

Intent

Curriculum Statement:
 The Science curriculum will engage and enthuse students in the wonders of their world and allow them to fulfil their natural curiosity through investigative experiences. Progressive learning opportunities will develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

Planning and delivery will develop understanding of the nature, processes and methods of science. Through different types of enquiries, the curriculum will help them to answer scientific questions about the world around them.

We will allow students to be equipped with the scientific skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that knowledge should be gained through this.

Students will gain an understanding of how science works to ensure they are prepared to effectively evaluate any information given to them in the future. The science curriculum will challenge students to question “Why?”

Implementation

Year 7 - Content		Assessments		Literacy/Numeracy Focus	CEIAG	Personal Development
		Topics	Assessment type			
Term 1	<ul style="list-style-type: none"> Skills 	<ul style="list-style-type: none"> Safety in the lab Using a Bunsen burner Planning a practical Variables Drawing graphs Analysing data 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Literacy: Use of subject-specific keyword.</p> <p>Extended writing – answering long-answer questions. Writing up scientific investigations.</p> <p>Numeracy: Reading and plotting line graphs.</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops numeracy and problem-solving skills. Develops planning and organisational skills.
	<ul style="list-style-type: none"> 7G: The particle model 	<ul style="list-style-type: none"> Solids, liquids and gases Particles Brownian motion Diffusion Air pressure 				
	<ul style="list-style-type: none"> 7A: Cells, tissues, organs and systems 	<ul style="list-style-type: none"> Life processes Organs Tissues Microscopes Cells Organ systems 				

		<ul style="list-style-type: none"> Core practical - microscopes 		<p>Numeracy: Using ratios to compare experimental results.</p>		
Term 2	<ul style="list-style-type: none"> 7E: Separating mixtures 7B: Sexual reproduction in animals 7I: Energy 	<ul style="list-style-type: none"> Mixtures and separation Solutions Evaporation Chromatography Distillation Core practical – evaporation and chromatography Animal sexual reproduction Reproductive organs Becoming pregnant Gestation and birth Growing up Energy from food Energy transfers and stores Fuels Other energy resources Using resources 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the science learnt in modules covered last term. 	<p>Numeracy: Understand numbers, size and scale and the quantitative relationship between units</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops written and verbal communication skills. Develops planning and organisational skills.
Term 3	<ul style="list-style-type: none"> 7H: Atoms, elements and molecules 7K: Forces 	<ul style="list-style-type: none"> The air we breathe Earth’s elements Metals and non-metals Making compounds Chemical reactions Different forces Springs Friction Pressure 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: The use of symbols when communicating science</p> <p>Numeracy: Converting between metres and nanometres</p> <p>Numeracy: Presenting data graphically.</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops analytical thinking skills. Develops skills of analysis and presentation.

		<ul style="list-style-type: none"> Balanced and unbalanced 			<p>science or elsewhere and this skill is embedded into the science lessons.</p> <ul style="list-style-type: none"> Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	
Term 4	<ul style="list-style-type: none"> 7C: Muscles and bones 7L: Sound 	<ul style="list-style-type: none"> Muscles and breathing Muscles and blood The skeleton Muscles and moving Drugs Making sounds Moving sounds Detecting sounds Using sounds Comparing waves 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the science learnt in modules covered last term. 	Numeracy: The use of: tables; line graphs; scatter graphs; pie charts; and bar charts.	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops maths knowledge. Develops analytical thinking skills. Develops numeracy and problem-solving skills.
Term 5	<ul style="list-style-type: none"> 7D: Ecosystems 7J: Electricity 	<ul style="list-style-type: none"> Variation Adaptations Effects of the environment Effects on the environment Transfers in food chains Core practical – variation Switches and current Models for circuits 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	Numeracy: Present data in bar charts.	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops written and verbal communication skills. Develops analytical thinking skills. Develops skills of analysis and presentation. Develops planning and organisational skills. Develops numeracy and problem-solving skills.

		<ul style="list-style-type: none"> Series and parallel circuits Changing the current Using electricity Core practical – I, V and R 			<p>this skill is embedded into the science lessons.</p> <ul style="list-style-type: none"> Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops skills of analysis and presentation.
Term 6	<ul style="list-style-type: none"> 7F: Acids and Alkalis 8L: Earth and space <p>Review and assessment</p> <p>Feedback</p>	<ul style="list-style-type: none"> Hazards Indicators Acidity and alkalinity Neutralisation Neutralisation in everyday life Core practical – Indigestion tablets Gathering the evidence Seasons Magnetic Earth Gravity in space Beyond the solar system 	<ul style="list-style-type: none"> Summative assessment that will include the science learnt in modules covered last term. 	<p>Numeracy: Drawing line graphs and scatter graphs, and using these to draw conclusions.</p>	<ul style="list-style-type: none"> Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops maths knowledge. Develops written and verbal communication skills. Develops analytical thinking skills. Develops skills of analysis and presentation. Develops planning and organisational skills. Develops numeracy and problem-solving skills. Develops skills of analysis and presentation.

Year 8 - Content		Assessments		Literacy/numeracy focus	CEIAG	Personal Development
	Topics	Assessment type				
Term 1	<ul style="list-style-type: none"> 8B: Plant Reproduction 	<ul style="list-style-type: none"> Classification and Biodiversity Types of Reproduction Pollination Fertilisation and Dispersal 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key 		<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops maths knowledge.

	<ul style="list-style-type: none"> • 8G: Metals and their uses 	<ul style="list-style-type: none"> • Metal properties • Corrosion • Metals and water • Metals and acid • Pure metals and alloys 	<p>knowledge understanding</p>	<p>answer questions. Writing up scientific investigations.</p> <p>Numeracy: Drawing line graphs and scatter graphs, and using these to draw conclusions.</p> <p>Numeracy: Choosing and using a suitable level of accuracy for measurements</p> <p>Plot graphs</p>	<p>work as a team to make accurate observations and record the results.</p> <ul style="list-style-type: none"> • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> • Develops written and verbal communication skills. • Develops numeracy and problem-solving skills.
<p>Term 2</p>	<ul style="list-style-type: none"> • 8D: Unicellular organisms • 8F: The periodic table • 8K: Energy transfers 	<ul style="list-style-type: none"> • Unicellular or multicellular • Microscopic fungi • Bacteria • Protoctists • Decomposers and carbon • Dalton’s atomic model • Chemical properties • Mendeleev’s table • Physical trends • Chemical trends • Temperature changes • Transferring energy • Controlling transfers • Power and efficiency • Paying for energy 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the science learnt in modules covered last term. 	<p>Numeracy: Identify the ranges of readings in data. Explain why data with a small range is of good quality. Calculate means and explain their use. Identify anomalous results in data.</p> <p>Numeracy: Calculating means.</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops maths knowledge. • Develops analytical thinking skills.

