

Curriculum Overview Term 1 - Year 11



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Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Fashionable):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Chemistry	CC13 Groups in the Periodic Table CC14 Rates of Reaction CC15 Heat Energy Changes in Chemical Reactions	This unit introduces you to alkalis, halogens, displacement reactions and noble gases, rates of reaction and catalysts, exothermic and endothermic reactions and energy changes in reactions.	Work on the Periodic table learnt in Year 9. Investigative skills learnt in year 7. Applying their knowledge of variables in investigations.	Interesting to know how industries speed up reactions to supply the demand for chemicals.	<p>Analysing: Complex or multi-step problem solving – break down a tricky task into manageable chunks. Decide on a suitable approach and then tackle</p> <p>Linking: Imagination – look at a problem and draw on previous knowledge and ideas to tackle it.</p>	There are lots of online applications to help support your child in science. You may wish to try: Seneca Learning https://www.senecalearning.com/ SAM Learning https://www.samlearning.com/ Get revising http://getrevising.co.uk/ is a website that helps you create a personal revision timetable, find resources, share resources, make revision cards and notes, make wordsearch and quizzes to cement your knowledge.
						<p>Revision Tips http://www.aplustutors.co.uk/students/science.php GCSE Bitesize https://www.bbc.co.uk/bitesize S-cool http://www.s-cool.co.uk/gcse.html</p>


						Revision World http://revisionworld.co.uk/gcse-revision Doc Brown's Chemistry Website http://www.docbrown.info/ Creative Chemistry http://www.creative-chemistry.org.uk/ Chemistry http://www.science-active.co.uk/
Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Fashionable):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Chemistry	CB7 Animal co-ordination, control and Homeostasis	This unit introduces you to hormones, metabolic rate, the menstrual cycle, blood glucose and diabetes.	Work on the menstrual cycle, digestive system and the nervous system learnt in year 7	Learning of Animal co-ordination, control and homeostasis is about our main processes in our body which are important to understand.	Realising: Automaticity – use skills so easily without even thinking about them. Like washing your hands or riding a bike. Hard Working: Practice – Respond to feedback - become better through advice and repetition. Practice, practice, practice...	There are lots of online applications to help support your child in science. You may wish to try: Seneca Learning https://www.senecalearning.com/ SAM Learning https://www.samlearning.com Get revising http://getrevising.co.uk/ is a website that helps you create a personal revision timetable, find resources, share resources, make revision cards and notes, make wordsearch and quizzes to cement your knowledge. Revision Tips http://www.aplustutors.co.uk/students/science.php

	<p>CC13 Groups in the Periodic Table</p> <p>CC14 Rates of Reaction</p> <p>CC15 Heat Energy Changes in Chemical Reactions</p>	<p>This unit introduces you to alkalis, halogens, displacement reactions and noble gases, rates of reaction and catalysts, exothermic and endothermic reactions and energy changes in reactions.</p>	<p>Work on the Periodic table learnt in Year 9.</p> <p>Investigative skills learnt in year 7. Applying their knowledge of variables in investigations</p>	<p>Interesting to know how industries speed up reactions to supply the demand for chemicals</p>	<p>Analysing: Complex or multi-step problem solving – break down a tricky task into manageable chunks. Decide on a suitable approach and then tackle</p> <p>Linking: Imagination – look at a problem and draw on previous knowledge and ideas to tackle it.</p>	<p>GCSE Bitesize https://www.bbc.co.uk/bitesize</p> <p>S-cool http://www.s-cool.co.uk/gcse.html</p>
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More chemistry revision sites:

- **Revision World** <http://revisionworld.co.uk/gcse-revision>
- **Doc Brown's Chemistry Website** <http://www.docbrown.info/>
- **Creative Chemistry** <http://www.creative-chemistry.org.uk/>
- **How Science Works PowerPoints** <http://www.timetabler.com/physics4u/4Ufreepowerpoints.html>
- **Andy Darvill Science** (useful for the basics) <http://www.darvill.clara.net/myon.htm>
- **Enzymes** http://www.mhhe.com/biosci/genbio/virtual_labs/BL_11/BL_11.html
- **Drugs** <http://www.talktofrank.com/home.html.aspx>
- **Chemistry** <http://www.science-active.co.uk/>

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?:	How? (HPL):	What could parents do to support? What might accelerate progress?:
	Controlled Assessment Skills	Project Management <ul style="list-style-type: none"> • Phases of the project lifecycle • Feasibility Reports • Analysing client requirements • Software skills <ul style="list-style-type: none"> ○ Word Processing ○ Presentation ○ Spreadsheet ○ Database ○ Wireframing in Visio ○ Publisher 	Understanding how IT is used to complete any project. Understanding that IT systems are used in business every day to make day to day running more efficient and effective Knowing how to use a project lifecycle when developing products. Understanding the basic laws that apply when using IT systems. Preparation for the Controlled Assessment unit of the	Knowing how to successfully start and complete a project based on a client's requirements and constraints. Careers in project management, software development, cyber security, planning etc Knowing how and why businesses have to abide by certain laws. IT will be used by students in whichever path they choose in life – further education, university, work etc	 Linking learning to careers and real-life experiences. Linking to how to breakdown a problem into simple tasks.  Meta Thinking – Thinking about how everyday tasks are mini projects. Understanding how following a project lifecycle can allow all projects to be successful.  Creating a variety of planning tools to visualise a project. Creating feasibility reports to ensure a project is possible. Producing digital applications  Analysing scenarios to understand client requirements and	<ul style="list-style-type: none"> • Please download a copy of Microsoft Office for use at home. This can be done for free using Office 365 and the student's school email address and password • When new software skills are taught, please ask students to teach parent/carer/siblings the new skills to demonstrate they can explain how to use the software skill independently. • Ensure all homework is completed to their best ability without being rushed and handed in on time <p>Thank you for your support</p>

