	Year 7	Year 8	Year 9	Year 10	Year 11
Autumn 1	Organisms Movement 4.4-The role of diffusion in the movement of materials in and between cells AQA GCSE Biology paper Assessment Explore how the skeletal system and muscular system in a chicken wing work together to cause movement	Organisms Cells 4.1-Plant and animal cells 4.1.1.3 Cell specialisation AQA GCSE Biology paper Assessment Identify the principal features of a cheek cell and describe their functions	Organisms Breathing 3.8.3 Breathing Investigate a claim linking height to lung volume 4.4.2.2 Response to exercise AQA GCSE Biology paper Assessment Informal teacher assessment Evaluate a model for showing the mechanism of breathing.	*4.1 Cell biology* 4.1.1 Cell structure 4.1.1.1 Eukaryotes and prokaryotes 4.1.1.2 Animal and plant cells 4.1.1.3 Cell specialisation 4.1.1.4 Cell differentiation 4.1.1.5 Microscopy 4.1.1.6 Culturing microorganism Required practical skill focus AT 7 – use a microscope to make observations of biological specimens and produce labelled scientific Drawings Assessment AQA GCSE paper 1	*4.5 Homeostasis and response* 4.5.1 Homeostasis 4.5.2 The human nervous system 4.5.2.1 Structure and function 4.5.2.2 The brain (biology only) 4.5.2.3 The eye 4.5.2.4 Control of body temperature Required practical skill focus AT 1 – use appropriate apparatus to record time. AT 3 – selecting appropriate apparatus and techniques to measure the process of reaction time. AT 4 – safe and ethical use of humans to measure physiological function of reaction time and responses to a chosen factor 4.5.3 Hormonal coordination in humans 4.5.3.1 Human endocrine system 4.5.3.2 Control of blood glucose concentration 4.5.3.3 Maintaining water and nitrogen balance in the body 4.5.3.4 Hormones in human reproduction 4.5.3.5 Contraception 4.5.4 Plant hormones (biology only) Trip to Hunterian Museum at the Royal College of Surgeons Assessment AQA paper 2
Autumn 2	Reactions- Acids and Alkali's Metals and non-metals 4.1 Atomic structure and the periodic table 4.2 Bonding, structure, and the properties of matter 4.4 Chemical changes 4.6 The rate and extent of chemical change AQA GCSE Chemistry Assessment Devise an enquiry to compare how well indigestion remedies work	Reactions- Acids and Alkali's Chemical Energy Types of reaction 4.1 Atomic structure and the periodic table 4.2 Bonding, structure, and the properties of matter 4.4 Chemical changes 4.6 The rate and extent of chemical change AQA GCSE Chemistry Assessment	Particle Model 4.1.1.1 Atoms, elements and compounds 4.1.1.2 Mixtures 4.1.1.3 The development of the model of the atom (common content with physics) 4.1.1.5 Size and mass of atoms 4.1.1.7 Electronic structure Specification WS 2.6 – make and record observations and measurements of mass Trip to London Science Museum	*4.1.2 Cell division* 4.1.2.1 Chromosomes 4.1.2.2 Mitosis and the cell cycle 4.1.2.3 Stem cells 4.1.3 Transport in cells 4.1.3.1 Diffusion 4.1.3.2 Osmosis Content 4.1.3.3 Active transport Assessment Presentation on the cell cycle	*4.6 Inheritance, variation and evolution* 4.6.1 Reproduction 4.6.1.1 Sexual and asexual reproduction 4.6.1.2 Meiosis 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction (biology only) 4.6.1.4 DNA and the genome 4.6.1.5 DNA structure 4.6.1.6 Genetic inheritance 4.6.1.7 Inherited disorders 4.6.1.8 Sex determination Assessment

		Investigate a phenomenon that relies on an exothermic or endothermic reaction	Assessment Construct an atom of an element or compound	AQA GCSE paper 1	Darwin's Fiches presentation AQA GCSE paper 2
