

GCSE Combined science 2017-2018

Year Group	Term	Topic and Content		
		Biology	Chemistry	Physics
10	Autumn 1	Cell biology. <ul style="list-style-type: none"> - Cell structure & specialisation - Microscopy - Cell division - Cell transport 	Atomic structure & the periodic table. <ul style="list-style-type: none"> - Atoms, elements & compounds - Size and mass of atoms - Development of the periodic table 	Atomic Structure <ul style="list-style-type: none"> - Atoms and isotopes - Development of the atomic model - Radioactivity
	Autumn 2	Organisation. <ul style="list-style-type: none"> - Tissues, organs & organ systems - The digestive system - The cardiovascular system 	Bonding, structure & properties of matter. <ul style="list-style-type: none"> - Ionic, covalent and metallic bonds - How bonding influences properties - Carbon chemistry. 	Particle model of matter <ul style="list-style-type: none"> - Density and pressure - Changes of state - Energy transfers
	Spring 1	Organisation. <ul style="list-style-type: none"> - Coronary disease & cancer - Plant systems 	Organic Chemistry <ul style="list-style-type: none"> - Hydrocarbons - Fractional distillation - Alkenes - Cracking 	Energy <ul style="list-style-type: none"> - Energy stores - Changes in energy systems -
	Spring 2	Infection & response. <ul style="list-style-type: none"> - Communicable diseases - Human defence systems - Medicines & vaccination 	Chemical Analysis <ul style="list-style-type: none"> - Pure substances & formulations - Chromatography - Identifying common gases 	Energy <ul style="list-style-type: none"> - Conservation of energy - Energy resources
	Summer 1	Bioenergetics. <ul style="list-style-type: none"> - Photosynthesis - Respiration - Metabolism 	Chemistry of the atmosphere <ul style="list-style-type: none"> - The Earth's early atmosphere - Greenhouse gases & climate change - Atmospheric pollutants 	Electricity <ul style="list-style-type: none"> - Electrical circuits - Current, resistance & potential difference - Series & parallel circuits
	Summer 2	Ecology <ul style="list-style-type: none"> - Communities & adaptations - Organisation of an ecosystem - Biodiversity & human impact 	Using Earth's resources <ul style="list-style-type: none"> - Water - Life cycle assessment & recycling - Reducing waste 	Electricity <ul style="list-style-type: none"> - Power - Domestic and mains electricity - The national grid

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		Biology	Chemistry	Physics
11	Autumn 1	Homeostasis & response <ul style="list-style-type: none"> - What is homeostasis? - Human nervous system - Human endocrine system - Controlling blood glucose levels - Hormones in reproduction & contraception - Treating infertility 	Quantitative chemistry. <ul style="list-style-type: none"> - Conservation of mass - Calculating amounts of substances - Concentrations of solutions. Chemical changes. <ul style="list-style-type: none"> - Reactivity of metals - Reactions of acids Electrolysis 	Waves <ul style="list-style-type: none"> - Wave properties - Electromagnetic waves - Light waves
	Autumn 2	Inheritance, variation & evolution <ul style="list-style-type: none"> - Sexual and asexual reproduction - Genetic inheritance and genetic disorders - Selective breeding - Genetic engineering 	Energy changes. <ul style="list-style-type: none"> - Endothermic and exothermic reactions - Energy changes in chemical reactions 	Magnetism & electromagnetism <ul style="list-style-type: none"> - Magnetic fields - Electromagnetism - Electric motors
	Spring 1	Inheritance, variation & evolution <ul style="list-style-type: none"> - Evidence for evolution - Resistant bacteria - Classification of living organisms 	Rate & extent of chemical change <ul style="list-style-type: none"> - Rate of chemical reactions - Reversible reactions Chemical equilibrium 	Forces <ul style="list-style-type: none"> - Interactions of forces - Work done & energy transfer - Forces & motion - Momentum
	Spring 2	Revision programme and mock exams. Key skills for science exams including literacy and numeracy strategies.	Revision programme and mock exams. Key skills for science exams including literacy and numeracy strategies.	Revision programme and mock exams. Key skills for science exams including literacy and numeracy strategies.