			<p>qualification – beginning in January 2021 (20 hours)</p> <p>Content builds the foundations for the Level 3 IT qualification for Key Stage 5</p>		<p>constraints. Analysing how a project lifecycle functions. Analysing the best method to present a project plan for specific scenarios. Analysing how the law impacts a project. Analysing the importance of using a project lifecycle.</p> <p> Realising that following a project lifecycle ensures a project's success. Realising how the selection of a project plan could over complicate someone's understanding of the project. Realising the impact of the law on any project undertaken.</p>	
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Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?:	How? (HPL):	What could parents do to support? What might accelerate progress?:
Design & Technology	Component 2 - Non-examined assessment (Project) Individual major project. Year 10 mini projects used to build skills. N/A Download EDEXCEL DT specification					
	o 1 – Investigate (16 marks) Year 10 Term 6 Year 11 Term 1	Identify, investigate and outline design possibilities to address user needs and wants	Builds on skills learned during mini NEA projects in Year 10. This section culminates in the production a detailed design specification which sets up and informs the design and development section.	Vital to establish a viable project proposal and avoid design fixation.	Analysing – Critical/logical thinking – Being selective with research and ensuring it is applicable to design problem. Complex and multi-step problem solving	
	o 2 – Design (42 marks) Term 1/2	Use the iterative design process to generate feasible and original ideas to	Builds on the range of design and development skills	This is where most of the marks are awarded. Examiners are	Meta-thinking – Self-regulation and strategy planning	An excellent opportunity for parents to give students valuable 3 rd party opinion and

	<p>(Christmas deadline with time over holiday to improve)</p>	<p>address points set out in the specification and address user wants and needs.</p> <p>Through physical and CAD modelling, arrive at a final design proposal that fully meets the design specification and fulfils all user requirements.</p>	<p>learned in Year 10 and KS3. Leads to the planning and production of a feasible and viable final prototype.</p>	<p>looking to award those students who can demonstrate an ability to develop ideas using influence of the work of previous designers and movements.</p> <p>Generation of ideas should demonstrate open-mindedness as well as technical knowledge of alternative processes and materials that could be used.</p> <p>Development of design proposals should be evidenced through a range of 2D and 3D media, such as computer aided design and physical</p>	<p>(when approaching design ideas)</p> <p>Creating- Intellectual playfulness (to breed originality in ideas and avoid fixation) -fluent thinking (confidence to create lots of different ideas and not be scared to fail) -evolutionary thinking (When creating and developing ideas, trying to recognise areas that could be improved or expanded on)</p>	<p>useful criticism of design and development.</p> <p>This feedback can be used to improve quality of coursework and gain a higher mark in this section as well as the evaluation section.</p>
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				modelling of whole or parts of design ideas.		
	Component 1 – Exam 1hr 45 Section A – Core Section B – Material categories					
	Section A: Core					
	<p>Term 1</p> <p>Revision of Year 10 topics: (1.16 – Design strategies) <i>Taught earlier as makes more sense to be taught alongside design element of coursework</i></p> <ul style="list-style-type: none"> • 1.1 New and emerging technologies • 1.2 Critical evaluation of technologies 	<ul style="list-style-type: none"> • Looking at how new and emerging technologies impact society, business and other groups • Analyse existing products in terms of how their design, manufacture and distribution is affected by new and emerging technologies • How is energy generated, stored and chosen for particular applications 	All theory in this component has been covered in Year 10 and there are many curriculum links, particularly with Geography and Business Studies	Gives students a broader appreciation of the designed world and how designers and manufacturers have to adapt to changing technologies and environmental considerations	<ul style="list-style-type: none"> • Meta-thinking – the ability to use a wide range of approaches to apply knowledge in this area to other areas in order to consolidate learning • Analysing – Critical thinking – When analysing existing products, the ability to reason and seek supporting evidence <p>Linking – big-picture thinking – the ability to think holistically about</p>	Engage in conversations with students about wider issues around new and emerging technologies such as electrical vehicles, the effect of demographic movement and new technology on the availability of jobs and the changing nature of employment.