Term 3	<ul style="list-style-type: none"> • 8E: Combustion • 8I: Fluids 	<ul style="list-style-type: none"> • Burning fuels • Oxidation • Fire safety • Air pollution • Global warming • Changing state • Pressure in fluids • Floating and sinking • Drag 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Choosing and using a suitable level of accuracy for measurements Plot graphs</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills.
Term 4	<ul style="list-style-type: none"> • 8A: Food and Nutrition • 8H: Rocks • 8J: Light 	<ul style="list-style-type: none"> • Nutrients • Uses of Nutrients and balanced diets • Digestion • Absorption • Rocks and their uses • Igneous and metamorphic • Weathering and erosion • Sedimentary rocks • Materials in the Earth • Light on the move • Reflection • Refraction 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the science learnt in modules covered last term. 	<p>Numeracy: Use a variety of charts and graphs to present and analyse data.</p> <p>Numeracy: Apply mathematical concepts and calculate results.</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Problem solving is a skill that is developed during this 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills.

		<ul style="list-style-type: none"> Cameras and eyes Colour 			term and an essential aspect of all science modules.	
Term 5	<ul style="list-style-type: none"> 9I: Forces 9F: Reactivity 8C: Breathing and respiration 	<ul style="list-style-type: none"> Forces and movement Energy for movement Speed Turning forces More machines Types of Explosion Reactivity Energy and Reactions Displacement Extracting Metals Aerobic respiration Gas exchange system Getting oxygen Comparing gas exchange Anaerobic respiration 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Present data in scatter graphs. Draw lines of best fit on scatter graphs.</p> <p>Numeracy: Substitute into formulae.</p> <p>Numeracy: Present data in bar charts or scatter graphs. Identify when to use a bar chart or scatter graph.</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops maths knowledge. Develops written and verbal communication skills. Develops analytical thinking skills.
Term 6	<ul style="list-style-type: none"> 9B: Plant growth 9J: force fields and electromagnetism <p>Assessment and feedback</p>	<ul style="list-style-type: none"> Reactions in plants Plant adaptations Plant products Growing crops Farming problems Force fields Static electricity Current Electricity Electromagnets Resistance 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the science learnt in modules covered last term. 	<p>Numeracy: Explain what probability is. Calculate probabilities and present them as fractions, decimals and percentages Calculate experimental probabilities</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops maths knowledge. Develops written and verbal communication skills. Develops analytical thinking skills.



Year 9 - Content		Assessments		Literacy/numeracy focus	CEAIG	Personal development
		Topics	Assessment type			
Term 1	<ul style="list-style-type: none"> CB5: Health and disease and the development of medicine 	<ul style="list-style-type: none"> Health and Disease Non-Communicable Disease Cardiovascular Disease Pathogens Spreading Pathogens Physical and Chemical Barriers The Immune System Antibiotics 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Literacy: Use of subject-specific keyword.</p> <p>Extended writing – answering long-answer questions. Writing up scientific investigations.</p> <p>Numeracy: Recognise and use expressions in decimal form Recognise and use expressions in standard form Make estimates of the results of simple calculations Use an appropriate number of significant figures Substitute numerical values into algebraic equations using appropriate units for physical quantities Solve simple algebraic equations</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops analytical thinking skills. Develops skills of observation and paying attention to detail. Develops maths knowledge. Develops written and verbal communication skills.
	<ul style="list-style-type: none"> CP3: Conservation of Energy 	<ul style="list-style-type: none"> Energy stores and transfers Energy efficiency Keeping warm Stored energies Non-renewable resources Renewable resources 				
	<ul style="list-style-type: none"> CC3-4: Atomic structure and the periodic table 	<ul style="list-style-type: none"> Structure of the atom Atomic Number and Mass Number Isotopes Elements in the Periodic Table Atomic number and the Periodic Table Electron Configurations 				

<p>Term 2</p>	<ul style="list-style-type: none"> • CP4: Waves • CP5: Light and the Electromagnetic Spectrum • CC1/2: States of Matter / Methods of purifying and separating substances 	<ul style="list-style-type: none"> • Describing waves • Wave speeds • Core Practical – Investigating waves • Refraction • Electromagnetic waves • Core Practical – Investigating Refraction • The electromagnetic spectrum • Using the long wavelengths • Using the short wavelengths • EM radiation dangers • States of matter • Mixtures • Filtration and crystallisation • Paper chromatography • Distillation • Core Practical – Investigating Inks • Drinking water 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the science learnt in modules covered last term. 	<p>Numeracy: Recognise and use expressions in decimal form Use ratios, fractions and percentages Construct and interpret frequency tables and diagrams, bar charts and histograms Understand simple probability Translate information between graphical and numeric form</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. • 	<ul style="list-style-type: none"> • Develops analytical thinking skills. • Develops skills of observation and paying attention to detail. • Develops maths knowledge. Develops written and verbal communication skills.
<p>Term 3</p>	<ul style="list-style-type: none"> • CB1a: Key Concepts in Biology • CP1/2: Motion 	<ul style="list-style-type: none"> • Microscopes • Plant and animal cells • Core Practical Using Microscopes • Specialised cells • Inside bacteria • Vectors and scalars • Distance/time graphs • Acceleration • Velocity/time graphs 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the science 	<p>Numeracy: Use a scatter diagram to identify a correlation between two variables</p> <p>Numeracy: Recognise and use expressions in decimal form. Use ratios, fractions and percentages</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Good communication skills are an essential ingredient of a successful career in 	<ul style="list-style-type: none"> • Develops skills of analysis and presentation • Develops planning and organisational skills Develops numeracy and problem-solving skills

