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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Key found at the bottom of this document

Half term points

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

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	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
11	H: F: H/F: **Key learning to include:** 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 **Key learning to include:** 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 **Key learning to include:** A5.3 Factorising harder quadratics A5.4 Completing the square A5.5 The quadratic formula	H: F: H/F: **Key learning to include:** 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 **Key learning to include:** N6.4 The constant of proportionality N5.6 Reverse percentages GM4.4 Loci SP2.5 Displaying grouped data **Key learning to include:** A1.14 Rearranging more formulae A4.7 Solving equations numerically GM5.11 Combining transformations A6.2 Translations and reflections of functions SP2.8 Histograms	H: F: H/F: **Key learning to include:** N3.6 Approximating GM1.10 Compound units GM5.3 Translations A3.1 Real life graphs N6.5 Working with inversely proportional quantities **Key learning to include:** N3.7 Limits of accuracy GM7.1 Vectors A1.11 Identities N6.3 Working with proportional quantities **Key learning to include:** 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	H: F: H/F: **Key learning to include:** GM2.9 Congruent triangles and proof N5.5 Finding the percentage change from one amount to another SP 4.4 Estimating probability **Key learning to include:** GM2.10 Proof using similar and congruent triangles N5.7 Repeated percentage increase/decrease SP4.6 The addition rule **Key learning to include:** 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		**Grade range end point:** **9-1** Higher tier grades 9 – 4 Foundation tier grades 5 - 1

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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