	<ul style="list-style-type: none">• 1.3 Energy generation and storage• 1.4 Smart materials and composites	<ul style="list-style-type: none">• Understand a range of smart materials, composites and technical textiles, and where and how they are applied			areas such as new technologies and the environment	
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English	Romeo and Juliet A Christmas Carol Revision Language Paper 1 and 2	<p>Study of Shakespeare play (AQA specification.) Students read the whole play and complete annotations as they go. Key areas of study are: Plot, Character Theme Use of language Structure Authorial Intent Context Effect on the audience</p> <p>Language Paper 1 and 2 study – using a variety of extracts to practice the key skills: Comprehension Analysis of Language Analysis of Structure Evaluation Synthesizing Comparing Creative and non-fiction writing.</p>	Study of a full Shakespeare text in Year 9 (A Midsummer Night's Dream.) Study of Language Paper 1 and 2 in Year 10.	Shakespeare is part of the British Literary Heritage. Modern themes of teenage love, depression, suicide, family issues, decision making, gangs, violence, and consequences of actions. Popular play – students know the story and they relate to the characters.	<p>Strategy planning for their own learning – key revision skills.</p> <p>Empathy and concern for society.</p> <p>Analytical skills and precise thinking.</p> <p>Retrieval – regular revision of ACC from Year 10 through homework and starters.</p>	<p>Discuss and reread the key texts and encourage regular revision using suggestions from the English dept (e.g. QuoteMaster, Seneca, Quizlet, Mr Bruff etc.)</p> <p>Encourage daily reading of a range of fiction and non-fiction texts to support study of Language.</p> <p>Test on quotations regularly. Discuss the key themes of the texts and encourage debate of ideas.</p>

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Rationale):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Finance Unit 2 Practices of Managing Money	Topic 7 Using tools to manage money	Understanding the different systems for customers to manage their money. Understanding the ways in which customers can access their money.	Describing and evaluating the tools available for transferring money and when each might be used.	Students understand how tools have developed and which might be appropriate for different consumers / scenarios.	Linking – placing the delivery channels in order of importance from 1 st to 4 th and explaining why based on their features Empathy – evaluating which payment tools might be used at different lifecycle stages and why Creating – if students were in charge of designing a new way of making payments, what would it do / look like? Retrieval practice and Meta-thinking – end of topic 7 assessment	Discuss with students the tools for managing money that they use and why they find each useful (or not). Encourage students to read articles discussing tools to manage money / delivery channels for financial products.
	Topic 8 Pay and tax	Understanding the main types of income for tax purposes and how employed and self-employed workers are taxed. Understand the components of a payslip	The introduction to money and income in Unit 1 and leading to an understanding on how all types of workers pay tax and when the Self Assessment	Important for students, who might be self employed in later life, to understand their tax responsibilities.	Analysing – do you think you pay income tax on all the money that you earn? Why? Why not? Empathy and Realising – what is an advantage of PAYE for the	

		<p>and the importance of P45 and P60 forms. To be able to complete a simple income tax calculation.</p>	<p>process is necessary.</p>		<p>employee? Why? What happens if an employee's earnings vary?</p> <p>Realising and Hardworking – calculating taxable income and distributing taxable income over the basic and higher rate, as appropriate.</p> <p>Linking – how is National Insurance calculated and how is this similar and different to income tax.</p> <p>Analysing the quote "In this world nothing can be said to be certain, except death and taxes." Students discuss – is this true and constructs arguments for and against.</p> <p>Retrieval practice and Meta-thinking – end of topic 8 assessment.</p>	
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Finance Unit 2 Practices of Managing Money	Topic 9 The real cost of spending	<p>To explain the term 'value for money' and understand and explain the hidden charges and their effect on purchases.</p> <p>To explain the principles of VAT and its relevance to the cost of spending.</p>	Students being able to assess if VAT is charged on an item or not and how to judge if an item purchased represents good 'value for money'	Making students more discerning consumers, able to evaluate the purchases they make.	<p>Agile – understanding the different terms to evaluate consumers approach to value for money</p> <p>Empathetic – how different consumers approach where and how to buy products and advantages and disadvantages of approaches.</p> <p>Realising – whether VAT is payable on an item or not (and at which rate)</p> <p>Linking (with Maths) – how reverse percentages can help work out the pre-VAT price</p> <p>Retrieval practice and Meta-thinking – end of topic 9 assessment.</p>	



<p>Finance Unit 2 Practices of Managing Money</p>	<p>Topic 10 Borrowing products</p>	<p>Students analyse the different reasons for personal borrowing; Students understand the level of personal debt in the UK and the reasons why.</p> <p>Students understand how borrowing costs are calculated and can explain the main features of borrowing products.</p>	<p>This leads to the ability to evaluate borrowing decisions and when consumers might borrow (and the consequences of this).</p> <p>The ability to decide on an appropriate borrowing product to use.</p>	<p>Students understand how borrowing products work and when the use of each might be appropriate due to the individual features of each.</p>	<p>Analysing – why consumers might need to borrow money.</p> <p>Linking – to needs & wants and how borrowing might be involved.</p> <p>Analysis / Empathetic – students consider people with problem debt and who is to blame and why?</p> <p>Retrieval practice and Meta-thinking – end of topic 10 assessment.</p>	<p>Parents could share examples of where they believe borrowing money is necessary or unnecessary and why.</p> <p>Parents could discuss their experience of using borrowing products and the positives and negatives of the use of products.</p>
	<p>Topic 11 The implications of borrowing</p>	<p>Students understand the factors to consider when deciding whether to borrow money. Students calculate borrowing costs and explain the impact of borrowing on a personal budget. Students describe the impact of borrowing on the economy and consider the impact of</p>	<p>Students evaluating the impact of borrowing on the wider economy/ society</p>	<p>To enable students to apply their knowledge of borrowing to individual case studies and to be able to make informed decisions about borrowing in the future.</p>	<p>Analysing – factors to be considered when borrowing money. Linking – Students consider the link between borrowing and overspending and the impact of prior borrowing problems in the future (DRO, insolvency, bankruptcy)</p>	<p>Parents could encourage students to read news articles around borrowing and the impact of borrowing in the UK, including where borrowing becomes a problem.</p>