			learnt in modules covered last term.		<p>science or elsewhere and this skill is embedded into the science lessons.</p> <ul style="list-style-type: none"> • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. • 	
Term 4	<ul style="list-style-type: none"> • CB2: Cells and control • CC14: Rate of reaction 	<ul style="list-style-type: none"> • Mitosis • Growth in animals • Growth in plants • Stem cells • The nervous system • Neurotransmission speeds • Core Practical Part 1 - Rates of Reaction • Core Practical Part 2 - Factors Affecting Reaction Rates • Core Practical Evaluation- Investigating Reaction Rates 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Use ratios, fractions and percentages Translate information between graphical and numeric form</p> <p>Numeracy: Make estimates of the results of simple calculations. Construct and interpret frequency tables and diagrams, bar charts and histograms</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. • 	<ul style="list-style-type: none"> • Develops analytical thinking skills. • Develops skills of observation and paying attention to detail. • Develops maths knowledge. Develops written and verbal communication skills.
Term 5	<ul style="list-style-type: none"> • CB1b: Key concepts in Biology - Part 2 - Enzymes and Transporting Substances 	<ul style="list-style-type: none"> • Enzymes and Nutrition • Enzyme Action • Enzymes as Biological Catalysts • CORE PRACTICAL Investigating the Effect of pH on Enzymes • Measuring Energy in Food • Transporting Substances in and Out of Cells • CORE PRACTICAL 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Recognise and use expressions in decimal form Use ratios, fractions and percentages</p> <p>Numeracy: Recognise and use expressions in decimal form</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Problem solving is a skill that is developed during this 	<ul style="list-style-type: none"> • Develops skills of analysis and presentation • Develops planning and organisational skills Develops numeracy and problem-solving skills

	<ul style="list-style-type: none"> CC5-7: Ionic bonding, covalent bonding, different types of substance 	<p>Investigating Osmosis in Potatoes</p> <ul style="list-style-type: none"> Ionic bonding Ionic lattices Properties of Ionic compounds Covalent Bonds Molecular compounds Allotropes of carbon Properties of metals Bonding Models 		<p>Make estimates of the results of simple calculations Use an appropriate number of significant figures Find arithmetic means. Construct and interpret frequency tables and diagrams, bar charts and histograms. Understand the terms mean, mode and median Substitute numerical values into algebraic equations using appropriate units for physical quantities</p>	<p>term and an essential aspect of all science modules.</p>	
<p>Term 6</p>	<ul style="list-style-type: none"> CC13: Groups in the Periodic table Assessment and Feedback 	<ul style="list-style-type: none"> Group 1 Group 7 Halogen Reactivity Group 0 End of year assessment to check knowledge and understanding of the science covered during year 9 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the science learnt in modules covered during year 9. Feedback from the assessments will identify the science that students have not grasped yet and the students will work on activities to 	<p>Numeracy: Recognise and use expressions in decimal form Recognise and use expressions in standard form</p>	<ul style="list-style-type: none"> Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Problem solving is a skill that is developed during this term and an essential aspect of all science modules. 	<ul style="list-style-type: none"> Develops analytical thinking skills. Develops skills of observation and paying attention to detail. Develops maths knowledge. Develops written and verbal communication skills.

			help them secure the concepts before moving on to the modules studied in year 10.			
--	--	--	---	--	--	--

Year 10 - Content		Assessments		Literacy/numeracy focus	CEIAG	Personal Development
		Topics	Assessment type			
Term 1	<ul style="list-style-type: none"> P12/13: The particle model CB9: Ecosystems and material cycles 	<ul style="list-style-type: none"> Particles and density Core practical – investigating density Energy and changes of state Energy calculations Core practical – investigating water Ecosystems Abiotic factors and communities Core practical- Quadrats and transects Biotic factors and communities Parasitism and mutualism Biodiversity and humans Preserving biodiversity The water cycle The nitrogen cycle 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the science learnt in modules covered during year 9. 	<p>Literacy: Use of subject-specific keyword.</p> <p>Extended writing – answering long-answer questions. Writing up scientific investigations.</p> <p>Numeracy: Recognise and use expressions in decimal form Use an appropriate number of significant figures</p>	<ul style="list-style-type: none"> Studying science means that the students are well placed to succeed in any job where data handling or research skills are important. These jobs would not necessarily have to be restricted to science-based employers. 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops maths knowledge. Develops written and verbal communication skills. Develops analytical thinking skills.
Term 2	CP2: Forces and Motion	<ul style="list-style-type: none"> Resultant forces Newton’s first law Mass and weight Newton’s second law Core Practical – Investigating acceleration 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks 	Numeracy: Construct and interpret frequency tables and diagrams, bar charts and	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be 	<ul style="list-style-type: none"> Develops planning and organisational skills Develops numeracy and problem-solving skills Develops skills of analysis and presentation

	<ul style="list-style-type: none"> • CC16/17 Fuels and atmosphere science • CB6: Plant structures and their functions • SC9: Calculations involving masses (triple) 	<ul style="list-style-type: none"> • Newton’s third law • Momentum • Stopping distances • Crash hazards • Hydrocarbons in crude oil and natural gas • Fractional Distillation of Crude Oil • The alkane homologous series • Complete and incomplete combustion • Combustible fuels and pollution • Breaking down hydrocarbons • The early atmosphere • The changing atmosphere • The atmosphere today • Climate change • Photosynthesis • Factors that affect photosynthesis • Core practical – light intensity and photosynthesis • Absorbing water and mineral ions • Transpiration and translocation • Masses and empirical formula • Conservation of mass • Moles 	<p>to check key knowledge understanding</p>	<p>histograms Understand simple probability</p> <p>Numeracy: Make estimates of the results of simple calculations. Construct and interpret frequency tables and diagrams, bar charts and histograms</p> <p>Numeracy: Recognise and use expressions in standard form Use ratios, fractions and percentages Change the subject of an equation Substitute numerical values into algebraic equations using appropriate units for physical quantities</p>	<p>organised and work as a team to make accurate observations and record the results.</p>	<ul style="list-style-type: none"> • Develops team working
--	---	---	---	--	---	---

	<ul style="list-style-type: none"> • SP7: Space (triple) 	<ul style="list-style-type: none"> • Solar system • Gravity and orbits • Life cycle of stars • Red shift • Origins of the universe 				
<p>Term 3</p>	<ul style="list-style-type: none"> • CB4: Natural Selection and Genetic Modification • CC15: Energy Changes in chemical reactions • CP9 Electricity and Circuits 	<ul style="list-style-type: none"> • Evidence for human evolution • Darwin’s theory • Development of Darwin’s theory (triple) • Classification • Breeds and varieties • Tissue culture (triple) • Genes in agriculture and medicine • GM and agriculture (triple) • Fertilisers and biological control (triple) • Catalysts and Activation Energy • Exothermic and Endothermic Reactions • Energy Changes in Reactions • Electric circuits • Current and potential difference • Current charge and energy • Resistance • More about resistance • Core practical – Investigating resistance • Transferring energy • Power • Transferring energy by electricity • Electrical safety 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the science learnt in modules covered during year 9 and 10 to date. 	<p>Numeracy: Use an appropriate number of significant figures Use a scatter diagram to identify a correlation between two variables</p> <p>Numeracy: Change the subject of an equation Substitute numerical values into algebraic equations using appropriate units for physical quantities</p>	<ul style="list-style-type: none"> • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. • Data analysis is a work –related skill that is developed this term 	<ul style="list-style-type: none"> • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation

	<ul style="list-style-type: none"> • SP6: Radiation (Triple) 	<ul style="list-style-type: none"> • Atomic models • Inside atoms • Electrons and orbits • Background radiation • Types of radiation • Radioactive decay • Half-life • Dangers of radioactivity • Radioactivity in medicine • Nuclear energy • Nuclear fission and fusion 				
<p>Term 4</p>	<ul style="list-style-type: none"> • CP6: Radioactivity • CB3: Genetics 	<ul style="list-style-type: none"> • Atomic models • Inside atoms • Electrons and orbits • Background radiation • Types of radiation • Half-life • Dangers of radioactivity • Meiosis • DNA • Alleles • Inheritance • Gene mutation • Variation 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Construct and interpret frequency tables and diagrams, bar charts and histograms Use a scatter diagram to identify a correlation between two variables. Translate information between graphical and numeric form</p> <p>Understand that $y = mx + c$ represents a linear relationship. Plot two variables from experimental or other data. Determine the slope and intercept of a linear graph</p> <p>Numeracy: Recognise and use expressions in decimal form Use an appropriate number of significant figures</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. • The physics covered this term lies at the heart of almost all new technologies. 	<ul style="list-style-type: none"> • Develops planning and organisational skills • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement.

<p>Term 5</p>	<ul style="list-style-type: none"> • CC9: Calculations involving Masses • CP6: Radioactivity (continued) • SC22-24 (triple): Hydrocarbons, alcohols and polymers • Qualitative analysis (triple) 	<ul style="list-style-type: none"> • Masses and empirical formula • Conservation of mass • Moles • Alkanes and alkenes • Reactions of alkanes and alkenes • Ethanol production • Alcohols • Core practical – Combustion of alcohols • Carboxylic acids • Addition polymerisation • Polymer properties and uses • Condensation polymers • Problems with polymers • Flame tests • Tests for positive and negative ions • Core practical – Identifying ions • Choosing materials • Composite materials • Nanoparticles 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Use ratios, fractions and percentages</p> <p>Numeracy: Visualise and represent 2D and 3D forms including two-dimensional representations of 3D objects. Recognise and use expressions in decimal form Use ratios, fractions and percentages Construct and interpret frequency tables and diagrams, bar charts and histograms</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. • Studying science means that the students are well placed to succeed in any job where data handling or research skills are important. These jobs would not necessarily have to be restricted to science-based employers. 	<ul style="list-style-type: none"> • Develops planning and organisational skills • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement.
-------------------	--	--	--	---	--	---

Term 6	<ul style="list-style-type: none"> Review and preparation for the end of year assessment (Paper 1 biology and physics, paper 2 chemistry) Feedback and closing the gap activities following the end of year assessment CP7/8 Energy: Forces doing work / Forces and their effects 	<ul style="list-style-type: none"> Review of year 9 and 10 content to build knowledge. Past paper questions to practise exam technique. Targeted activities to develop skills knowledge and understanding identified from the summative assessment Work and power Objects affecting each other Vector diagrams 	<p>On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding</p> <p>Summative assessment that will consist of the GCSE past papers that cover the science learnt in modules covered during year 9 and 10. (Biology and Physics paper 1, Chemistry paper 2)</p>	<p>Numeracy: Recognise and use expressions in decimal form Recognise and use expressions in standard form Make estimates of the results of simple calculations Use an appropriate number of significant figures Understand and use the symbols: =, <, <<, >>, >, α, ~ Substitute numerical values into algebraic equations using appropriate units for physical quantities. Solve simple algebraic equations</p> <p>Numeracy: Recognise and use expressions in decimal form. Recognise and use expressions in standard form</p>	<ul style="list-style-type: none"> Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. Studying science means that the students are well placed to succeed in any job where data handling or research skills are important. These jobs would not necessarily have to be restricted to science-based employers. The physics covered this term lies at the heart of almost all new technologies. 	<ul style="list-style-type: none"> Develops planning and organisational skills Develops numeracy and problem-solving skills Develops skills of analysis and presentation Develops team working Develops skills of observation and measurement.

Year 11 - Content		Assessments		Literacy/numeracy focus	CEIAG	Personal Development
		Topics	Assessment type			
Term 1	<ul style="list-style-type: none"> CP10/11: Magnetism 	<ul style="list-style-type: none"> Magnets and magnetic fields Electromagnetism Transformers Transformers and energy 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key 	<p>Numeracy: Recognise and use expressions in decimal form Use ratios, fractions and percentages</p>	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. 	<ul style="list-style-type: none"> Develops skills of observation and measurement. Develops numeracy and problem-solving skills

	<ul style="list-style-type: none"> • CB7: Animal coordination, control and homeostasis 	<ul style="list-style-type: none"> • Hormones • Hormonal control of metabolic rate • The menstrual cycle • Hormones and the menstrual cycle • Control of blood glucose • Type 2 diabetes 	<p>knowledge understanding</p>	<p>Numeracy: Make estimates of the results of simple calculations. Construct and interpret frequency tables and diagrams, bar charts and histograms</p> <p>Numeracy: Construct and interpret frequency tables and diagrams, bar charts and histograms</p>		
<p>Term 2</p>	<ul style="list-style-type: none"> • CC8: Acids and neutralisation 	<ul style="list-style-type: none"> • Acids, alkalis and indicators • Looking at acids • Bases and salts • CORE PRACTICAL: Preparing copper sulfate • Balancing equations • CORE PRACTICAL: Investigating neutralisation • Alkalis and neutralisation • Reactions of acids with metals • Reactions of acids and carbonates • Solubility 	<ul style="list-style-type: none"> • Summative assessment that will consist of the GCSE past papers from the previous year • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Translate information between graphical and numeric form</p> <p>Numeracy: Make estimates of the results of simple calculations Use an appropriate number of significant figures Find arithmetic means Construct and interpret frequency tables and diagrams, bar charts and histograms Change the subject of an equation Plot two</p>	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and work as a team to make accurate observations and record the results. • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is 	<ul style="list-style-type: none"> • Develops skills of observation and measurement. • Develops maths knowledge

