



# Year 11 Curriculum Grid

## Mathematics



Year/Term	Unit	Intent			
		Foundation	Foundation Plus	Higher	Higher Plus
Overall					
Autumn	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 fractional indices and negative 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 linear sequences. Classify different types of sequences. Generate terms of a linear sequence using position-term rule. Find nth term.	Linear sequences. Find nth term. Generating quadratic sequences.	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	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.	Factorise expressions by taking out a common factor. Expand double brackets. Simplify expressions involving negative indices.	Simplify algebraic fractions. Add and subtract algebraic fractions. Use algebraic techniques to show expressions are equivalent. Formulate proofs using algebraic techniques.	Add and subtract algebraic fractions. Use algebraic techniques to show expressions are equivalent. Formulate proofs using algebraic techniques.
	Ratio and Proportion	Direct and inverse proportion graphs. Interpret equations that describe direct and inverse proportions. Use equivalent ratios. Solve ratio problems.	Direct and inverse proportion graphs. Interpret equations that describe direct and inverse proportions. Solve ratio problems including those involving multiple ratios.	Construct and interpret equations that describe direct and inverse proportion.	Construct and interpret equations that describe direct and inverse proportion.



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Measures and Estimation	Time. Pressure, force and area calculations. Perimeter of shapes. Find the perimeter of a sector. Find angle of sectors given arc length.	Perimeter of shapes. Circumference of circles. Arc length.	Volume and surface area.	
Functions and Equations	Solve linear equations where the unknown is on both sides. Find roots of quadratic equations by factorising. Derive and solve two linear simultaneous equations from a situation.	Solve linear equations where the unknown is on both sides. Find roots of quadratic equations by factorising. Derive and solve two linear simultaneous equations from a situation.	Find inverse and composite functions algebraically. Solve linear equations by adding or subtracting algebraic fractions. Find roots of quadratic equations by completing the square. Derive and solve quadratic equations from a situation. Solve two simultaneous equations, one linear, and one circular. Derive and use iterative formula.	Find inverse and composite functions algebraically. Solve linear equations by adding or subtracting algebraic fractions. Find roots of quadratic equations by completing the square. Derive and solve quadratic equations from a situation. Solve two simultaneous equations, one linear, and one circular. Derive and use iterative formula.
Translation and Vectors	Add and subtract two vectors numerically. Find the resultant of two vectors. Understand relationship between parallel vectors, midpoints of vectors.	Add and subtract two vectors numerically. Find the resultant of two vectors. Understand relationship between parallel vectors, midpoints of vectors.	Understand relationship between perpendicular vectors. Show vectors are parallel and perpendicular. Show when points are collinear. Vector proofs.	Understand relationship between perpendicular vectors. Show vectors are parallel and perpendicular. Show when points are collinear. Vector proofs.
Angles	Solve problems using all angle and parallel line rules, giving reasons. Use accurate drawings to solve bearing problems.	Use accurate drawings to solve bearing problems.	Prove the circle theorems concerning angles, radii, tangents and chords and use them to prove related results.	Prove the circle theorems concerning angles, radii, tangents and chords and use them to prove related results.
Graphs and Tables	Identify gradient and y-intercept of a linear graph and find equation. Plot linear graphs using gradient and y-	Find equation of linear graph given a point and the gradient or given two points.	Coordinate geometry problem solving and proofs. Sketch graphs of quadratic functions, including finding the turning	Coordinate geometry problem solving and proofs. Sketch graphs of quadratic functions, including finding the turning



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		intercept. Solve two linear simultaneous equations graphically. Understand two parallel lines have same gradient. Find equation of linear graph given a point and the gradient or given two points.	Solve two simultaneous equations graphically where one is linear and one quadratic. Plot cubic and reciprocal graphs. Interpret, create and/or complete velocity-time graphs.	points by completing the square. 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.	points by completing the square. 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.
	Statistics	Interpret and draw time-series graphs.	Scatter graphs. Interpret and draw time-series graphs.	Use the capture-recapture method to estimate populations. Histograms. Estimate median and quartiles from a histogram.	Use the capture-recapture method to estimate populations. Histograms. Estimate median and quartiles from a histogram.
	Decimals	Decimal calculations.	Decimal calculations. Use one calculation to find the answer to another.		
	Probability	Probabilities from two-way tables. Probability of dependant events using tree diagrams.	Probabilities from two-way tables. Probability of dependant events using tree diagrams.	Find the probability of combined events using multiplication and addition. Use advanced probability and set notation.	Find the probability of combined events using multiplication and addition. Use advanced probability and set notation.
Spring	Year 11 PPEs – first two weeks in January – revision during lessons if applicable.				
Spring	From mid-January students revise work from throughout the course. The content of these lessons is determined by the outcome of PPE exams from January and assessments that where completed in December.				