		payment default from both personal and societal perspectives.			Retrieval practice and Meta-thinking – end of topic 11 assessment	
	Exam	35 questions, multiple choice exam assessing knowledge and the ability to apply that knowledge to case studies (pass mark 17 / 35 – worth 35% of overall grade)	Retrieval practice and Meta-thinking – end of Unit 1 exam	To support revision of all 11 topics of Unit 2 that will be assessed in this exam.		
Unit 3 Financial Capability, Work and Enterprise	Topic 1 Introduction to financial capability, work and enterprise	Students learn what makes a business successful.	<p>Students analyse what makes one business stand out from others, in order to succeed.</p> <p>Students evaluate what success means for a business and why some business brands are perceived as being more successful than others.</p>	To enable students to evaluate a business or new enterprise and identify what factors might make it stand out and be successful.	<p>Creating – writing a USP for a business or organisation. Identifying personal USPs in others (and being self-aware of strengths)</p> <p>Analyse – the factors that make a business successful and place those in order of importance with justification.</p> <p>Retrieval practice and Meta-thinking – end of topic 1 assessment.</p>	Parents could be ready to discuss businesses that they perceive to be positive and successful and share why those opinions are held about such organisations.

Unit 3 Financial Capability, Work and Enterprise	End of Term 1				Retrieval practice and Meta-thinking – end of topic 2 assessment	
	Topic 2 Enterprise and entrepreneurs					
	Topic 3 Business banking and budgeting				Retrieval practice and Meta-thinking – end of topic 3 assessment	
	Topic 4 How fraud, theft and taxation affect business				Retrieval practice and Meta-thinking – end of topic 4 assessment	
	Topic 5 People and business				Retrieval practice and Meta-thinking – end of topic 5 assessment	
	Topic 6 How business affect society				Retrieval practice and Meta-thinking – end of topic 6 assessment	
	Topic 7 How people's economic choices affect society				Retrieval practice and Meta-thinking – end of topic 7 assessment	

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?:	How? (HPL):	What could parents do to support? What might accelerate progress?:
French and Spanish	Home, town, neighbourhood and region, Travel and tourism & Customs and festivals in Spanish-speaking countries/ communities	<p>Students will be aiming to describe their local area, including their house in detail. They will use this knowledge to be able to describe holiday accommodation too. Moving on to broader discussions about areas to live, students will compare and contrast country and city living as well as living in a region that attract tourists. As students look at tourist regions in Spain, we will study the Spanish and Latin American festivals, customs and traditions</p> <p>Students will have the opportunity to develop their knowledge and application of key language structures, including comparatives, use of modal verbs and different tenses.</p>	<p>This unit is an opportunity to recap and revise some key vocabulary and structures from KS3 but learning to develop more basic language with higher level language.</p> <p>Students will have a richer understanding of the cultures where Spanish is spoken.</p>	This is a key part of the GCSE course as it provides students with the opportunity to read, listen, speak and write about important aspects of the Spanish speaking world and comparing it to their own local area and customs.	<p>Meta thinking > students need to think about how they best learn new vocabulary and structures</p> <p>Analysing > precision, multi-step problem solving – the application of grammatical knowledge to their own work (eg formation of verbs, use of correct gender)</p> <p>Linking > use of cognates, retrieval practice from KS3 to the GCSE course, linking between languages, including English</p> <p>Realising > automaticity, speed and accuracy (eg recalling vocabulary, grammatical structures and applying these. Memorising language for spoken work</p>	<p>For parents to help, the key to help with language learning, is to ensure students re-use language they have been taught or come across when reading texts. If students are producing a piece of writing, ask your child to show you the different opinion, conjunctions and verbs in different tenses they have used.</p> <p>Parents do not to understand these in the language, it is an important for students to realise the importance of these linguistic aspects rather than thinking that translating what they would say I English.</p>