GCSE Separate Sciences 2017-2018

Year Group	Term	Topic and Content (bold content is specific to this course)		
		Biology	Chemistry	Physics
10	Autumn 1	Cell biology. <ul style="list-style-type: none"> - Cell structure & specialisation - Microscopy - Cell division - Cell transport 	Atomic structure & the periodic table. <ul style="list-style-type: none"> - Atoms, elements & compounds - Ions and isotopes - Size and mass of atoms - Development of the periodic table 	Atomic Structure <ul style="list-style-type: none"> - Atoms and isotopes - Development of the atomic model - Radioactivity - Nuclear fission, fusion, and uses in medicine.
	Autumn 2	Organisation. <ul style="list-style-type: none"> - Tissues, organs & organ systems - The digestive system - The cardiovascular system 	Bonding, structure & properties of matter. <ul style="list-style-type: none"> - Ionic, covalent and metallic bonds - How bonding influences properties - Carbon chemistry. - Nanotechnology 	Particle model of matter <ul style="list-style-type: none"> - Density and pressure - Changes of state - Energy transfers - Gas pressure & volume.
	Spring 1	Organisation. <ul style="list-style-type: none"> - Coronary disease & cancer - Plant systems 	Organic Chemistry <ul style="list-style-type: none"> - Hydrocarbons - Fractional distillation - Alkenes and cracking - Organic reactions and products 	Energy <ul style="list-style-type: none"> - Energy stores - Changes in energy systems
	Spring 2	Infection & response. <ul style="list-style-type: none"> - Communicable diseases - Human defence systems - Medicines & vaccination - Growing and controlling bacteria - Plant disease and defences - Monoclonal antibodies 	Chemical Analysis <ul style="list-style-type: none"> - Pure substances & formulations - Chromatography - Testing for ions 	Energy <ul style="list-style-type: none"> - Conservation of energy - Energy resources - Infrared radiation - Energy issues/
	Summer 1	Bioenergetics. <ul style="list-style-type: none"> - Photosynthesis/respiration - Metabolism & homeostasis - 	Chemistry of the atmosphere <ul style="list-style-type: none"> - The Earth's early atmosphere - Greenhouse gases & climate change - Atmospheric pollutants 	Electricity <ul style="list-style-type: none"> - Electrical circuits - Current, resistance & potential difference - Series & parallel circuits

	Summer 2	Ecology <ul style="list-style-type: none"> - Communities & adaptations - Organisation of an ecosystem - Biodiversity & human impact - Decomposition. - Food production & sustainability. 	Using Earth's resources <ul style="list-style-type: none"> - Water - Life cycle assessment & recycling - Reducing waste - Use of Earth's resources 	Electricity <ul style="list-style-type: none"> - Power - Domestic and mains electricity - The national grid
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	Autumn 2	Inheritance, variation & evolution <ul style="list-style-type: none"> - Sexual and asexual reproduction - Genetic inheritance and genetic disorders - Selective breeding - Genetic engineering & cloning. - DNA structure, protein synthesis - Genetic mutations. 	Energy changes. <ul style="list-style-type: none"> - Endothermic and exothermic reactions - Energy changes in chemical reactions - Chemical cells, fuel cells & batteries 	Magnetism & electromagnetism <ul style="list-style-type: none"> - Magnetic fields - Electromagnetism - Electric motors - Use of electromagnets - Generators and transformers. Space Physics (GCSE PHYSICS ONLY)

Spring 1	Inheritance, variation & evolution <ul style="list-style-type: none"> - Evidence for evolution - The history of evolution & associated theories. - Resistant bacteria - Classification of living organisms 	Rate & extent of chemical change <ul style="list-style-type: none"> - Rate of chemical reactions - Reversible reactions Chemical equilibrium 	Forces <ul style="list-style-type: none"> - Interactions of forces - Work done & energy transfer - Forces & motion - Momentum
Spring 2	Revision programme and mock exams. Key skills for science exams including literacy and numeracy strategies.	Revision programme and mock exams. Key skills for science exams including literacy and numeracy strategies.	Revision programme and mock exams. Key skills for science exams including literacy and numeracy strategies.