Maths Curriculum Map 2024-25

Intent: The mathematics curriculum aims to offer our students the opportunity to develop a solid foundation in the key mathematical components: number skills, algebra, geometry, ration and proportion and probability and statistics. This is achieved through teaching these mathematical concepts from a first principle basis to develop a deeper understanding and becoming fluent in the fundamentals of mathematics by developing their problem solving skills. We encourage a deep understanding and memory through revisiting and building upon prior knowledge.

Through our curriculum we aim for our students to link and master the different components to contextual real world problems, allowing students to appreciate the importance and power of mathematics in their everyday lives.

Term	Autumn 1		Autumn 2		Spring 1	Spring 2		Summer 1	Summer 2
Year 7	Number: Operations with integers Operations with decimals Money questions Negatives in real life Four rules of negatives BIDMAS Inverse operations Factors, Multiples and Primes Highest common factor Lowest common multiple Rounding Estimating answers	Assessment 1	Number: Squares, Cubes and Roots Indices Product of Primes Standard Form Fractions; Equivalent, Simplifying, Comparing Operations with fractions Finding a fraction of an amount Fractions, decimals, percentages Percentages of amounts	Assessment 2	Algebra: Introduction to Algebraic conversions Function machines Algebraic manipulation - Addition, Subtraction, Multiplication and Division Forming Expressions Substitution into formulae Geometry: Coordinates Measuring and drawing angles Angles round a point and on a line Problem solving with angles in triangles and quadrilaterals	Data: Tally charts Bar charts Pictograms Vertical Line Charts Frequency tables and diagrams Averages Probability: Calculating probabilities Experimental probability	Assessment 3	Geometry: Area and perimeter of 2D shapes 3D shapes Nets Ratio: Simplify ratios Split into ratios Introduction to proportion Exchanging money	Teachers explore all the topics exposed in previous terms through methods of application to empower students. This should be done through a mixture of activities and revision.

Year 8	Number: Operations with integers Four rules of negatives BIDMAS Estimating answers Operations with decimals Standard form Operations with fractions Fractions of amounts Factors, Multiples Product of primes Highest common factor Lowest common	Assessment 1	Number: Fractions, Decimals and Percentages Calculate Percentage of an Amount (without a calculator) Value for Money Geometry: Area and Perimeter; Parallelogram, Trapezium and Circle Volume of 3D shapes	Assessment 2	Ratio: Sharing amounts using ratio Using ratio for recipe Questions Exchanging money Introduction to proportion Data: Discrete and continuous data Two-way tables Frequency trees Averages and the Range Line graphs Scatter graphs Stem and leaf	Algebra: Algebraic manipulation Simplifying and factorising expressions Substitution Solving equations Sequences Generate Special Sequences Introduction to graphs Find gradient of a line	Assessment 3	Geometry: Reflections Rotations Translations Angles at a point Angles between parallel lines Angles in a Triangle Properties of special triangles Probability: Listing outcomes Calculating probabilities Mutually exclusive probabilities Experimental	Teachers explore all the topics exposed in previous terms through methods of application to empower students. This should be done through a mixture of activities and revision.
	Highest common factor		shapes		Range Line graphs			Mutually exclusive	

	Number:	Number:	Algebra:	Metric conversions	Data:	Teachers
	Operations with	Indices	Generating a sequence	Wich to Conversions	Discrete and	explore all
	integers	Rounding	Nth term	Probability:	Continuous,	the topics
	Estimating answers	Introduction to	Special sequences	Listing outcomes	Two-way	exposed in
	BIDMAS	bounds	Special sequences		J	•
		bounds	Coomotivi	Calculating	Tables,	previous
	Standard form	Almahman	Geometry:	probabilities	Frequency	terms
	Operations with	Algebra;	Perimeter and area of	Mutually exclusive	Trees	through
	fractions	Simplifying	2D shapes	events	Pie Charts	methods of
	Fraction of an	expressions	Surface area of a prism	Experimental	Scatter Graphs	application to
	Amount	Expanding brackets	Volume of 3D shapes	probability	Averages and	empower
	Fractions, decimals	Forming and	Angles	Venn diagrams	the Range	students.
	and percentages	solving	Angles in a triangle	Tree diagrams		This should
	Percentage	formulae/equations	Angles in parallel lines		Geometry:	be done
Year	increase/decrease,	Substitution	Angles of Polygons;		Transformations;	through a
9	Change to a	Straight line graphs	Angles in polygons		Reflections	mixture of
9	percentage,	Gradient of a line	Bearings		Translations	activities and
	Reverse	Drawing graphs			Rotations	revision.
	percentages				Enlargements	
	Simple Interest				Pythagoras'	
	Introduction to				Theorem	
	Bounds				1110010111	
	Bearias				Ratio:	
					Sharing	
					amounts using	
					Ratio	
					Using ratio in	
					Recipe style	
					questions	
					Proportion	

