

Curriculum plan: Maths

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INTENT:



“God used beautiful mathematics in creating the world”

Paul Dirac

Maths is a universal language that explains the world around us. The study of mathematics in The King's enables students to make sense of everyday situations, forge links between topics and establish connections to real life context.

As a fundamental discipline in our lives, maths fosters curiosity, equipping students with various strategies to tackle problems; it empowers students with resilience to take risks, get it wrong, form a new strategy and start again, with determination and drive to reach the final answer.

Maths is logical thinking, reasoning, intuition, analysis, construction, generalization and beauty.





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Half term points

9	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	<p>Key learning to include:</p> <p>A3.1 Real-life graphs</p> <p>SP1.3 Using frequency tables</p> <p>GM3.2 Finding area and perimeter</p> <p>N2.5 Using the number system effectively</p> <p>Key learning to include:</p> <p>A3.2 Plotting graphs of linear functions</p> <p>SP3.2 Designing a questionnaire</p> <p>SP2.6 Scatter diagrams</p> <p>GM3.3 Circumference</p> <p>N1.8 Multiplying decimals</p> <p>N1.9 Dividing decimals</p> <p>Key learning to include:</p> <p>A3.3 The equation of a straight line</p> <p>SP1.4 Using grouped frequency tables</p> <p>SP2.5 Displaying grouped data</p> <p>GM3.4 Area of circles</p> <p>N2.6 Writing numbers in standard form</p>	<p>Key learning to include:</p> <p>A1.5 Setting up, solving simple equations</p> <p>A1.6 Using brackets</p> <p>N1.7 BIDMAS</p> <p>GM3.3 Circumference</p> <p>N4.3 Multiplying fraction's</p> <p>N5.3 Converting between fractions, decimals and percentages</p> <p>Key learning to include:</p> <p>A1.7 Working with more complex equations</p> <p>A1.8 Solving equations with brackets</p> <p>GM3.4 Area of circles</p> <p>N5.4 Applying percentage increases and decreases to amounts</p> <p>Key learning to include:</p> <p>A1.9 Simplifying harder expressions</p> <p>GM3.5 Pythagoras' theorem</p> <p>N5.5 Finding the percentage change from one amount to another</p> <p>N5.6 Reverse percentages</p>	<p>Key learning to include:</p> <p>A1.7 Working with more complex equations</p> <p>GM 2.5 Angles in triangles and quadrilaterals</p> <p>GM 2.6 Types of quadrilateral</p> <p>SP1.3 Using frequency tables</p> <p>SP2.2 Stem and leaf diagrams</p> <p>Key learning to include:</p> <p>A4.1 Trial and improvement</p> <p>GM 2.7 Angles and parallel lines</p> <p>GM1.8 Bearings</p> <p>SP1.4 Using grouped frequency tables</p> <p>Key learning to include:</p> <p>A4.2 Linear inequalities</p> <p>GM2.8 Angles in a polygon</p> <p>N7.5 Prime factorisation</p> <p>SP1.5 Interquartile range</p> <p>SP2.5 Displaying grouped data</p> <p>Key learning to include:</p> <p>N7.4 Index notation</p>	<p>Key learning to include:</p> <p>N1.6 Multiplying and dividing negative numbers</p> <p>A2.3 Linear sequences</p> <p>A3.2 Plotting graphs of linear functions</p> <p>GM6.3 Volume and surface area of cuboids</p> <p>N6.1 Understanding ratio notation</p> <p>Key learning to include:</p> <p>A2.4 Special sequences</p> <p>A3.3 The equation of a straight line</p> <p>GM6.4 2-D representations of 3-D shapes</p> <p>N4.5 Working with mixed numbers</p> <p>GM1.7 Metric-imperial conversions</p> <p>N6.3 Working with proportional quantities</p> <p>Key learning to include:</p> <p>A2.5 Quadratic sequences</p> <p>A3.4 Plotting quadratic and cubic graphs</p> <p>GM6.5 Prisms</p> <p>GM1.10 Compound units</p> <p>N6.4 The constant of proportionality</p>	<p>Key learning to include:</p> <p>A3.2 Plotting graphs of linear functions</p> <p>N3.4 Rounding decimals</p> <p>GM1.7 Metric-imperial conversions</p> <p>GM1.8 Bearings</p> <p>GM4.2 Constructions with a ruler and protractor</p> <p>Key learning to include:</p> <p>A4.2 Linear inequalities</p> <p>N3.5 Significance</p> <p>GM1.9 Scale drawing</p> <p>GM4.3 Constructions with a pair of compasses</p> <p>Key learning to include:</p> <p>A4.3 Solve pairs of equations by substitution</p> <p>A4.4 Solve simultaneous equations using elimination</p> <p>A4.5 Using graphs to solve simultaneous equations</p> <p>N3.6 Approximating</p> <p>N3.7 Limits of accuracy</p> <p>GM4.4 Loci</p>	<p>Key learning to include:</p> <p>N6.3 Working with proportional quantities</p> <p>A1.4 Working with formulae</p> <p>A1.5 Setting up and solving simple equations</p> <p>A1.6 Using brackets</p> <p>A1.7 Working with more complex equations</p> <p>A1.8 Solving equations with brackets</p> <p>GM5.4 Reflection</p> <p>GM5.5 Rotation</p> <p>SP4.1 probability</p> <p>SP4.2 Single event probability</p> <p>Key learning to include:</p> <p>N6.2 Sharing in a given ratio</p> <p>A1.9 Simplifying harder expressions</p> <p>GM5.6 Enlargement</p> <p>SP4.3 Combined events</p> <p>N4.4 Add, sub fractions</p> <p>N4.6 Dividing fractions</p> <p>Key learning to include:</p> <p>N6.5 Inversely proportional quantities</p> <p>A1.10 Using complex formulae</p> <p>GM5.7 Similarity</p> <p>GM5.8 Trigonometry</p> <p>SP4.4 Estimating probability</p>



