Year 10 Curriculum Grid
Mathematics

Year/Term	Unit	Intent			
		Foundation	Foundation Plus	Higher	Higher Plus
Overall					
Autumn 1	Number	Reciprocals of numbers. Calculate with negative indices. Add and subtract numbers written in standard form.	Reciprocals of numbers. Calculate with negative indices. Add and subtract numbers written in standard form.	Calculate with unit fractional indices. Shape problems involving surds. Rationalise the denominator.	Calculate with fractional and negative fractional indices. Shape problems involving surds. Rationalise the denominator.
	Sequences	Recognise and continue simple geometric and quadratic sequences. Classify different types of sequences. Generate terms of a quadratic sequence using position-term rule.	Recognise and continue simple geometric and quadratic sequences. Classify different types of sequences. Generate terms of a quadratic sequence using position-term rule.	Find nth term of simple quadratic sequences. Recognise and continue simple geometric sequences of the form r^n.	Find nth term of quadratic sequences. Recognise and continue simple geometric sequences of the form r^n, where r maybe a surd.
	Algebra Skills	Differentiate between expressions, equations, formulae, identities and inequalities. Multiply two or more brackets by a single term. Factorise expressions by taking out a common factor. Expand double brackets. Simplify expressions involving negative indices.	Differentiate between expressions, equations, formulae, identities and inequalities. Multiply two or more brackets by a single term. Factorise expressions by taking out a common factor. Expand double brackets. Simplify expressions involving negative indices.	Expand double brackets. Factorise quadratic expressions, including using the difference of two squares. Expand three or more brackets. Simplify expressions involving fractional indices.	Expand double brackets. Factorise quadratic expressions, including using the difference of two squares. Expand three or more brackets. Simplify algebraic fractions.
	Ratio & Proportion	Direct and inverse proportion graphs. Interpret equations that describe direct and inverse proportions. Use	Direct and inverse proportion graphs. Interpret equations that describe direct and inverse proportions. Solve ratio problems including	Construct and interpret equations that describe direct and inverse proportion.	Construct and interpret equations that describe direct and inverse proportion.

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		equivalent ratios. Solve ratio problems.	those involving multiple ratios.		
Autumn 2	Measures & Estimation	Pressure, force, area calculations. Arc length.	Pressure, force, area calculations. Arc length. Perimeter of sectors.		
	Functions & Equations	Use function notation and find value of a function at given point. Solve simple linear equations involving brackets. Derive linear equations from a simple situation. Solve two linear simple simultaneous equations algebraically.	Use function notation and find value of a function at given point. Solve linear equations involving brackets. Derive linear equations from a situation. Solve two linear simple simultaneous equations algebraically.	Solve functions. Find the value of a composite function. Solve linear equations by adding or subtracting algebraic fractions, numerical denominator only. Find roots of a quadratic equation by factorising and using the quadratic formula. Solve one linear, one quadratic simultaneous equation algebraically. Find an approximate solution to equations using a given iterative formula.	Solve functions. Find the value of a composite function. Solve linear equations by adding or subtracting algebraic fractions, numerical denominator only. Find roots of a quadratic equation by factorising and using the quadratic formula. Solve one linear, one quadratic simultaneous equation algebraically. Find an approximate solution to equations using a given iterative formula.
	Translations & Vectors	Represent column vectors graphically. Multiply column vectors by a scalar.	Add and subtract two column vectors. Find resultant of two or more given vectors.	Vector to a midpoint and use this to find resultant vectors. Vector to a point given by a fraction or ratio then find resultant vectors.	Vector to a midpoint and use this to find resultant vectors. Vector to a point given by a fraction or ratio then find resultant vectors.
	Angles	Angles in parallel lines. Find return bearings.	Solve problems use all angle and parallel line rules. Find return bearings.	Solve problems use all angle and parallel line rules. Circle theorems that involve tangents.	Circle theorems that involve tangents.
Spring 1	Graphs & Tables	Plot linear graphs of the form $y = mx + c$ by generating coordinates. Plot quadratic graphs and identify roots,	Straight line graphs of the form $y = mx + c$. Solve simple linear simultaneous equations graphically. Plot	Gradient of perpendicular lines. Solve one linear, one quadratic simultaneous equation graphically. Plot and	Gradient of perpendicular lines. Solve one linear, one quadratic simultaneous equation graphically. Plot and

