

Year 11 – Maths Foundation

Curriculum intent	We believe that students deserve a creative and ambitious mathematics curriculum, rich in skills and knowledge, which ignites curiosity and prepares them well for everyday life and future employment. Our mathematics curriculum will give students the opportunity to: • become fluent in the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. • can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. • can communicate, justify, argue and prove using mathematical vocabulary. • develop their character, including resilience, confidence and independence, so that they contribute positively to the life of the school, their local community and the wider environment.					
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	• Factors, Multiples and primes. • Fractions. • Expressions • Equations • Angles • Right angled triangles • Surface Area and Volume	• Statistical Diagrams. • Probability • Inequalities • Vectors • Percentage Change • Compound measures	• Ratio and proportion. • Standard form • Sequences • Linear Graphs	• Exam Preparation	Exam Preparation	
Skills	• Prime factor decomposition • HCF and LCM. • Perform all four operations with fractions and mixed numbers. • Simplify algebraic expressions – collect like terms. • Use index laws to simplify expressions. • Solve two step equations.	• Draw and interpret pie charts, • Draw and interpret scatter graphs. • Use lines of best fit. • Use frequency trees. • Use Venn diagrams and set notation. • Use Tree diagrams for independent and dependent events. • Solving inequalities with one unknown.	• Simplify ratios. • Share in a ratio. • Combine ratios. • Solve direct proportion worded problems. • Solve indirect proportion worded problems. • Convert between standard form and ordinary numbers. • Add and subtract standard form.	• Individual personalised revision topics identified by the teacher from a range of sources.	• To understand the various command words for maths questions. • To understand how to pick out the key information from the question. • How to check	

	- Solve equations with unknowns on both sides. - Solve simple quadratic equations. - Solve basic simultaneous equations using elimination. - Find missing angles using basic angle facts. - Find missing angle facts using angles in parallel lines. - Use Pythagoras to find missing sides in right angle triangles. - Use trigonometry to find missing angles and sides in right angled triangles. - Find the surface area of cubes, cuboids and basic prisms. - Find the surface area of cylinders. - Find the volume of cubes cuboids and other prisms.	- Solve inequalities with unknowns on both sides. - Understand column vectors. - Add and subtract column vectors. - Multiply column vectors by a scalar. - Find percentage of an amount with and without a calculator. - Find percentage change. - Calculate simple interest. - Calculate compound interest. - Calculating speed. - Calculating density - Calculate pressure	- Multiply and divide standard form. - Find the nth term of an arithmetic sequence. - Recognise different types of sequences. - Read and Plot coordinates. - Plotting straight line graphs. - Find equations of straight lines.		- accuracy of answers. - How to use a calculator effectively. - What to write down for working out.	
Assessments	MAT 1 – FMP and Fractions MAT 2 – Algebraic Manipulation and SA/Volume.	MAT 3 – Stats and Probability Fortnightly 20 marks in 20 minutes Mocks Begin	Weekly 20 marks in 20 mins MAT – Sequence and Graphs	Weekly exam practice. Second Set of Mocks		

Curiosity	- Research the best credit cards, loans and mortgages that are out there. Where do you get the best deal? - Have a go at this interactive activity around rearranging equations. How many levels can you progress through? https://www.transum.org/software/SW/Starter_of_the_day/Students/Changing_The_Subject.asp?Level=6 - What is your average speed? Practice running the same distance and record your speed each time. Use this video to help you calculate your average speed - https://tutors.com/math-tutors/geometry-help/average-speed-formula . Weekly revision sessions	- Apply your loci skills to exact scale drawings in this goat problem https://www.transum.org/Software/SW/Starter_of_the_day/starter_March6.ASP - Test your knowledge of vectors with this interactive activity https://www.transum.org/software/SW/Starter_of_the_day/Students/VectorsB.asp - How good are you at balancing? Can you you're your balancing skills here https://www.transum.org/software/SW/Starter_of_the_day/Students/Equations.asp - How does the recipe change? Here are some online questions to help you - https://www.transum.org/Maths/Exercise/Ratio/Recipe.asp . Alternatively, pick a recipe from a cookbook at home and practice changing the measurements based on how many people you would cook for?	Weekly revision sessions	Weekly revision sessions	Weekly revision sessions	
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		• Weekly revision sessions • Black history month • Maths challenge date TBC				
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