		<ul style="list-style-type: none"> Targeted activities to develop skills knowledge and understanding identified from the summative assessment 		<p>variables from experimental or other data. Draw and use the slope of a tangent to a curve as a measure of rate of change</p>	<p>embedded into the science lessons.</p>	
Term 3	<ul style="list-style-type: none"> CC10: Electrolytic Processes CC11: Obtaining and Using Metals CC12: Reversible reactions and equilibria CB8: Exchange and transport in animals Review and preparation for GCSE exams 	<ul style="list-style-type: none"> Electrolysis Core practical – Electrolysis of copper sulphate solution Products from electrolysis Reactivity Ores Oxidation and reduction Life cycle assessment and recycling D Dynamic equilibrium Efficient transport and exchange 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<p>Numeracy: Recognise and use expressions in decimal form. Recognise and use expressions in standard form</p>	<ul style="list-style-type: none"> Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	

		<ul style="list-style-type: none"> • The circulatory system • The heart • Cellular respiration • Core practical – Respiration rates • Review of years 9-11 content on a topic rota to build knowledge. • Past paper questions to practise exam technique • Targeted activities to develop skills knowledge and understanding 				
<p>Term 4</p>	<ul style="list-style-type: none"> • PPE2 • Review and preparation for GCSE exams 	<ul style="list-style-type: none"> • GCSE paper 2 • Review of years 9-11 content on a topic rota to build knowledge. • Past paper questions to practise exam technique • Targeted activities to develop skills 	<ul style="list-style-type: none"> • Summative assessment that will consist of the GCSE past papers from the previous year • On-going in class formative assessment using quizzes and regular progress checks to check key 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	

		knowledge and understanding	knowledge understanding			
Term 5	<ul style="list-style-type: none"> Review and preparation for GCSE exams 	<ul style="list-style-type: none"> Review of years 9-11 content on a topic rota to build knowledge. Past paper questions to practise exam technique Targeted activities to develop skills knowledge and understanding 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	

Year 12 - Content		Assessments		CEIAG	Personal Development
		Topics	Assessment type		
Term 1	<p>Biology</p> <ul style="list-style-type: none"> Development of practical skills in Biology Cell structures 	<ul style="list-style-type: none"> Planning investigations Implementing investigations Qualitative and quantitative data Graphs Evaluation Microscopes Slides and photomicrographs Measuring objects with a light microscope 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the science learnt in modules covered last term. 	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course Good communication skills are an essential ingredient of a successful career in science or elsewhere and 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops planning and observational skills Develops maths knowledge. Develops written and verbal communication skills. Develops analytical thinking skills

	<ul style="list-style-type: none"> • Biological molecules • Enzymes <p><u>Chemistry</u></p> <ul style="list-style-type: none"> • Foundations in chemistry 	<ul style="list-style-type: none"> • Ultrastructure of eukaryotic cells • How organelles work together • Prokaryotic cells • Molecular bonding • Properties of water • Carbohydrates: sugars, energy stores and structures • Lipids: triglycerides, phospholipids and cholesterol • Proteins – amino acids, structure and bonding, fibrous and globular proteins • Enzymes as catalysts • Cofactors • Mechanics of enzyme action • Effects of temperature of enzyme activity • Atomic structure and isotopes • Relative mass • Formulae and equations • Amount of substance and the mole • Determination of formulae • Moles and volumes • Reacting quantities • Electron Configurations 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Chemistry learnt in modules 	<p>this skill is embedded into the science lessons.</p> <ul style="list-style-type: none"> • Problem solving is a skill that is developed during this term and an essential aspect of all science modules. • Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. 	<ul style="list-style-type: none"> • Develops planning and organisational skills • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement.
--	---	--	---	---	---



	<p>Physics</p> <ul style="list-style-type: none"> Foundations of physics Forces and motion Forces in action 	<ul style="list-style-type: none"> Ionic Bonding and structure Covalent bonding Shapes of molecules Electronegativity and polarity Hydrogen bonding Quantities Derived units Scalar and vector quantities Adding vectors Resolving vectors Distance and speed Displacement and velocity Acceleration Velocity-time graphs Equations of motion Stopping distances PAG1: Investigating motion Uncertainty, precision, accuracy Projectile motion Force, mass, weight Centre of mass Freebody diagrams Triangle of forces Drag and velocity 	<p>covered throughout the two years – both AS and A2 content.</p> <ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren't obvious to others. Physics won't give you all the answers, but it will teach you how to ask the right questions. 	<ul style="list-style-type: none"> Develops planning and observational skills Develops maths knowledge. Develops analytical thinking skills Develops skills of observation and measurement.
--	---	--	--	---	---

Term 2	<p>Biology</p> <ul style="list-style-type: none"> • Biological molecules (continued) • Enzymes (continued) • Nucleic acids • Cell cycle 	<ul style="list-style-type: none"> • Inorganic ions • Practical biochemistry – qualitative and quantitative tests for biological molecules • PAG – Qualitative tests for biological molecules • Chromatography • PAG – Chromatography • Effects of pH on enzyme activity • Effects of substrate concentration on enzyme activity • Effects of enzyme concentration on enzyme activity • Enzyme inhibitors • PAG – effect of enzyme activity • DNA • DNA replication • DNA coding for polypeptides • Cell cycle regulation • Mitosis • Meiosis • Diversity in animal cells • Cells diversity in plants • Animal tissues • Plant tissues and organs 	<ul style="list-style-type: none"> • Formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules covered in the previous term 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills
-----------	--	---	--	--	---

	<ul style="list-style-type: none"> • Biological membranes <p>Chemistry</p> <ul style="list-style-type: none"> • Foundations in chemistry • The periodic table and energy • Basic concepts of organic chemistry • Alkanes <p>Physics</p> <ul style="list-style-type: none"> • Forces in action (continued) 	<ul style="list-style-type: none"> • Stem cells and their uses • Structure of membranes • Diffusion across membranes • Acids, bases, and neutralisation • Acid-base titrations • Redox • The Periodic Table • Ionisation Energies • Periodic Trends in bonding and structure • Trends in group 2 • Redox • The Halogens • Nomenclature of organic compounds • Isomerism • Introduction to reaction mechanisms • Properties of the alkanes • Chemical reactions of the alkanes • Moments and equilibrium • Couples and torques • Density and pressure 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<ul style="list-style-type: none"> • Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. • A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and 	<ul style="list-style-type: none"> • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement. • Develops planning and organisational skills • Develops planning and observational skills • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
--	---	--	---	---	--