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?:	How? (HPL):	What could parents do to support? What might accelerate progress?:
Geography	Geography Ecosystems	<p>Students will cover the following in this unit:</p> <ul style="list-style-type: none"> • The processes & interrelationships in ecosystems • The location of the global biomes • The characteristics of the arctic & tropical rainforest • The human use and management of these ecosystems. <p>Key case studies will include Alaska & Costa Rica whilst students will also look at some of the big picture factors that control how and why ecosystems function as they do.</p>	<p>The curriculum in Yr11 will finish off the final three topics of the OCR Spec and then provide the opportunity for students to practice their exam skills and revise the first five topics covered in Year 10.</p> <p>This unit will be followed by the topic of Resource Reliance which asks the question of how we feed and manage the resources for a growing population.</p>	<p>The Geography curriculum is intended to be an exciting and challenging series of lessons which will allow students to explore the world around them and the processes which shape and direct it.</p> <p>The curriculum is designed to cover the whole of the OCR specification (OCR Spec B) and will alternate between an even split of Physical and Human topics.</p>	<p>Discussion, videos, reading and the involvement of all the HPL traits.</p>	<p>Encourage students to download the BBC news app and to regularly keep up to date with news about people, places and the environment.</p> <p>To download and watch GCSEpod videos to recap content covered in class</p> <p>To join a magazine subscription such as Geography Review, Wideworld or even National Geographic to learn about and appreciate the wider world. CGP revision guides and flashcards are useful revision material.</p> <p>Watch BBC series such as Blue Planet, Frozen planet or Volcano Live or 'Race across the World'</p> <p>Watch films such as "Queen of Katwe", "Slumdog millionaire" or "The impossible" and discuss the places presented.</p> <p>Listen to Podcasts such as "How to invent a country" to give some background to the culture, history and formation of countries.</p>

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?):	How? (HPL):	What could parents do to support? What might accelerate progress?:
History	Elizabethan England	Students will cover the following in this unit: <ul style="list-style-type: none"> • Issues facing Elizabeth in her early reign • Elizabethan court and government structure • Elizabethan culture: was it a golden age? • Poverty in Elizabethan England • Life in Elizabethan England e.g. development in stately homes and living conditions 	The curriculum in Yr11 will finish off the final two topics of the AQA Spec and then provide the opportunity for students to practice their exam skills and revise the first five topics covered in Year 10. This unit will be followed by the topic on America in the 20 th century.	The History curriculum is intended to be an exciting and challenging series of lessons which will allow students to explore a range of Historical topics and themes. The curriculum is designed to cover the AQA specification (AQA History 8145) and will cover the following topics: <ul style="list-style-type: none"> • Conflict and Tension, 1918-1939 • America: 1920-1973 • Britain: Health and the People. C. 1000-present • Elizabethan England, c1568-1603 	Discussion, videos, reading and the involvement of all the HPL traits.  Linking. Making links between past events and topical issues. E.g. how we treat the poor today  Analysing e.g. Using primary material and factual knowledge to decide why The Elizabethan period is called a golden age and evaluate whether this is a valid title.	Encourage students to download and watch GCSEpod videos to recap content covered in class. To join a magazine subscription such as BBC History Magazine to learn about and appreciate a wide range of History topics. There are a number of revision guides and websites that provide useful revision material. Use the GCSE History Watchlist to find documentary's and films that will extend students knowledge and understanding of periods studied in History lessons (Your teacher can direct you to this). Wider reading should be encouraged. There are a wide variety of books and articles available both online and as physical copies. Your teacher can recommend reading that links into the syllabus being covered.

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Rationale):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Maths (Higher) Term 1a	Algebra, Quadratics, Rearranging Formulae and Identities	<ul style="list-style-type: none"> • Simplify and manipulate algebraic expressions (<u>including those involving surds</u>) by: <ul style="list-style-type: none"> ○ <u>expanding products of two or more binomials</u> ○ <u>factorising quadratic expressions of the form $x^2 + bx + c$ including the difference of two squares</u> ○ factorising quadratic expressions of the form $x^2 + bx + c$ • Simplifying expressions involving sums, products and powers, including the laws of indices. Understand and use standard mathematical formulae 	Built on from previous years' work, manipulating algebraic expressions and solving algebraic equations to further their understanding of working with Algebra. identifying what the rules of working with Algebra are and how it can be applied throughout the curriculum.	To allow all Higher students to develop their problem solving and logical thought process to the best of their ability. Identifying patterns and predicting how to apply what they know to different situations. Only the most highly attaining student will be able to confidently access the content identified in bold type.	Metathinking – Linking – Analysing- Creating - Realising	Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not able to answer a question straight away. Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'. Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.

		<ul style="list-style-type: none">• Rearrange formulae to change the subject. <u>Know the difference between an equation and an identity</u>• <u>Argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments and proofs.</u> Where appropriate, interpret simple expressions as functions with inputs and outputs• Interpret the reverse process as the 'inverse function'• Interpret the succession of two functions as a 'composite function'				
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<p>Maths (Higher) Term 1a</p>	<p>Trig recap and extension</p>	<ul style="list-style-type: none"> • Know the formula for Pythagoras' Theorem $a^2 + b^2 = c^2$ • Apply it to find length in right angled triangles and, where possible, general triangles in two and three dimensional figures • Know and use the trigonometric ratios $\sin \theta = \frac{\textit{opposite}}{\textit{hypotenuse}}$ $\cos \theta = \frac{\textit{adjacent}}{\textit{hypotenuse}}$ $\tan \theta = \frac{\textit{opposite}}{\textit{adjacent}}$ • Apply them to find angles and lengths in right-angled triangles and, where possible, general triangles in two and three dimensional figures 	<p>Review of all the Trigonometric work they have covered up to this point in preparation for an introduction to more challenging Trig topics in the future.</p>	<p>To allow all Higher students to develop their problem solving and logical thought process to the best of their ability.</p> <p>Identifying patterns and predicting how to apply what they know to different situations.</p>	<p>Metathinking – Linking – Analysing- Creating - Realising</p>	<p>Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'.</p> <p>Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.</p>
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		<ul style="list-style-type: none"> • Know the exact values of $\sin \theta$ and $\cos \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90° • Know the exact value of $\tan \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ$ and 60° <p>Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to conjecture and derive results about angles and sides including Pythagoras' Theorem, use known results to obtain simple proofs</p> <p>Compare lengths using ratio notation; Make links to trigonometric ratios</p>				
Maths (Higher) Term 1a	Sine rule and Cosine rule	<ul style="list-style-type: none"> • Know and apply the Sine rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$	Built on from previous years' work, of angle facts, Pythagoras and Trig Functions.	To allow all Higher students to develop their problem solving and logical thought process to the best of their ability.	Metathinking – Linking – Analysing- Creating - Realising	Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not