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		intercept and turning points. Distance-time graphs.	quadratic graphs and identify roots, intercept and turning points. Distance-time graphs.	recognise cubic, reciprocal, exponential and trigonometric graphs. Plot and interpret graphs from real-life contexts.	recognise cubic, reciprocal, exponential and trigonometric graphs. Plot and interpret graphs from real-life contexts.
	Statistics	Compare data using averages and range. Scatter graphs and line of best fit.	Scatter graphs and line of best fit.	Quartiles and interquartile range. Compare data. Time-series graphs. Cumulative frequency diagrams and box plots.	Quartiles and interquartile range. Compare data. Time-series graphs. Cumulative frequency diagrams and box plots.
	Decimals	Multiply and divide a decimal by a decimal.	Multiply and divide a decimal by a decimal.	Write recurring decimals as fractions.	Write recurring decimals as fractions.
Spring 2	Fractions	Multiply and divide integers by fractions.	Add, subtract, multiply and divide fractions and mixed numbers.		
	Construction & Loci	Construct perpendicular of a line at a point and from a point. Use constructions to construct simple loci.	Construct perpendicular of a line at a point and from a point. Use constructions to construct simple loci.	Use combination of loci to identify a region that satisfies given properties.	Use combination of loci to identify a region that satisfies all given properties.
	Probability	Expected outcomes. Compare experimental data and theoretical probabilities. Relative frequency.	Expected outcomes. Compare experimental data and theoretical probabilities. Relative frequency.	Probabilities using tree diagrams. Conditional probabilities using Venn diagrams.	Probabilities using tree diagrams. Conditional probabilities using Venn diagrams.
Summer 1	Further Algebra Skills	Rearrange simple formulae where subject appears only once.	Rearrange formulae where subject appears only once.	Rearrange formulae where subject appears more than once. Solve linear inequalities in two variables and show solution on a graph.	Solve linear inequalities in two variables and show solution on a graph.
	Trigonometry	Introduce trigonometric functions and their graphs. Know exact trig values for $30°$, $45°$ and $60°$.	Introduce trigonometric functions and their graphs. Know exact trig values for $30°$, $45°$ and $60°$.	Introduce trigonometric functions and their graphs. Know exact trig values for $30°$, $45°$ and $60°$. Use Trig ratios to find missing angles	Introduce trigonometric functions and their graphs. Know exact trig values for $30°$, $45°$ and $60°$. Use Trig ratios to find missing angles

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				or sides. Real-life problems involving 2D trig. Area of a non-right angled triangle.	or sides. Real-life problems involving 2D trig. Area of a non-right angled triangle.
	Shapes & Transformations	Plans and elevations of 3D shapes. Show triangles are congruent.	Plans and elevations of 3D shapes.		
Summer 2	Area & Volume	Area of a circle, semi-circle, quadrant and composite circle shapes. Surface area of a cylinder. Volume of a cylinder.	Area of a sector. Find angle of sector given its area. Surface area of a cone, sphere, hemisphere and frustum. Volume of cones and pyramids.	Area of a segment of a circle.	Area of a segment of a circle.
	Percentages	Simple percentage change. Use multipliers to calculate percentage increase and decrease. Simple interest.	Percentage change. Use multipliers to calculate percentage increase and decrease. Simple interest.	Compound interest, depreciation and repeated proportional change. Reverse percentages.	Compound interest, depreciation and repeated proportional change. Reverse percentages. Growth and decay problems.
	Enlargement & Similarity	Enlarge a simple 2D shape by negative scale factor on a coordinate grid. Describe a simple negative scale factor enlargement.	Enlarge 2D shape by negative scale factor on a coordinate grid. Describe a negative scale factor enlargement.	Find missing sides in similar triangles.	Find missing sides in similar triangles. Area and volume of similar shapes using scale factors.