	<ul style="list-style-type: none"> • Materials • Work, energy and power • Laws of motion and momentum 	<ul style="list-style-type: none"> • Head of pressure, buoyancy • Springs and Hooke’s law • Elastic potential energy of springs • Conservation of energy • Kinetic energy and gravitational potential energy • Power and efficiency • Newton’s first and third laws • Linear momentum • Newton’s second law 	<ul style="list-style-type: none"> • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<p>draw connections that aren’t obvious to others. Physics won’t give you all the answers, but it will teach you how to ask the right questions.</p>	
<p>Term 3</p>	<p>Biology</p> <ul style="list-style-type: none"> • Biological membranes (continued) • Exchange surfaces and breathing 	<ul style="list-style-type: none"> • Osmosis • PAG – osmosis in potatoes • Active transport across membranes • Factors affecting membrane structure and permeability • Exchange surfaces • Mammalian gas exchange system 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules covered throughout the year 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course • Good communication skills are an essential ingredient of a successful career in science 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills

	<ul style="list-style-type: none"> Communicable disease <p>Chemistry</p> <ul style="list-style-type: none"> Alkenes Alcohols The periodic table and energy 	<ul style="list-style-type: none"> Tissues in the gas exchange system Measuring lung volumes Gas exchange in other organisms Organisms that cause disease Transmission of pathogens Plant defences against pathogens Primary defences against disease Secondary non-specific defences Specific immune response Antibodies The properties of the alkenes Stereoisomerism Reactions of the alkenes Electrophilic addition in alkenes Polymerisation in alkenes Properties of alcohols Reactions of alcohols Qualitative analysis including practical endorsement Enthalpy and Hess Law including 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. 	<p>or elsewhere and this skill is embedded into the science lessons.</p> <ul style="list-style-type: none"> Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine 	<ul style="list-style-type: none"> Develops numeracy and problem-solving skills Develops skills of analysis and presentation Develops team working Develops skills of observation and measurement. Develops planning and organisational skills
--	---	---	--	--	---

	<p>Physics</p> <ul style="list-style-type: none"> • Materials (continued) • Laws of motion and momentum (continued) • Electricity • Waves 1 	<p>practical endorsement</p> <ul style="list-style-type: none"> • Deformation of materials • Stress, strain, young's modulus • PAG 2: Investigating properties of materials • Impulse • Collisions in two dimensions • Current and charge • Moving charges • Kirchoff's laws • Mean drift velocity • Circuit symbols • Potential difference and emf • Progressive waves • Wave properties • Reflection and refraction • Diffraction and polarisation • Intensity 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> • A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren't obvious to others. Physics won't give you all the answers, but it will teach you how to ask the right questions. 	<ul style="list-style-type: none"> • Develops planning and observational skills • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
<p>Term 4</p>	<p>Biology</p> <ul style="list-style-type: none"> • Communicable disease (continued) • Transport in animals 	<ul style="list-style-type: none"> • Vaccination • Development of drugs • Transport in animals • Blood vessels • Exchange at capillaries • Structure of the heart • Cardiac cycle • Transport of oxygen • Transporting carbon dioxide 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills



	<ul style="list-style-type: none"> Biodiversity 	<ul style="list-style-type: none"> Biodiversity Sampling plants and animals PAG – calculating biodiversity Calculating biodiversity Factors affecting biodiversity Maintaining biodiversity Conservation in situ and ex situ Protection of species and habitats 	<p>covered throughout the year</p>	<ul style="list-style-type: none"> Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	
	<p>Chemistry</p> <ul style="list-style-type: none"> Haloalkanes 	<ul style="list-style-type: none"> The chemistry of the haloalkanes Organohalogen compounds in the environment 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<ul style="list-style-type: none"> Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine 	<ul style="list-style-type: none"> Develops numeracy and problem-solving skills Develops skills of analysis and presentation Develops team working Develops skills of observation and measurement. Develops planning and organisational skills
	<ul style="list-style-type: none"> Organic synthesis 	<ul style="list-style-type: none"> Practical techniques in organic chemistry Synthetic routes PAG 5 	<ul style="list-style-type: none"> Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. 		
	<ul style="list-style-type: none"> The periodic table and energy 	<ul style="list-style-type: none"> Bond Enthalpies Reaction rates Catalysts The Boltzmann Distribution Dynamic equilibrium and Le Chatelier’s principle 			
	<p>Physics</p> <ul style="list-style-type: none"> Quantum physics 			<ul style="list-style-type: none"> A Level Physics will develop skills that can be transferred to 	<ul style="list-style-type: none"> Develops planning and observational skills

	<ul style="list-style-type: none"> • Circular motion 	<ul style="list-style-type: none"> • Einstein’s photoelectric equation • Wave-particle duality • Radians and angular velocity • Centripetal acceleration • Exploring centripetal forces 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<p>just about any other area of work, from setting up a business to saving the planet. Even if you don’t go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren’t obvious to others. Physics won’t give you all the answers, but it will teach you how to ask the right questions.</p>	<ul style="list-style-type: none"> • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
<p>Term 5</p>	<p>Biology</p> <ul style="list-style-type: none"> • Transport in plants • Biological classification 	<ul style="list-style-type: none"> • Transport in plants • Transport tissues • Movement of water • Transpiration • Adaptions of plants to water availability • Translocation • Biological classification • Features used in classification • Evidence used in classification • Classification and phylogeny • Natural selection • Variation • Applying statistical techniques • Adaptation • Evolution 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules covered throughout the year – past AS exam paper. 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Studying science means that the students are well placed to succeed in any job where data handling or research skills are important. These jobs would not necessarily have to be restricted to science-based employers. 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills

	<p>Chemistry</p> <ul style="list-style-type: none"> • The periodic table and energy • Analytical techniques • Preparation for assessment <p>Physics</p> <ul style="list-style-type: none"> • Energy, power and resistance • Waves 1 (continued) 	<ul style="list-style-type: none"> • The Equilibrium constant K_c • Mass spectrometry • Infrared spectrometry • Thermionic emission • Resistance • I-V characteristics • PAG 3: Investigating electrical properties • Diodes • Resistivity • Electromagnetic waves • Polarisation • Refractive index • Total internal reflection • Superposition 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. • Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. • A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren't obvious to others. Physics won't give you all the answers, but it will teach you how to ask the right questions. 	<ul style="list-style-type: none"> • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement. • Develops planning and organisational skills • Develops planning and observational skills • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
<p>Term 6</p>	<p>Biology</p> <ul style="list-style-type: none"> • Communication and homeostasis 	<ul style="list-style-type: none"> • The need for communication systems • Homeostasis • Temperature control in 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills.