		<ul style="list-style-type: none"> • <u>And Cosine rule</u> $a^2 = b^2 + c^2 - 2bc \cos A$ <u>To find unknown lengths and angles</u> <ul style="list-style-type: none"> • Know and apply $= \frac{1}{2} abs \sin C$ to calculate the area, sides or angles of any triangle 		<p>Using formulae linked to previous trig work to ensure the students are able to apply it to relevant questions. Identifying patterns and predicting how to apply what they know to different situations.</p> <p>Only the most highly attaining student will be able to confidently access the content identified in bold type.</p>		<p>able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'.</p> <p>Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.</p>
Maths (Higher) Term 1a	Algebraic fractions	Simplify and manipulate algebraic expressions involving algebraic fractions	Build on top of all the previous algebraic work they have covered to this point	<p>To allow all Higher students to develop their problem solving and logical thought process to the best of their ability.</p> <p>Identifying patterns and predicting how to apply what they know to different situations.</p>	Metathinking – Linking – Analysing- Creating - Realising	<p>Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted</p>

				Only the most highly attaining student will be able to confidently access the content identified in bold type.		that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'. Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.
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Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Fashionable):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Maths (Higher) Term 1b	Equation of a circle	Recognise and use the equation of a circle with centre at the origin Find the equation of a tangent to a circle at a given point	Being able to Plot graphs of equations that correspond to straight-line graphs in the coordinate plane. As well as Recognise, sketch and interpret graphs of linear functions. To generate the coordinate's students need to have a secure understanding of applying the order of operations to substitute and evaluate known values into equations.	To further develop understanding of graphing mathematical functions. Being able to identify what type of a graph a function will create and solve simultaneous equations graphically. Only the most highly attaining student will be able to confidently access the content identified in bold type.		
	Further equations and graphs	•Solve linear equations in one unknown algebraically including those with the	Being able to factorise including use of double brackets Know the symmetrical property of a quadratic	To further develop understanding of graphing mathematical functions.		

		<p>unknown on both sides of the equation</p> <ul style="list-style-type: none"> • Find approximate solutions using a graph • Solve quadratic equations (including those that require rearrangement) algebraically by factorising, by completing the square and by using the quadratic formula • Find approximate solutions using a graph • Recognise, sketch and interpret graphs of linear and quadratic functions • Identify and interpret roots, intercepts and turning points of quadratic functions graphically; deduce roots algebraically and turning points by 	<p>Ability to work with and solve, geometrical problems and problems set in context</p>	<p>Being able to identify what type of a graph a function will create and solve simultaneous equations graphically.</p> <p>Only the most highly attaining student will be able to confidently access the content identified in bold type.</p>		
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		completing the square <ul style="list-style-type: none">• Translate simple situations or procedures into algebraic expressions or formulae• derive an equation, solve the equation and interpret the solution				
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Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?:	How? (HPL):	What could parents do to support? What might accelerate progress?:
Maths (Higher) Term 1b	Simultaneous Equations	Solve two simultaneous equations in two variables (linear / linear or linear/ quadratic) algebraically Find approximate solutions using a graph <ul style="list-style-type: none"> • Translate simple situations or procedures into algebraic expressions or formulae • Derive two simultaneous equations • Solve the equations and interpret the solution 	Prior knowledge of working with graphs and manipulating algebra. Including ability to work with and solve, geometrical problems and problems set in context	To Solve simultaneous equations more accurately using algebraic manipulation, instead of a less precise value obtained from reading information of graphs Only the most highly attaining student will be able to confidently access the content identified in bold type.		
	Indices, Standard Form and Surds recap.	<ul style="list-style-type: none"> • Use positive integer powers and associated real roots (square, cube and higher) • Recognise powers of 2, 3, 4, 5 • Estimate powers and roots of any given positive number 	Prior knowledge of the number system, multiples and factors is needed. Knowledge of an irrational number and what a geometric			