	Number:		Algebra:		Algebra:	Geometry:		Data:	Teachers		
	Decimals		Factorising		Simultaneous	Pythagoras'		Averages	explore all		
	Indices		Expanding brackets		equations	Theorem		Sampling	the topics		
	Bounds		Forming and	Assessment 2		Trigonometric Ratios		Pie Charts	exposed in		
	Error Intervals		solving linear		Geometry:	Exact Trigonometric		Scatter graphs	previous		
	Estimating answers		equations		Perimeter and area	Values		Populations Stratified	terms		
	Mathematical		Inequalities on a number line			Tangents, Arcs, Sectors and Segments			Sampling and	through methods of	
	Reasoning		Solving linear				Surface Area and	Probability:		Time Series	application to
	Standard form		inequalities				Volume; Spheres,	Experimental		Graphs	empower
	Percentages;		Sequences		Pyramids, Cones and	probability			students.		
	Percentage change	Ξ	Fibonacci		essment 2	Frustums	Listing outcomes	+3	Geometry:	This should	
Year	Reverse	Assessment 1	Geometric			Angles in parallel lines	Venn Diagrams	ssessment 3	Similar shapes	be done	
10		Ë	Progressions			Ë	Angles in polygons	Tree Diagrams	Ë	Transformations	through a
(F)	percentages	e SS	Straight Line			Bearings		SSE	Scale drawings	mixture of	
(.)	Simple Interest	SS	Graphs					Vectors	activities and		
	Compound Interest	⋖	Gradient of a line		Ratio:		⋖	Construction	revision.		
	Depreciation		Midpoint of a line		Introduction to			Loci			
	problems		Equation of a		proportion						
	Growth and Decay		Straight Line		Sharing into a ratio						
	•		Drawing Graphs								
	Metric conversions		Factorising and								
	Compound units		solving quadratics								
			The difference of								
			two squares								
			Roots and turning								
			points of quadratics								

	Number:		Algebra:		Algebra:	Geometry:		Data:	Teachers		
	Decimals		Factorising linear		Simultaneous	Pythagoras'		Averages	explore all		
	Indices		9	equations including	Theorem		Sampling	the topics			
	Bounds		expressions	Assessment 2		quadratic equations	Trigonometric Ratios		Pie Charts	exposed in	
	Percentage change		Expanding brackets				Exact Trigonometric		Scatter graphs	previous	
			Forming and		Geometry:	Values		Histogram	terms		
	Reverse		solving equations		Tangents, Arcs,	Area of a triangle		Populations	through		
	percentages		Sequences		Sectors and Segments	Trig and bearings		Stratified	methods of		
	Simple Interest		Quadratic		Surface Area and	Durch ability o		Sampling and	application to		
	Compound Interest	Assessment 1			-	Volume; Spheres,	Probability:	~	Time Series	empower	
	Depreciation		Straight Line Graphs		Pyramids, Cones and Frustums	Experimental probability	nt 3	Graphs	students. This should		
Year	Growth and Decay		Gradient of a line		sessmer	Angles in parallel lines Angles in polygons		Listing outcomes	Jeι	Geometry:	be done
10			Equation of a				Venn Diagrams	ssessment	Similar shapes	through a	
(H)			Straight Line			Circle theorems	Tree Diagrams	sei	Transformations	mixture of	
			Parallel and			Conditional	As	Scale drawings	activities and		
			perpendicular lines		Ratio:	probability		Vectors	revision.		
			Drawing Graphs		Sharing into a ratio			Construction			
			Solving quadratic		Direct and inverse			Loci			
			equations with		proportion	Data:					
			formula and			Cumulative					
			completing the			frequency					
			square.			Box plot					
			Roots and turning								
			points of quadratics								

	Number:		Algebra:		Algebra:	Geometry:		Exam	Summer
Year 11 (F)	Fractions Indices Bounds Error Intervals Estimating answers Mathematical Reasoning Percentages Standard form Fractions Percentage change	Mock Exam 1	Factorising Expanding brackets Solving equations Inequalities on a number line Solving Linear Inequalities Sequences Geometric progressions Special sequences Substitution Straight Line Graphs The Gradient of a Line Midpoint of a Line Equation of a Straight Line Factorising and Solving Quadratics The Difference of Two Squares Roots and Turning Points of Quadratics Drawing graphs	Mock Exam 2	Simultaneous equations Geometry: Area and perimeter of 2D shapes Tangents, Arcs, Sectors and Segments Surface Area and Volume; Spheres, Pyramids, Cones and Frustums Compound Units Distance-Time Graphs Proportion: Intro to proportion Ratio	Angles Loci Bisecting angles Bearings Construction Pythagoras' Theorem Trigonometric Ratios to Find Missing Sides and Angles in Right- Angled Triangles Exact Trigonometric Values Similar Shapes Congruent Triangles Scale Drawings Vectors Transformations Statistics: Pie Charts Scatter Graphs Sampling Populations, Stratified Sampling Time Series Graphs Averages	Mock Exam 3	preparation on all topics. Revision packs included on every major topic taught. Then the students are exposed to past and specimen exam papers.	Examinations take place.

