



**Curriculum Overview – Mathematics (Year 7 -11)**

Year	Overview	Autumn 1 (Weeks 1 – 7)	Autumn 2 (Weeks 8 – 14)	Spring 1 (Weeks 15 - 20)	Spring 2 (Weeks 21 - 26)	Summer 1 (Weeks 27 - 32)	Summer 2 (Weeks 33 - 38)	Student Resources
7	In Year 7, students follow Discovering Mathematics: The Maths Mastery Course for Key Stage 3 from Oxford University Press. It is a new Maths Mastery series built around the 'growth mindset' that every child can succeed. It enables students to explore new concepts through concrete, pictorial and abstract representation, supporting progression and depth of understanding.	Topics: Place value, addition, subtraction, multiplication and division, negative numbers, order and calculations.	Topics: Introduction to Algebra: Use letters to represent numbers, substitution, write simple expressions and formulae, and simplify expressions (including expanding single brackets), simple equations: solving simple equations involving brackets and to solve problems.	Topics: Improper fractions and mixed numbers, equivalent fractions and comparing fractions, fractions of quantities, calculation with fractions and mixed numbers, decimals: decimal place values, ordering and rounding decimals, 4 calculations with decimals, mental calculation and conversion between units, rational and real numbers.	Topics: Percentages: meaning of percentages, percentage of a quantity, reducing and increasing a quantity by a percentage. Introduction to ratio: idea of ratios, relationship between ratios and fractions, equivalent ratios and simplest form. Measures, angles, parallel lines and triangles. Introduction to angles, types of angles, finding unknown angles, parallel lines and transversals and triangles.	Topics: Transformations, symmetry and congruence: reflection symmetry and rotation symmetry of plane figures, transformations, symmetry and congruence; perimeter and area: perimeter and area of squares, rectangles, triangles and circles, perimeter and area problems.	Topics: Volume and surface area of cuboids, including cubes: nets, surface area and volume of cuboids, including cubes. Collecting, organising and displaying data: collecting, classifying and tabulating data, pictograms, vertical line charts and bar charts and grouped data.	<i>MathsWatch</i>  Log in: ODA e-mail Password: DENES123
		End of unit tests	End of term test	End of unit tests	End of term test	End of unit tests	End of year test	
			Competitions: UKMT Mathematics individual and group competition.	Competitions: UKMT Mathematics individual and group competition.	Gifted and Talented trip.			
8	In Year 8, students follow a program of The Maths Mastery series built around the 'growth mindset' that every child can succeed. It enables students to explore new concepts through concrete, pictorial and abstract representation, supporting progression and depth of understanding.	Topics: Numbers and the number system. Calculating.	Topics: Algebraic proficiency: Tinkering, pattern sniffing, calculating fractions, decimals and percentages.	Topics: Solving equations and inequalities. Algebraic proficiency: visualising, plot and interpret graphs in real contexts (time/distance graphs), recognise, sketch and interpret graphs of linear functions and simple quadratic functions, use the form of $y=mx+c$ to plot graphs as well as table of values.	Topics: Understanding risk. Exploring fractions, decimals and percentages. Proportional reasoning.	Topics: Investigating angles. Visualising and constructing. Calculating space.	Topics: Presentation of data. Measuring data.	<i>MathsWatch</i>  Log in: ODA e-mail Password: DENES123
		End of unit test	End of term test	End of unit test	End of term test	End of unit test	End of year test	
			Competitions:	Competitions:	Gifted and Talented trip.			

