introduce you to atoms, their structure and to the periodic table.
CC5/6/7 Ionic bonding / Covalent bonding / Types of substances [Paper 1]	These units help us understand how bonds being formed and broken is essential in helping us explain even the simplest physical change or chemical reaction.
CC8 Acids and Alkalis [Paper 1]	This unit helps you explore the nature of acidic and alkaline solutions, and their most important reactions, properties and uses.
CC9 Calculations Involving Masses [Paper 1]	This unit will help you to use relative atomic masses to calculate relative formula masses of elements and compounds, calculate the concentration of a solution and work out empirical and molecular formulae of compounds.
CC10/11/12/13 Electrolytic Processes / Obtaining and Using Metals / Reversible Reactions and Equilibria/ Transition	This unit will help you will learn more about reactivity, oxidation and reduction, the advantages of recycling, about the Haber process, what happens during electrolysis and the properties of the transition metals and their uses.

metals, alloys and corrosion [Paper 1]	
CC14/15/16 Quantitative analysis/ Dynamic equilibria, calculations involving gases, volumes of gases / Chemical fuel cells [Paper 1]	This unit builds upon unit 9 and you will learn about atom economy and yield. You will also learn how to perform and acid alkali titration and perform calculations that involve gases.

Physics – Units 1-7

Physics Unit	Unit overview
CP1 Motion [Paper 1]	This unit introduces you to quantities that have directions (such as forces). You will find out how to calculate speeds and accelerations, and how to represent changes in distance moved and speeds on graphs.
CP2 Forces and Motion [Paper 1]	This unit introduces Isaac Newton's Laws of Motion and how these can help the government to work out what the speed limits should be on different roads.
CP3 Conservation of Energy [Paper 1]	This unit introduces you to ways in which energy can be transferred and stored, how to reduce energy transfers, and the renewable and non-renewable resources we use in everyday life.
CP4 Waves [Paper 1]	This unit introduces you to waves characteristics and how they transfer energy and information.
CP5 Light and the Electromagnetic Spectrum [Paper1]	This unit will help you learn about the electromagnetic spectrum, harmful effects of waves from this spectrum and that light is part of this family of waves which all have some properties in common
CP6 Radioactivity [Paper 1]	This unit looks at the structure of atoms, types of radiation and their effect on atoms, and the dangers of radioactive substances and sources.
CP7 Astronomy [Paper 1]	In this unit you will learn about the solar system and how ideas about it have changed over time, the life cycle of stars, the doppler effect and theories about the origin of the universe.

Year 11

Biology – Units 6-9

Biology Unit	Unit overview
CB6 Plant Structures and their Functions [Paper 2]	This unit will help you learn about the process of photosynthesis and its importance, how plant structures are adapted to their functions and how water, mineral ions and sugar are transported through plants.
CB7 Animal coordination, control and homeostasis [Paper 2]	This unit introduces you to hormones, metabolic rate, the menstrual cycle, blood glucose and diabetes.
CB8 Exchange and transport in animals [Paper 2]	This unit introduces you to diffusion, different kinds of respiration, how the lungs are adapted to their functions, and calculating cardiac output.
CB9 Ecosystems and material cycles [Paper 2]	This unit introduces you to ecosystems, abiotic and biotic factors and communities, parasitism, biodiversity, and the water, carbon and nitrogen cycles.

Chemistry – Units 17-26

Chemistry Unit	Unit overview
CC17 Groups in the Periodic Table [Paper 2]	This unit introduces you to alkalis, halogens, displacement reactions and noble gases.
CC18 Rates of reactions [Paper 2]	This section introduces you to rates of reaction and catalysts.
CC19 Heat energy changes in chemical reactions [Paper 2]	This section introduces you to exothermic and endothermic reactions and energy changes in reactions.
CC20 Fuels / CC21 Earth and atmospheric science [Paper 2]	This section introduces you to crude oils and natural gas, hydrocarbons, fractional distillation, the alkane homologous series, combustion, pollution, the earth's atmosphere and climate change.

CC22 Hydrocarbons / CC23 alcohols and carboxylic acids/ CC24 Polymers [Paper 2]	In this unit you will learn about the properties of alkanes and alkenes, properties of carboxylic acids and alcohols and the formation and disposal of different types of polymer.
CC25 Qualitative analysis: Tests for ions/ CC26 Bulk and surface properties of matter including nanoparticles [Paper 2]	In this unit you will learn how to test for the presence of different types of ion, how to compare the physical properties of different materials and nanoparticles their uses and possible risks.

Physics – Units 8-15

Physics Unit	Unit overview
CP8/ CP9 Energy and forces / Forces and their effects [Paper 2]	In this unit you will learn about energy in systems, calculate power and work done, how objects interact, rotational forces and vector diagrams.
CP10/ CP11 Electricity and circuits/ Static electricity [Paper 2]	In this unit you will learn about current, charge and potential difference, the relationship between current, potential difference and resistance, the UK domestic supply and the importance of earthing and electric fields.
CP12/ CP13 Magnetism and motor effect/ Electromagnetic induction [Paper 2]	In this unit you will learn about magnets and magnetic fields, solenoids, transformers and their use in the national grid and calculations linked to transformers and the size and direction of the force on a wire in a magnetic field
CP 14/ CP 15 Particle model /	In this unit you will learn about density, specific heat capacity and specific latent heat, the link between force and extension of a spring and pressure in fluids.