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Half term points

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
10	<p>Key learning to include:</p> <p>N1.8 Multiplying decimals</p> <p>N2.3 Multiplying and dividing by powers of 10</p> <p>N2.5 Using the number system effectively</p> <p>A3.2 Plotting graphs of linear functions</p> <p>A3.3 The equation of a straight line</p> <p>A1.6 Using brackets</p> <p>GM6.3 Volume and surface area of cuboids</p> <p>Key learning to include:</p> <p>N2.6 Writing numbers in standard form</p> <p>Key learning to include:</p> <p>N3.6 Approximating</p> <p>A3.4 Plotting quadratic and cubic graphs</p> <p>GM1.10 Compound units</p> <p>GM6.6 Enlargement in 2d and 3d dimensions</p> <p>Key learning to include:</p> <p>N2.7 Calculating with standard form</p> <p>N7.6 Rules of indices</p> <p>A3.6 Quadratic equations</p> <p>A5.1 Factorising quadratics</p> <p>A5.2 Solve equations by factorising</p> <p>GM5.10 Finding centres of rotation</p>	<p>Key learning to include:</p> <p>N5.3 Converting between fractions, decimals and percentages</p> <p>N5.4 Applying percentage increases and decrease</p> <p>GM2.5 Angles in triangles and quadrilaterals</p> <p>GM 2.7 Angles and parallel line</p> <p>SP2.3 Vertical line charts</p> <p>SP2.4 Pie charts</p> <p>GM6.2 Understanding nets</p> <p>GM6.4 2-D representations of 3-D shapes</p> <p>Key learning to include:</p> <p>N5.5 Finding the percentage change</p> <p>GM2.8 Angles in a polygon</p> <p>GM6.5 Prisms</p> <p>SP2.6 Scatter diagrams</p> <p>Key learning to include:</p> <p>SP2.7 Using lines of best fit</p> <p>GM6.7 Constructing plans and elevations</p> <p>Key learning to include:</p> <p>N5.7 Repeated percentage increase/decrease</p> <p>A2.6 Geometric progressions</p> <p>GM2.9 Congruent triangles and proof</p> <p>GM2.10 Proof using similar and congruent triangles</p>	<p>Key learning to include:</p> <p>A1.5 Setting up and solving simple equations</p> <p>A1.7 Working with more complex equations</p> <p>N1.9 Dividing decimals</p> <p>N4.4 Adding and subtracting fractions</p> <p>N4.5 Working with mixed numbers</p> <p>GM3.2 Finding area and perimeter</p> <p>GM6.3 Volume and surface area of cuboids</p> <p>GM6.5 Prisms</p> <p>Key learning to include:</p> <p>A3.6 Quadratic equations</p> <p>A1.9 Simplifying harder expressions</p> <p>Key learning to include:</p> <p>A3.5 Finding equations of straight lines</p> <p>GM1.11 Working with compound units</p> <p>GM6.8 Surface area and volume of 3-D shapes</p> <p>Key learning to include:</p> <p>A3.7 Polynomial and reciprocal functions</p> <p>A1.11 Identifies</p> <p>GM3.6 Arcs and sectors</p>	<p>Key learning to include:</p> <p>N4.3 Multiplying fractions</p> <p>SP4.2 Single event probability</p> <p>SP4.3 Combined events</p> <p>GM5.5 Rotation</p> <p>N1.7 BIDMAS</p> <p>N2.6 Writing numbers in standard form</p> <p>A3.4 Plotting quadratic and cubic graphs</p> <p>Key learning to include:</p> <p>SP4.4 Estimating probability</p> <p>GM5.10 Finding centres of rotation</p> <p>N2.7 Calculating with standard form</p> <p>A1.10 Using complex formulae</p> <p>A3.7 Polynomial and reciprocal functions</p> <p>Key learning to include:</p> <p>SP4.5 The multiplication rule</p> <p>Key learning to include:</p> <p>SP4.6 The addition rule</p> <p>GM7.1 Vectors</p> <p>N7.7 Fractional indices</p> <p>A1.12 Using Indices in Algebra</p> <p>N5.8 Growth and decay</p> <p>A3.10 Exponential functions</p>	<p>Key learning to include:</p> <p>GM3.3 Circumference</p> <p>GM3.4 Area of circles</p> <p>GM5.6 Enlargement</p> <p>A2.3 Linear sequences</p> <p>A2.4 Special sequences</p> <p>Key learning to include:</p> <p>N7.5 Prime Factorisation</p> <p>GM5.7 Similarity</p> <p>A2.5 Quadratic sequences</p> <p>A2.6 Geometric progressions</p> <p>Key learning to include:</p> <p>N7.8 Surds</p> <p>GM5.12 Enlargement with negative scale factors</p> <p>A2.7 Other sequences</p> <p>A2.8 Nth term of quadratic sequences</p> <p>Key learning to include:</p> <p>N2.8 Recurring decimals</p> <p>N3.8 Upper and lower bounds</p> <p>GM2.11 Circle theorems</p> <p>A3.8 Perpendicular lines</p> <p>A4.6 Solving linear inequalities in two variables</p>	<p>Key learning to include:</p> <p>N3.4 Rounding decimals</p> <p>N3.5 Significance</p> <p>GM2.6 Types of quadrilaterals</p> <p>G2M2.8 Angles in a polygon</p> <p>A3.3 The equation of a straight line</p> <p>A3.4 Plotting quadratic and cubic graphs</p> <p>Key learning to include:</p> <p>N7.6 Rules of indices</p> <p>GM2.9 Congruent triangles and proof</p> <p>A4.3 Solve pairs of equations by substitution</p> <p>A4.4 Solve simultaneous equations by elimination</p>