Spring 1	Ecosystems Interdependence Science A.O: 4.7-different levels of organisation in an ecosystem from individual organisms to the whole ecosystem • the importance of interdependence and competition in a community. AQA GCSE Biology paper Assessment Use a model to investigate the impact of changes in a population of one organism on others in the ecosystem Trip- SEA LIFE London	Ecosystems Plant Reproduction Science A.O: 4.1 4.1.1.2 Animal and plant cells 4.1.1.3 Cell specialisation 4.6-Inheritance, variation and evolution AQA GCSE Biology paper Assessment Use models to evaluate the features of various types of seed dispersal	Organisms Digestion Science A.O 4.2.2.1 The human digestive system 4.2 Organisation AQA GCSE Biology paper Assessment Create and evaluate how well a model represents key features of the digestive system	*4.2 Organisation* 4.2.1 Principles of organisation 4.2.2 Animal tissues, organs and organ systems 4.2.2.1 The human digestive system Required practical skill focus Required practical activity 4: use qualitative reagents to test for a range of carbohydrates, lipids and proteins. Required practical activity 5: investigate the effect of pH on the rate of reaction of amylase enzyme. AT 8 – the use of appropriate techniques and qualitative reagents in problem-solving contexts to find the best antibiotic to use or the best concentration of antiseptic to use AT 7 – use a microscope to make observations of biological specimens and produce labelled scientific Drawings 4.2.2.2 The heart and blood vessels 4.2.2.3 Blood 4.2.2.4 Coronary heart disease: a non-communicable disease 4.2.2.5 Health issues 4.2.2.6 The effect of lifestyle on some non-communicable diseases 4.2.2.7 Cancer Assessment AQA GCSE paper 1	*4.6.2 Variation and evolution* 4.6.2.1 Variation 4.6.2.2 Evolution 4.6.2.3 Selective breeding *Mocks and Revision* *Exam practice* MOCKS Assessment Papers 1-2 Complete flow graphs to show understanding of variation

Spring 2	Matter- Separating mixtures Matter- Particle model Matter- periodic table Matter- Elements 4.1 Atomic structure and the periodic table 4.2 Bonding, structure, and the properties of Matter 4.4 Chemical changes 4.6 The rate and extent of chemical change AQA GCSE Chemistry paper Assessment Devise ways to separate mixtures, based on their properties • Sort elements using chemical data and relate this to their position in the periodic table	Earth (Astronomy and space) Earth structure Universe Climate Earth resources 4.8 Space physics AQA GCSE Physics paper Assessment Model the processes that are responsible for rock formation and link these to the rock features • Investigate the contribution that natural and human chemical processes make to our carbon dioxide emissions • Predict the method used for extracting metal based on its position in the reactivity series • Relate observations of changing day length to an appropriate model of the solar system TRIP- Royal Observatory Greenwich	Ecosystems Respiration & Photosynthesis Science A.O: 4.4.2- Rate of photosynthesis 4.4.1.3 Uses of glucose from photosynthesis 4.2,4.3, 4.4, 4.7 AQA GCSE Biology paper Specification Required practical skill focus WS 2.1 – use scientific theories and explanations to develop hypotheses on how light intensity affects the rate of photosynthesis. WS 2.2 – plan experiments to test hypotheses. WS 2.5 – recognise that multiple samples will be needed at each light intensity. WS 2.6 – make and record observations of gas production. MS 1a, 1c – measure and understand the rate of photosynthesis reactions WS 3.1 – present a graph of light intensity against rate of photosynthesis. WS 3.2 – translate numeric data into graphical form. Assessment Use lab tests on variegated leaves to show that chlorophyll is essential for photosynthesis	*4.2.3 Plant tissues, organs and systems* 4.2.3.1 Plant tissues 4.2.3.2 Plant organ system *4.3 Infection and response* *4.3.1 Communicable diseases* 4.3.1.1 Communicable (infectious) diseases 4.3.1.2 Viral diseases 4.3.1.3 Bacterial diseases 4.3.1.4 Fungal diseases 4.3.1.5 Protist diseases Assessment Teacher designed test topics covered AQA GCSE paper 1	*Biology Revision (Teacher Choice Focus from Mocks)* AQA GCSE papers1-2 .
