Biology Year 9

	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic	Topic 1- Key concepts	Topic 1- Key concepts	(chemistry topic)	Topic 2- Cells and Control	Topic 5- Health and Disease	Topic 5- Health and Disease
Threshold concepts explored	Cells Evolution	Cells Energy		Cells Genetics	Cells Interdependence	Cells Interdependence
Building on	KS3 Topic 7A- Cells	KS3 Topic 7A- Cells KS3 Topic 8A- Food and Digestion		KS3 Topic 7A- Cells KS3 Topic 7B- Reproduction	KS3 Topic 8D (Unicellular Organisms)	KS3 Topic 8D (Unicellular Organisms)
Leading to	Cell structure built on in: Topic 2- mitosis and nervous system Topic 3- Nucleus and DNA structure Topic 6- Plant cells and tissues Topic 8- Circulation and respiration Antibiotic resistance links to topic 4- evidence of evolution	Enzymes built on in: Topic 4- Genetic modification Topic 6- Photosynthesis Topic 8- Respiration Topic 9- Decomposition		Cell division built on in: Topic 3- meiosis, DNA and inheritance	CVD links to topic 8- circulation Microorganisms links to: Topic 5 separate core practical (antibiotics) Topic 9- decomposition and carbon/nitrogen cycle Disease links to- Topic 5 separate content in year 10 (viral lifecycles, plant disease)	CVD links to topic 8- circulation Microorganisms links to: Topic 5 separate core practical (antibiotics) Topic 9- decomposition and carbon/nitrogen cycle Disease links to- Topic 5 separate content in year 10 (viral lifecycles, plant disease)
How will you know how you are doing and how to improve?	Topic 5 End of topic (green) assessment Topic 1 mid-topic (yellow) progress check	Topic 1 End of topic (green) assessment		Year 9 exam fortnight Topic 2 mid-topic (yellow) progress check	Topic 5 mid-topic (yellow) progress check	Topic 5 mid-topic (yellow) progress check

Experiences to look out for	Growing bacteria/aseptic technique Microscopes and creating slides	Investigating enzymes Investigating osmosis				
Links to useful resources	Biology Resources OneNote	Biology Resources OneNote		Biology Resources OneNote	Biology Resources OneNote	Biology Resources OneNote

Year 9 Physics

	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topic	Topic 3 Conservation of Energy		Topic 2 Forces and Motion	Topic 2 Forces and Motion	Topic 5 Light and the EM Spectrum	
Threshold concepts explored	Energy		Forces	Forces	Energy	
Building on	7I8E Energy and Combustion 8K Thermal Energy		KS3 7K Forces	KS3 7K Forces	KS3 7L 8J Sound & light	
Leading to	GCSE Topic 8 Forces doing work GCSE GCSE Topic 10 Electricity		GCSE Topic 8 Forces doing work GCSE Topic 9 Forces and their effects	GCSE Topic 8 Forces doing work GCSE Topic 9 Forces and their effects	GCSE Topic 6 Radioactivity	
How will you know how you are doing and how to improve?	Topic 3 Green Test		Topic 2 Yellow test	Topic 2 Green Test	Topic 5 green test Year 9 Exams	
Experiences to look out for				Core Practical:		

				Newtons 2nd Law F=ma		
Links to useful resources	Motion and forces - GCSE Combined Science Revision - Edexcel - BBC Bitesize		Motion and forces - GCSE Combined Science Revision - Edexcel - BBC Bitesize	Motion and forces - GCSE Combined Science Revision - Edexcel - BBC Bitesize	Light and the EM spectrum - GCSE Physics (Single Science) Revision - Edexcel - BBC Bitesize	

Year 9 chemistry

Year 9 Learning Plan	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6	
Topic		Atomic structure and Periodic table	States of matter and mixtures		Formulae and Equations Hazards and Risks	Bonding and types of substance (part 1)	Calculations involving masses (part 1)
Threshold concepts explored		Particles & bonding	Particles & bonding Chemical analysis		Particles & bonding	Particles & bonding	Chemical analysis Reactions
Building on		7GH – Particles & Atoms	7E – Mixtures & separation		7GH – Particles & Atoms	7GH – Particles & Atoms (KS3) Atomic structure and Periodic Table (Y9)	7GH – Particles & Atoms (KS3) Atomic structure and Periodic Table (Y9)
Leading to		Bonding and types of substance (Y10) Groups of the periodic table (Y10) Using data to explain electronic configuration (Y12)	Preparation and purification of organic liquids (Y12) Analysis of organic solids (Y12)		Describing reactions in terms of word, balanced, ionic and half equations (Y10 & Y11)	Explaining and predicting the properties of substances based on their bonding including investigating different intermolecular forces (Y12).	Analysis of substances to determine quantitative information, including molecular formula, concentration and purity (Y12 & 13).
How am I doing, how to improve		1ab Mid-unit test 1ab End-of-Unit Test	2 Mid-unit test 2 End-of-Unit Test			1bc (part 1) Mid-unit test 1bc (part 1) End-of-Unit test	End of year assessments
Experiences			Distillation and Chromatography (CP)			Using everyday objects to model atoms, ions and molecules	Determining the empirical formula of magnesium oxide Proving that atoms are not created or destroyed in reactions
Useful resources		BBC - Atomic structure BBC - Periodic Table Science OneNote	BBC - States of matter and mixtures Science OneNote		BBC - Formula and equations BBC - Hazards and risks Science OneNote	BBC - Ionic compounds BBC - Simple molecules BBC - Giant covalent BBC - Metals and non metals Science OneNote	BBC - Calculations **BBC - Calculations (H)** Science OneNote