Γ		Number:		Geometry:		Probability:	Algebra:		Exam	Summer	
		Mathematical		Transformations -		Calculating	Perpendicular lines		preparation on	Examinations	
		Reasoning,		Negative Scale		probabilities	Equations of a circle		all topics.	take place.	
		Negative Indices,		Factor		Tree diagrams	Pythagoras on a line		Revision packs		
		Error Intervals and		Circle Theorems		Venn diagrams	Sequences		included on		
		Standard Form		Similarity - Area		-	Regions		every major		
		Recurring		and Volume and		Statistics:	Inequalities		topic taught.		
		Decimals to		Congruency		Pie Charts			Then the		
		Fractions		Trigonometry		Scatter graphs			students are		
		Upper and Lower		The Sine and		Sampling			exposed to past		
		Bounds		Cosine Rule		Cumulative Frequency	Geometry:		and specimen		
		Surds		Pythagoras'	2 1	Boxplots	Distance-Time) 3	exam papers.		
	Year	Direct and Inverse	Exam	Theorem	ä	Histograms	Graphs and Velocity-	Exam			
	11	Proportion	ă	Trigonometric	shapes	K Ex		Time Graphs	EX		
	(H)	Percentages	×	Ratios in 3D shapes			<u> </u>	Algebra:	Vectors	×	
	(11)	Fractions	Mock		ŏ	Solving quadratics	Trigonometric	Mock			
			2		2	Algebraic Fractions	Graphs	2			
		Algebra:				Roots and Turning	Transformation of				
		Product of Three				Points of Quadratics	Functions				
		Binomials				Completing the Square	Surface Area and				
		Rearranging				Simultaneous	Volume; Spheres,				
		formulae				Equations with a	Cones, Pyramids				
		Factorising				Quadratic Equation	and Frustums				
		Quadratics with a				Inverse and Composite					
		coefficient >1				Functions					
		Iterative Processes									
		Algebraic Proof									

	Pure Mathematics	Pure Mathematics		Pure Mathematics	Pure Mathematics		Pure	REVISION
	Algebra and functions	Coordinate		Trigonometry	Differentiation		Mathematics	
	 Algebraic 	Geometry in the (x,y)		 Ratios and 	 Polynomials 		Exponentials and	EXAMINATIONS
	expressions	plane		graphs	2 nd derivatives		logarithms	LAAMINATIONS
	Quadratic	Straight line		Identities and	Gradient		 Exponential functions 	
	functions	graphs		equations	Tangent and			
	Equations	Circles		Vectors (2D)	normal		 Natural logarithms 	
	Inequalities	Further Algebra		Magnitude	Integration		logaritiiris	
	 Graphs Transformations	Algebraic		Addition and	Indefinite			
	• ITALISIOITIALIONS	division		scalar	integrals			
		Factor theorem		multiplication	Definite integrals			
		Proof		Position Vectors	Area under a			
		 Binomial 			curve			
		expansion						
			(nr				Maabaulaa	
	Statistics	Statistics	(Jan)	Mechanics	Mechanics	Mock Exam 2	Mechanics Kinematics 2	
Year	Data Sampling	Statistical	1	Quantities and units	Forces and Newton's	an	Variable force	
12	Terminology Sempling	distributions Discrete uniform	Mock Exam 1	 Intro to mathematical 	Law	Ä	Use of	
	 Sampling techniques 	distributions	Ä	modelling	Newtons first lawForce diagrams	ŠČ	integration	
	techniques	Probabilities	상	Vector and scalar	Force diagramsNewtons second	۷o	g	
	Data presentation and	using binomial	۷	quantities	law			
	interpretation	distributions		'	Newtons third law		REVISION	
	 Measures of 			Kinematics 1				
	location	Statistical hypothesis		 Graphical 				
	 Measures of 	testing		representation of				
	variation	Significance		velocity and				
	 Single variable 	levels		displacement				
	data	Hypothesis testing using		 Motion in a straight line 				
	 Scatter diagrams 	testing using binomial		Suvat formulae				
	Probability	distribution		Vertical motion				
	Mutually exclusive	alott ibation		• VOITIOAI IIIOTIOII				
	events							
	 Independent 							
	events							