	<ul style="list-style-type: none"> Excretion Neuronal communication Hormonal communication <p>Chemistry</p> <ul style="list-style-type: none"> Transition elements Qualitative analysis 	<p>endotherms and ectotherms</p> <ul style="list-style-type: none"> Excretion Structure and function of the liver Kidney structure and function Osmoregulation Kidney failure Sensory receptors Structure and function of neurones Action potentials Nerve impulse transmission Synapses Endocrine communication Adrenal glands The pancreas and release of insulin Regulating blood glucose Diabetes D-block elements The formation and shapes of complex ions Stereoisomerism in complex ions Ligand substitution and precipitation Redox and qualitative analysis 	<ul style="list-style-type: none"> Summative assessment that will include the Biology learnt in modules covered throughout the year – both AS and A2 content. On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. 	<p>results to achieve the skills required to pass the practical aspect of the A-level course</p> <ul style="list-style-type: none"> Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. 	<ul style="list-style-type: none"> Develops analytical thinking skills Develops numeracy and problem-solving skills Develops skills of analysis and presentation Develops team working Develops skills of observation and measurement. Develops planning and organisational skills
--	---	--	--	--	--

	<p>Physics</p> <ul style="list-style-type: none"> • Energy, power and resistance (continued) • Quantum physics (continued) • Waves 2 • Oscillations 	<ul style="list-style-type: none"> • LDRs and thermistors • PAG 4: Investigating electrical circuits • Electrical energy and power • Paying for electricity • The quantum model • Photoelectric effect • PAG 6: Investigating quantum effects • Interference • Young’s double slit experiment • Stationary waves • Harmonics • Stationary waves in air columns • PAG 5: Investigating waves • PAG 10: Investigating SHM • Oscillations and SHM • Analysing SHM • SHM and energy • Damping and resonance 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> • A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don’t go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren’t obvious to others. Physics won’t give you all the answers, but it will teach you how to ask the right questions. • Develops planning and observational skills • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
--	--	---	--	--



Year 13 - Content		Assessments		CEIAG	Personal Development
		Topics	Assessment type		
Term 1	<p>Biology</p> <ul style="list-style-type: none"> Plant and animal responses 	<ul style="list-style-type: none"> Plant responses to environment Controlling plant growth Tropisms Uses of plant hormones Mammalian nervous system The brain Reflex actions Coordinating response Controlling heart rate Muscles Muscle contraction PAG – investigation into plant/animal response 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the Biology learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	<ul style="list-style-type: none"> Develops skills of observation and paying attention to detail. Develops planning and observational skills Develops maths knowledge. Develops written and verbal communication skills. Develops analytical thinking skills
	<ul style="list-style-type: none"> Photosynthesis 	<ul style="list-style-type: none"> Photosynthesis and respiration Chlorophyll and photosynthetic pigments Light-dependant stage Light-independent stage Factors affecting photosynthesis PAG – factors affecting photosynthesis 			
	<ul style="list-style-type: none"> Cellular control 				

	<p>Chemistry</p> <ul style="list-style-type: none"> • Rates of reaction • Organic synthesis • Carbonyl compounds and carboxylic acids • Aromatic compounds <p>Physics</p> <ul style="list-style-type: none"> • Oscillations 	<ul style="list-style-type: none"> • Gene mutation • Regulation of gene expression • Genetic control of bod plan development • Orders, rate equations, and rate constants • Concentration-time graphs • Rate-concentration graphs and initial rates • Rate-determining step • Rate constants and temperature • Practical techniques in organic chemistry • Synthetic routes • PAG 5 • Carbonyl compounds • Identifying aldehydes and ketones • Carboxylic acids • Carboxylic acid derivatives • Introducing benzene • Electrophilic reactions of benzene • PAG 10: Investigating SHM 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. • On-going in class formative assessment using quizzes and regular progress 	<ul style="list-style-type: none"> • Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. • A Level Physics will develop skills that can be transferred to just about any other area of 	<ul style="list-style-type: none"> • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement. • Develops planning and organisational skills • Develops planning and observational skills • Develops maths knowledge.
--	--	--	---	---	--

	<ul style="list-style-type: none"> • Particle physics • Radioactivity • Thermal physics 	<ul style="list-style-type: none"> • Oscillations and SHM • Analysing SHM • SHM and energy • Damping and resonance • Atomic model theories/history • The nucleus • Antiparticles, hadrons and leptons • Quarks • Beta decay • Radioactivity • Nuclear decay equations • Half-life and activity • Modelling radioactive decay • Temperature • Internal energy • Specific heat capacity • Specific latent heat 	<p>checks to check key knowledge understanding</p> <ul style="list-style-type: none"> • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<p>work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren't obvious to others. Physics won't give you all the answers, but it will teach you how to ask the right questions.</p>	<ul style="list-style-type: none"> • Develops analytical thinking skills • Develops skills of observation and measurement.
<p>Term 2</p>	<p>Biology</p> <ul style="list-style-type: none"> • Respiration 	<ul style="list-style-type: none"> • The need for respiration • Glycolysis • Mitochondria structure • Link reaction and Krebs cycle • Oxidative phosphorylation and chemiosmotic theory 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills

	<ul style="list-style-type: none"> • Patterns of inheritance • Manipulating genomes 	<ul style="list-style-type: none"> • Anaerobic respiration in eukaryotes • Respiration in yeast • Respiratory substrates • Factors affecting rate of respiration • Genetic variation • Monogenic and dihybrid inheritance • Multiple alleles • Sex linkage • Codominance • Autosomal linkage • Epistasis • Chi-squared test • Discontinuous and continuous variation • Factors affecting evolution of a species • Hardy-Weinberg principle • Isolating mechanisms • Artificial selection • PAG - investigation using computer modelling • DNA sequencing • Applications of gene sequencing • DNA profiling • Polymerase chain reaction • Electrophoresis • Genetic engineering • Issues with genetic manipulation 	<p>covered throughout the two years – both AS and A2 content.</p>	<ul style="list-style-type: none"> • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. 	
--	---	---	---	---	--



	<p>Chemistry</p> <ul style="list-style-type: none"> Equilibrium Acids, bases and pH Aromatic compounds (continued) Amines, amino acids and polymers <p>Physics</p> <ul style="list-style-type: none"> Radioactivity (continued) Ideal gases 	<ul style="list-style-type: none"> Gene therapy The equilibrium constant K_c The equilibrium constant K_p Controlling the position of equilibrium Bronsted-Lowry acids and bases The pH scale and strong acids The acid dissociation constant K_a The pH of weak acids pH and strong bases The chemistry of phenol Directing groups Amines Amino acids, amides, and chirality Condensation polymers Radioactive decay calculations Radioactive dating PAG 7: Investigating radiation Kinetic theory of gases Gas laws 	<ul style="list-style-type: none"> On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren't obvious to others. Physics won't give you all the answers, but it will teach you how to ask the right questions. 	<ul style="list-style-type: none"> Develops numeracy and problem-solving skills Develops skills of analysis and presentation Develops team working Develops skills of observation and measurement. Develops planning and organisational skills Develops planning and observational skills Develops maths knowledge. Develops analytical thinking skills Develops skills of observation and measurement.
--	---	---	--	--	--