Summer 1	Forces Speed Gravity Contact Forces Pressure 4.5 Forces AQA GCSE Physics paper Assessment • Investigate variables that affect the speed of a toy car rolling down a slope	• Electromagnets • Magnetism • 4.7 Magnetism and electromagnetism • AQA GCSE Physics Assessment • Explore the magnetic field pattern around different types or combinations of magnets • Investigate ways of varying strength of an electromagnet	Chemical reactions 4.1.1.1 Atoms, elements and compounds 4.1.2.2 Development of the periodic table 4.1.2.3 Metals and non-metals 4.2.2.1 The three states of matter 4.2.2.2 State symbols Assessment Use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids	4.7 Ecology 4.7.1 Adaptations, interdependence and competition 4.7.1.1 Communities 4.7.2 Organisation of an ecosystem 4.7.2.1 Levels of organisation 4.7.2.2 How materials are cycled 4.7.2.3 Decomposition (biology only) 4.7.2.4 Impact of environmental change (biology only) (HT only) 4.7.3 Biodiversity and the effect of human interaction on ecosystems 4.7.3.1 Biodiversity	Science Examinations Paper 1 Paper 2 GCSE Paper 1: 1 hr 45 mins (non-calc) Paper 2: 1 hr 45 mins (calc)

	• Investigate factors that affect the size of frictional or drag forces • Investigate how pressure from your foot onto the ground varies with different footwear		Required practical skill focus AT 1 – use appropriate apparatus to make and record measurements of length, area, mass and volume accurately.	4.7.3.2 Waste management 4.7.3.3 Land use 4.7.3.4 Deforestation 4.7.3.5 Global warming 4.7.3.6 Maintaining biodiversity Trip to London Zoo Ecology Centre Required practical skill focus AT 4 – safe and ethical use of organisms and response to a factor in the environment. AT 6 – application of appropriate sampling techniques to investigate the distribution and abundance of organisms in an ecosystem via direct use in the field. AT 8 – use of appropriate techniques in more complex contexts including continuous sampling in an investigation Assessment Required practical activity 9: measure the population size of a common species in a habitat. Use sampling techniques to investigate the effect of a factor on the distribution of this species	
Summer 2	Genes Human reproduction 4.1, 4.5 4.5.3.4 Hormones in human reproduction 4.6- reproduction in humans including the structure and function of the male and female reproductive systems AQA GCSE Biology paper Assessment Relate advice to pregnant women to ideas about transfer of substances to the embryo	Genes Variation 4.5 hormones in human reproduction, hormonal and non-hormonal methods of contraception 4.6 Inheritance, variation and evolution 4.6.1.3 Advantages and disadvantages of sexual and asexual reproduction AQA GCSE Biology paper Assessment Graph data relating to variation and explain how it may lead to the survival of a species	Genes Evolution & Inheritance 4.6 Inheritance, variation and evolution 4.6.2 Variation and evolution 4.6.2.2 Evolution 4.6.3 The development of understanding of genetics and evolution AQA GCSE Biology paper Assessment Punnet graph relating to variation and explain how species variation can vary according to genetics and environmental factors Design an organism for given environmental conditions AQA GCSE papers 1 & 2	4.7.4 Trophic levels in an ecosystem (biology only) 4.7.4.1 Trophic level 4.7.4.2 Pyramids of biomass 4.7.4.3 Transfer of biomass 4.7.5 Food production 4.7.5.1 Factors affecting food security 4.7.5.2 Farming technique's 4.7.5.3 Sustainable fisheries 4.7.5.4 Role of biotechnology Required practical skill focus AT 1 – use appropriate apparatus to record length and area. AT 3 – use transect lines and quadrats to measure distribution of a species. AT 4 – safe and ethical use of organisms and response to a factor in the environment. AT 6 – application of appropriate sampling techniques to investigate the distribution and abundance of	

				organisms in an ecosystem via direct use in the field Assessment AQA GCSE papers1 Debate on sustainable farming