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Half term points

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11	<p>Key learning to include:</p> <ul style="list-style-type: none"> N4.3 Multiplying fractions N4.6 Dividing fractions GM6.6 Enlargement in 2 and 3 dimensions A1.8 Solving equations with brackets GM1.8 Bearings <p>Key learning to include:</p> <ul style="list-style-type: none"> A5.1 Factorising quadratics A5.2 Solve equations by factorising GM3.5 Pythagoras' theorem GM3.6 Arcs and sectors A4.5 Using graphs to solve simultaneous equations GM5.8 Trigonometry GM5.9 Trig for special angles <p>Key learning to include:</p> <ul style="list-style-type: none"> A5.3 Factorising harder quadratics A5.4 Completing the square 	<p>Key learning to include:</p> <ul style="list-style-type: none"> N6.2 Sharing in a given ratio GM1.9 Scale drawing GM4.2 Constructions with a ruler and protractor SP1.3 Using frequency tables SP1.4 Using grouped frequency tables <p>Key learning to include:</p> <ul style="list-style-type: none"> N6.4 The constant of proportionality N5.6 Reverse percentages GM4.4 Loci SP2.5 Displaying grouped data <p>Key learning to include:</p> <ul style="list-style-type: none"> A1.14 Rearranging more formulae A4.7 Solving equations numerically GM5.11 Combining transformations A6.2 Translations and reflections of functions SP2.8 Histograms 	<p>Key learning to include:</p> <ul style="list-style-type: none"> N3.6 Approximating GM1.10 Compound units GM5.3 Translations A3.1 Real life graphs N6.5 Working with inversely proportional quantities <p>Key learning to include:</p> <ul style="list-style-type: none"> N3.7 Limits of accuracy GM7.1 Vectors A1.11 Identities N6.3 Working with proportional quantities <p>Key learning to include:</p> <ul style="list-style-type: none"> A6.1 Using chords and tangents A6.3 Area under non-linear graphs GM7.2 Proof with vectors A3.9 Inverse and composite functions A4.8 Proving general results N6.6 Formulating 	<p>Key learning to include:</p> <ul style="list-style-type: none"> GM2.9 Congruent triangles and proof N5.5 Finding the percentage change from one amount to another SP 4.4 Estimating probability <p>Key learning to include:</p> <ul style="list-style-type: none"> GM2.10 Proof using similar and congruent triangles N5.7 Repeated percentage increase/decrease SP4.6 The addition rule <p>Key learning to include:</p> <ul style="list-style-type: none"> GM5.13 Trig, 2-D and 3-D GM6.9 Area and volume in similar shapes A5.7 Solving quadratic inequalities SP4.7 Conditional probability 		<p>Grade range end point:</p> <p>9-1</p> <p>Higher tier grades 9 – 4</p> <p>Foundation tier grades 5 - 1</p>

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Working towards (Key)
Higher Tier Grades 9 - 4
Both Higher Tier and Higher/Foundation Students will take either the Higher Tier Or the Foundation Tier
Higher/Foundation Tier Both Higher/Foundation and Foundation Tier Students will take the Foundation Tier or Higher Tier
Foundation Tier Grades 5 - 1