	<ul style="list-style-type: none"> • Gravitational fields • Cosmology 	<ul style="list-style-type: none"> • RMS speed • The Boltzmann constant • PAG 8: Investigating gases • Gravitational fields • Newton’s laws of gravitation • Astronomical distances • The Doppler effect • Hubble’s law • The Big Bang theory • Evolution of the Universe 			
<p>Term 3</p>	<p>Biology</p> <ul style="list-style-type: none"> • Cloning and biotechnology • Ecosystems 	<ul style="list-style-type: none"> • Natural clones • Clones in plants • Artificial clones in animals • Introduction to biotechnology • Using biotechnology to make food • Microorganisms cultures • Population growth in closed cultures • Immobilised enzymes • Ecosystems • Transfer of biomass • Manipulating transfer of biomass • Recycling within ecosystems • Succession • Studying ecosystems 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills

	<ul style="list-style-type: none"> • Revision of Year 12 topics <p>Chemistry</p> <ul style="list-style-type: none"> • Buffers and neutralisation • Enthalpy and entropy • Organic synthesis <p>Physics</p> <ul style="list-style-type: none"> • Stars • Gravitational fields (continued) 	<ul style="list-style-type: none"> • Revision of topics highlighted in summative assessments to focus on in lessons • Buffer solutions • Buffer solutions in the body • Neutralisation • Lattice enthalpy • Enthalpy changes in solution • Factors affecting lattice enthalpy and hydration • Entropy • Free energy • Carbon-carbon bond formation • Further practical techniques • Further synthetic routes • Objects in the universe • Lifecycle of stars • H-R diagram • Energy levels in atoms • Spectra • Analysing starlight • Stellar luminosity • Gravitational field strength • Kepler's laws • Satellites 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content. • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> • Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. • A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don't go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren't obvious to others. Physics won't give you all the answers, but it will teach you how to ask the right questions. 	<ul style="list-style-type: none"> • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement. • Develops planning and organisational skills • Develops planning and observational skills • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
--	--	---	--	---	--

		<ul style="list-style-type: none"> • Gravitational potential • Gravitational potential energy 			
<p>Term 4</p>	<p>Biology</p> <ul style="list-style-type: none"> • Populations and sustainability <ul style="list-style-type: none"> • Preparation for A-level exams <p>Chemistry</p> <ul style="list-style-type: none"> • Chromatography and spectroscopy 	<ul style="list-style-type: none"> • Population size • Interaction between populations • Conservation and preservation • Sustainable management • Conservation and human needs • Controlling effects of human activities <ul style="list-style-type: none"> • Revision of AS and A2 topics from year 12+13 <ul style="list-style-type: none"> • Chromatography and functional groups • NMR spectroscopy • C-13 NMR spectroscopy • Proton spectroscopy • Interpreting NMR spectra 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Biology learnt in modules covered throughout the two years – both AS and A2 content. <ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will 	<ul style="list-style-type: none"> • Practical skills involve following instructions to set up apparatus and carry out the experiment. The students need to be organised and make accurate observations and record the results to achieve the skills required to pass the practical aspect of the A-level course • Good communication skills are an essential ingredient of a successful career in science or elsewhere and this skill is embedded into the science lessons. • Perseverance and resilience are key transferrable skills that will be developed during the preparation for the assessments. <ul style="list-style-type: none"> • Studying chemistry opens doors to a range of sectors and opportunities, meaning future career are not restricted to the lab, examples include patent attorney, forensic scientist, chemical engineer, teacher, nanotechnologist, biochemist, medicine. 	<ul style="list-style-type: none"> • Develops skills of observation and paying attention to detail. • Develops planning and observational skills • Develops maths knowledge. • Develops written and verbal communication skills. • Develops analytical thinking skills <ul style="list-style-type: none"> • Develops numeracy and problem-solving skills • Develops skills of analysis and presentation • Develops team working • Develops skills of observation and measurement.

	<ul style="list-style-type: none"> • Redox and electrode potentials <p>Physics</p> <ul style="list-style-type: none"> • Nuclear physics • Capacitance • Medical imaging 	<ul style="list-style-type: none"> • Combined techniques • Redox reactions • Manganate (VII) redox titrations • Iodine/thiosulfate redox titrations • Electrode potentials • Predictions from electrode potentials • Storage and fuel cells • Einstein’s mass-energy equation • Binding energy • Nuclear fission • Nuclear fusion • Capacitors in circuits • Energy stored in capacitor • Charging capacitors • Discharging capacitors • PAG 9: Investigating capacitors • X-rays • Interaction of X-rays with matter • CAT scans • The gamma camera • PET scans • Ultrasound • Acoustic impedance • Doppler imaging 	<p>include the Chemistry learnt in modules covered throughout the two years – both AS and A2 content.</p> <ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress checks to check key knowledge understanding • Summative assessment that will include the Physics learnt in modules covered throughout the two years – both AS and A2 content. 	<ul style="list-style-type: none"> • A Level Physics will develop skills that can be transferred to just about any other area of work, from setting up a business to saving the planet. Even if you don’t go on to become a physicist, learning to think like one will help you get to the root of any problem and draw connections that aren’t obvious to others. Physics won’t give you all the answers, but it will teach you how to ask the right questions. 	<ul style="list-style-type: none"> • Develops planning and organisational skills • Develops planning and observational skills • Develops maths knowledge. • Develops analytical thinking skills • Develops skills of observation and measurement.
<p>Term 5</p>	<p>Biology, Chemistry and Physics</p> <ul style="list-style-type: none"> • Preparation for A-level exams 	<ul style="list-style-type: none"> • Revision of AS and A2 topics from year 12+13 	<ul style="list-style-type: none"> • On-going in class formative assessment using quizzes and regular progress 	<ul style="list-style-type: none"> • Perseverance and resilience are key transferrable skills that will be developed during the 	



			checks to check key knowledge understanding <ul style="list-style-type: none">• Summative assessment – regular use of A level papers	preparation for the assessments.	
Term 6					