		<ul style="list-style-type: none"> • Calculate with roots, and with integer and fractional indices • Calculate exactly with surds • Simplify surd expressions involving squares (eg $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$) and rationalise denominators • Recognise and use simple geometric progressions (r^n where n is an integer and r is a surd) • Understand and use place value (e.g. when working with very large or very small numbers) • Calculate with and interpret standard form $A \times 10^n$ where $1 \leq A < 10$ and n is an integer 	<p>progression is necessary.</p>			
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Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why?:	How? (HPL):	What could parents do to support? What might accelerate progress?:
Maths (Foundation)	Direct and Inverse Proportion	<p>Solve problems involving direct and inverse proportion, including graphical and algebraic representations</p> <ul style="list-style-type: none"> • <u>Understand that x is inversely proportional to y is equivalent to x is proportional to $\frac{1}{y}$</u> • <u>Interpret equations that describe direct and inverse proportion</u> • <u>Recognise and interpret graphs that illustrate direct and inverse proportion</u> 	<p>Built on from previous years' work, using ratio and proportion. Including equivalent ratios and the links they have to fractions, decimals and percentages. Using the rule to ensure that students are always able to start a question using correct symbols. Students need to think about the work they have done with graphs in the past to ensure they are able to read and answer questions on graphs in this topic.</p>	<p>To allow all students to develop their problem solving and logical thought process to the best of their ability.</p>	<p>Metathinking – Linking – Analysing- Creating - Realising</p>	<p>Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'.</p> <p>Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.</p>
	Volume: Cuboids, Cylinders, Prisms, Sphere.	<ul style="list-style-type: none"> • Compare lengths, areas and volumes using ratio notation 	<p>Review of all work the students have done up to this point involving</p>	<p>To allow all students to develop their problem solving</p>	<p>Metathinking – Linking – Analysing- Creating - Realising</p>	<p>Encourage students to be more independent and develop resilience so that they are not keen to give up</p>

		<ul style="list-style-type: none"> • scale factors • <u>Make links to similarity</u> <p>Know and apply formulae to calculate the volume of cuboids and other right prisms (including cylinders)</p> <p><u>Calculate the volume of spheres, pyramids, cones and composite solids</u></p> <p><u>Calculate exactly with multiples of `pi`</u></p>	<p>lengths, area and volume.</p> <p>Students should be knowledgeable of key maths words i.e. Vertex, edges etc.</p> <p>Students should ensure they are able to recall formulae for the area and volume of shapes.</p>	<p>and logical thought process to the best of their ability.</p> <p>Identifying when and how to use formulae. Being able to recall the names and properties of shapes from previous lessons.</p>		<p>too quickly, if they are not able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'.</p> <p>Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.</p>
Maths (Foundation)	Quadratics: Rearranging, Formulae, Identities.	<ul style="list-style-type: none"> • Simplify and manipulate algebraic expressions (<u>including those involving surds</u>) by: <ul style="list-style-type: none"> ○ <u>expanding products of two binomials</u> ○ <u>factorising quadratic expressions of the form $x^2 + bx + c$</u> 	<p>Built on from previous years work with manipulation of algebra.</p> <p>Including: Collecting like terms Expanding brackets Factorising Producing a table of values</p>	To allow all students to develop their problem solving and logical thought process to the best of their ability.	Metathinking – Linking – Analysing- Creating - Realising	<p>Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between</p>

		<p><u>including the difference of two squares</u></p> <ul style="list-style-type: none"> ○ simplifying expressions involving sums, products and powers, including the laws of indices ● Understand and use standard mathematical formulae ● Rearrange formulae to change the subject ● <u>Know the difference between an equation and an identity</u> ● <u>Argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments</u> ● Where appropriate, interpret simple expressions as functions with inputs and outputs 	<p>Drawing a graph.</p> <p>Recall what terms expressions equations and identities are.</p>			<p>things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'.</p> <p>Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.</p>
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Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Rationale):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Maths (Foundation)	Fractions, Decimals, Percentages. (Review)	<p>Order positive and negative fractions</p> <p>Apply the four operations, including formal written methods, to simple fractions (proper and improper) and mixed numbers - both positive and negative</p> <p>Calculate exactly with fractions</p> <p>Order positive and negative decimals</p> <ul style="list-style-type: none"> • Apply the four operations, including formal written methods, to decimals – both positive and negative • Understand and use place value (e.g. when 	<p>Based on all the number work they have done up to this point in their mathematical education.</p> <p>Consolidation of understanding of what they are able to do already.</p>	<p>Students work towards becoming proficient working with the number system and are able to apply the information they already know to work towards more complex and multi-step problems.</p> <p>Promotes use of real-life mathematics which will develop their problem solving skills.</p>	<p>Metathinking – Linking – Analysing- Creating - Realising</p>	<p>Encourage students to be more independent and develop resilience so that they are not keen to give up too quickly, if they are not able to answer a question straight away.</p> <p>Students should also be encouraged to go back to basics making sure they can see the similarity between things they take for granted that they are able to do and the mathematical ideas they perceive as 'harder' or 'new'.</p> <p>Consider encouraging students to use the internet to find similar questions and answers to help them apply methods and techniques they are unsure of. This could be in the form of video clips which are very visual.</p>