			UKMT Mathematics individual and group competition.	UKMT Mathematics individual and group competition.				
9	In Year 9, students are introduced to the GCSE AQA syllabus which they will follow for the next 3 years. Students will ensure they are secure with basic number, algebra, geometry, probability and statistics content before building skills and knowledge within these areas.	Foundation Tier: Basic number, factors and multiples, angles, scale drawing and bearings, and basic algebra.  Higher Tier: Number skills, angles, factors and multiples, basic algebra, scale drawing and bearings and basic fractions.	Foundation Tier: Basic fractions, basic decimals, rounding, coordinates and linear graphs and collecting and representing data.  Higher Tier: Decimal calculating, rounding, coordinates and linear graphs, representing and analysing data and sequences.	Foundation Tier: Sequences, basic percentages, perimeter and area introduction.  Higher Tier: Percentages calculating, perimeter and area problem solving and real life graphs.	Foundation Tier: Introduction to circumference and area, basic probability, ratio and proportion.  Higher Tier: Circumference and area calculating, ratio problem solving, proportion and equations.	Foundation Tier: Equations, scatter graphs and transformations.  Higher Tier: Probability, standard form and graphs.	Foundation Tier: 2D representations and 3D shapes, Pythagoras theorem and revision for end of year assessment.  Higher Tier: Transformations, constructions and loci, 2D and 3D shape analysing and revision for end of year assessment.	<i>MathsWatch</i>  <i>Log in: ODA e-mail</i> <i>Password: DENES123</i>
		GCSE Non Calculator Paper 1 (1 hour 30 minutes)	GCSE Calculator Paper 2 (1 hour 30 minutes)	GCSE Non Calculator Paper 1 (1 hour 30 minutes)	GCSE Calculator Paper 3 (1 hour 30 minutes)	GCSE Calculator Paper 3 (1 hour 30 minutes)	GCSE Non Calculator Paper 1 (1 hour 30 minutes) and GCSE Calculator Paper 2 (1 hour 30 minutes)	
			Competitions: UKMT Mathematics individual and group competition.	Competitions: UKMT Mathematics individual and group competition.	Gifted and Talented trip.			
10	In Year 10, students continue to follow the GCSE AQA syllabus. Students will build on the skills and basic knowledge of basic number, algebra, geometry, probability and statistics content they accumulated in Year 9 and begin to investigate how they can apply this knowledge to GCSE or higher level exam questions.	Foundation Tier: Revision of Year 9, standard form, calculating with percentages and measures.  Higher Tier: Revision of Year 9, manipulating percentages, measures, indices and surds.	Foundation Tier: Statistical measures, indices, constructions and loci and algebra extension.  Higher Tier: Statistical measures, properties of polygons, Pythagoras theorem and basic trigonometry.	Foundation Tier: Review of term 1, congruency and similarity, and introduction to trigonometry.  Higher Tier: Review of term 1, number review, congruency and similarity, and simultaneous equations.	Foundation Tier: Further perimeter and area, graphs recap and extension, further circumference and area, and simultaneous equations.  Higher Tier: Probability, statistics recap and review, and tailed revision to student needs.	Foundation Tier: Properties of polygons and revision tailored to students learning needs.  Higher Tier: Volume, introduction to quadratics, rearranging formulae and revision tailored to students' immediate learning needs.	Foundation Tier: Real life graphs, probability and revision for end of year assessment.  Higher Tier: Sketching graphs, linear and quadratic equations, geometry and measure, review and revision for end of year assessment.	<i>MathsWatch</i>  <i>Log in: ODA e-mail</i> <i>Password: DENES123</i>
		GCSE Non Calculator Paper 1 (1 hour 30 minutes)	GCSE Calculator Paper 2 (1 hour 30 minutes)	GCSE Non Calculator Paper 1 (1 hour 30 minutes)	GCSE Calculator Paper 3 (1 hour 30 minutes)	GCSE Calculator Paper 3 (1 hour 30 minutes)	GCSE Non Calculator Paper 1 (1 hour 30 minutes) and GCSE Calculator Paper 2 (1 hour 30 minutes) and GCSE Calculator Paper 3 (1 hour 30 minutes)	
			Competitions:	Competitions:	Visit to Bletchley Park to see the Enigma machine.	Gifted and Talented trip.		

			UKMT Mathematics individual and group competition.	UKMT Mathematics individual and group competition.	Trip to Cambridge. Maths Talks.			
11	In Year 11, students learn the remaining content of the GCSE AQA syllabus and revise content covered in Years 9 and 10. Students will also focus on understanding key vocabulary and terms in exam questions as well as looking at model solutions to help prepare for exams. There will be several opportunities to answer exam questions so that students are used to their format.	<p>Foundation Tier: Volume, quadratics, rearranging formula, identities, inequalities, graph sketching and quadratic graphs, and general revision.</p> <p>Higher Tier: Further quadratics, formula rearranging and identities, trigonometry recap, sine and cosine, growth and decay, and general revision.</p>	<p>Foundation Tier: Direct and inverse proportion, algebra and graphs, trigonometry, solving quadratic equations, and general revision.</p> <p>Higher Tier: Equation of a circle, equations and graphs, inequalities, and direct and inverse proportion.</p>	<p>Foundation Tier: Mock revision, growth and decay, direct and inverse proportion, and vectors.</p> <p>Higher Tier: Mock revision, further graph sketching and vectors.</p>	<p>Foundation Tier: Students will continue to revise topics that need attention. Teachers will tailor revision to students needs and students can continue to use MathsWatch to revise these areas independently.</p> <p>Higher Tier: Transforming graphs, numerical methods, circle theorems, and additional growth and decay.</p>	<p>Foundation Tier: Students will continue to revise topics that need attention. Teachers will tailor revision to students needs and students can continue to use MathsWatch to revise these areas independently.</p> <p>Higher Tier: Rates of change, gradients, pre-calculus, area under curves, algebraic fractions, and final revision.</p>	N/A	
		During mock period: GCSE Non Calculator Paper 1 (1 hour 30 minutes), GCSE Calculator Paper 2 (1 hour 30 minutes), and GCSE Calculator Paper 3 (1 hour 30 minutes)		During mock period: GCSE Non Calculator Paper 1 (1 hour 30 minutes), GCSE Calculator Paper 2 (1 hour 30 minutes), and GCSE Calculator Paper 3 (1 hour 30 minutes)		During mock period: GCSE Non Calculator Paper 1 (1 hour 30 minutes), GCSE Calculator Paper 2 (1 hour 30 minutes), and GCSE Calculator Paper 3 (1 hour 30 minutes)		
		Gifted and Talented trip.	Competitions: UKMT Mathematics individual and group competition.	Competitions: UKMT Mathematics individual and group competition.	Visit to Bletchley Park to see the Enigma machine.  Trip to Cambridge. Maths Talks.			
<b>Notes:</b> <ul style="list-style-type: none"> <li>Year groups that started the course late will follow a condensed version of this model.</li> </ul>			<b>Examination Specification:</b> <b>AQA 2019</b>			<b>Homework Portal:</b> <i>MathsWatch</i>		
						<b>Further resources:</b> <b>Online resources available:</b> PiXL Maths Corbett Maths MathsWatch		