		<p>calculating with decimals)</p> <p>Work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and $\frac{7}{2}$ or 0.375 and $\frac{3}{8}$)</p> <ul style="list-style-type: none"> • Define percentage as 'number of parts per hundred' • Interpret percentages and percentage changes as a fraction or a decimal and interpret these multiplicatively • Express one quantity as a percentage of another • Compare two quantities using percentages • Work with percentages greater than 100% <p>Interpret fractions and percentages as operators.</p>				
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<p>Maths (Foundation) Term 1b</p>	<p>Data Recap</p>	<p>Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through:</p> <ul style="list-style-type: none"> • appropriate measures of central tendency (median, mean, mode and modal class) • spread (range, including consideration of outliers) <p>Apply statistics to describe a population</p> <p>Infer properties of populations or distributions from a sample, whilst knowing the limitations of sampling</p> <p>Use and interpret scatter graphs of bivariate data</p> <ul style="list-style-type: none"> • Recognise correlation and know that it does not indicate causation • Draw estimated lines of best fit • Make predictions 	<p>students should know and understand the terms: primary data, secondary data, discrete data and continuous data</p> <p>know and understand the terms positive correlation, negative correlation, no correlation, weak correlation and strong correlation including choosing suitable statistical diagrams</p> <p>know and understand the terms primary data, secondary data, discrete data and continuous data</p>			
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		<ul style="list-style-type: none"> • Interpolate and extrapolate apparent trends whilst knowing the dangers of doing so • Interpret and construct tables, charts and diagrams including, for categorical data: <ul style="list-style-type: none"> ○ frequency tables ○ bar charts ○ pie charts ○ pictograms ○ vertical line charts for ungrouped discrete numerical data ○ tables and line graphs for time series data ○ know their appropriate use <p>Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through appropriate graphical representation involving discrete, continuous and grouped data</p>				
		Algebra and Graphs				
		Sketching Graphs				

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Fashionable):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Physics	SP10 Electricity and Circuits	<p>The unit begins with the modern view of the atom.</p> <p>Building on this, the various circuit components are introduced and how they influence voltage and current leading to the construction and analysis of combinations of components in circuits.</p> <p>The concept of electric charge is introduced and expanded on to encompass energy. The topic concludes with a description of how energy is transferred by electricity. The domestic mains supply is described along with the</p>	<p>The evolution of atomic structure leading to the nuclear model.</p> <p>The concept of electrons as charge carriers which can transfer energy and do useful work.</p> <p>The inviolate nature of the conservation of energy underpins the analysis of circuit characteristics leading to the modelling of circuit performance.</p>	<p>Electricity underpins the modern world and can be 'taken for granted.' Students as scientists, are invited to step back and consider the scientific principles and technologies which govern the use of electricity and allow us to harness its benefits safely.</p>	<p>Students immediately link concepts from previous study such as energy conservation, work and the nuclear atomic model. As the topic progresses, students link back to previous work in the topic.</p> <p>Students analyse increasingly sophisticated circuits by resolving them into individual components and principles of operation to create new ideas and predict. The (meta) thinking and transferring of knowledge from say, mathematics</p>	<p>Students may wish to participate in activities in physics by joining local groups such as amateur astronomy groups or visit observatories or venues such as the National Space Centre or Science Museum. Students can also gain an insight by watching popular science programmes such as Sky at Night.</p> <p>In addition to learning and revision guides such as those published by CGP, there are online resources to support student learning in science. Some examples to consider are</p> <p>GCSE Bitesize https://www.bbc.co.uk/bitesize</p> <p>Get revising http://getrevising.co.uk/ is a website that helps you create a personal revision timetable, find resources, share resources, make revision cards and notes, make wordsearch and quizzes to cement your knowledge.</p> <p>Institute of Physics https://www.iop.org/</p> <p>PhET on line simulations https://phet.colorado.edu/</p>

		measures taken to ensure the safety of users.			come more easily to hand and students realise practice makes perfects as they become more proficient in using these tools.	SAM Learning https://www.samlearning.com/ Seneca Learning https://www.senecalearning.com/
	SP11 Static Electricity	Students turn their attention to static electricity and understand these as charges which are not free to move. The uses and dangers of static electricity are discussed and finally, the concept of the electric field is created as a way to explain the behaviour of static charges.	The topic builds on previous ideas of static charge and explains phenomena students are familiar with such as 'charging' a balloon and it holding itself on a wall against the pull of gravity.	The key concepts here are conservation of charge and the idea of a field as a region of influence in space. These ideas underpin much of modern physics.	Students can analyse situations and link ideas about phenomena to create ideas which explain them.	

Subject:	Topic:	Key learning: (Knowledge/skill)	Building on.... Leading to....	Why? (Rationale):	How? (HPL):	What could parents do to support? What might accelerate progress?:
Physical Education	Recap of Year 10 Content.	Students will cover; <ul style="list-style-type: none"> • Musculo – skeletal system. • Cardiovascular system. • Respiratory System • Planes / Axis and Levers. • Types of Training • Principles of training. 	Building on: Prior knowledge and understanding of topics from previous curriculum study. Leading to: Understanding of how these body systems impact on sport and physical activity.	Component of the examined specification. Retrieval of previous knowledge due to lost time out of school in preparation for the upcoming PPE.	Meta Cognition – Retrieval of previously covered content. Strategy Planning – Considering ways connecting previous knowledge to a new situation. Application of new skills and understanding. Linking – Understand how previously learnt knowledge can be applied. Analysing – Critical thinking skills required when analysing their own performance or that of their peers / others. Applying this knowledge to sport and activity.	Parents can ask the students questions about their learning and how they can apply it to their main sport/activity. Parents can encourage students to continue to collect evidence of their practical performance. *This is now for two activities instead of three.