St Thomas More RC College

Maths - Long-Term Plan

		Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Year 7	Topics to be covered:	Sequences Understand & use algebraic notation	Equality & equivalence Place value & ordering integers & decimals	Fraction, decimal & percentage equivalence Solving problems with addition & subtraction Solving problems with multiplication & division	Fractions & percentages of amounts Operations & equations with directed number Addition & subtraction of fractions	Constructing, measuring & using geometric notation Developing geometric reasoning	Developing number sense Sets & probability End of block
	Skills to be develope	Algebraic thinking	Place value & proportion	Applications of number	Applications of number Directed number Fractional thinking	Lines & Angles	Reasoning with number
	Key assessments taking place:	Baseline Assessment End of block assessment (Sequences) End of block assessment (Understand & use algebraic notation)	End of block assessment (Equality & equivalence) End of block assessment (Place value & ordering integers & decimals) Autumn Assessment	End of block assessment (Fraction, decimal & percentage equivalence) End of block assessment (Solving problems with addition & subtraction) End of block assessment (Solving problems with multiplication & division)	End of block assessment (Fractions & percentages of amounts) End of block assessment (Operations & equations with directed number) End of block assessment (Addition & subtraction of fractions) Spring Assessment	End of block assessment (Constructing, measuring & using geometric notation) End of block assessment (Developing geometric reasoning)	End of block assessment (Developing number sense) End of block assessment (Sets & probability) End of block (End of block) END OF YEAR Assessment

	Key vocab	Term, Linear, Geometric, Fibonacci Function, Inverse, Input, Output, Variable, Coefficient, Commutative, Expression, Substitute	Integer, Interval, Greater than, Less than, Ascending, Descending, Range, Median, Average, Approximate, Significant figure, Index, Standard form	Equivalent, Percent, Sector, Denominator, Numerator, Quotients, Improper, Rational, Recurring Commutative, Associative, Partition, Polygon, Profit, Debit, Credit, Sum, Exponent	Reflection, Symmetric, Zero pair, Product, Solve, Solution, Indices Congruent, Lowest Common Multiple, Common denominator, Simplify	Rotation, Interior, Exterior, Protractor, Parallel, Perpendicular, Intersect, Equilateral, Isosceles, Scalene, Parallelogram, Rhombus, Trapezium, Vertices, Decagon, Pair of Compasses, Vertex, Proportion Vertically opposite, Convex, Concave, Conjecture, Transversal, Co-interior, Alternate, Corresponding	Factors, Overestimate, Underestimate, Efficient Universal set, Inclusive, Element, Venn diagram, Intersection, Union, Mutually exclusive, Complement, Bias, Event Factorise, Highest Common Factor, Counterexample, Assumption
	Opportunities for retrieval practice: All lessons start with a **Do Now** that include 4 questions: one from each of the following: last lesson, last week, last topic and last term. These are planned with interleaving and spacing in mind to keep essential skills sharp and to help with retrieval. Mathswatch is also used for homeworks and as a useful revision tool.						

Long-Term Plan

		Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Year 8	Topics to be covered:	Ratio and Scale Multiplicative Change Multiplying and Dividing Fraction	Cartesian Plane Representing Data	Tables and Probability Brackets, Equations & Inequalities	Sequences Indices Fractions and Percentages	Standard Form Number Sense Angles in Parallel Lines	Area of Trapezia and Circles Lines of Symmetry Data Handling Cycle
	Skills to be developed:	Proportional Reasoning	Mathematical Representations	Algebraic Techniques	Algebraic Techniques	Developing Geometry	Developing Geometry & Reasoning with data
	Key assessments taking place:	End of block assessment (Ratio and Scale) End of block assessment (Multiplicative Change) End of block assessment (Multiplying and Dividing Fractions	End of block assessment (Cartesian Plane) End of block assessment (Representing Data) Autumn Assessment	End of block assessment (Tables & Probability) End of block assessment (Brackets, Equations & Inequalities)	End of block assessment (Sequences) End of block assessment (Indices) End of block assessment (Fractions and Percentages) Spring Assessment	End of block assessment (Standard Form) End of block assessment (Number Sense) End of block assessment (Angles in Parallel Lines)	End of block assessment (Area of Trapezia and Circles) End of block assessment (Lines of Symmetry) End of block assessment (Data Handling Cycle) End of Year Assessment
	Key vocab	Equal parts, for every, Relationship, Order, divide, multiply, part, multiplier, units, total, parts, factors, equivalent, simplify, factors, scale, compare,	Quadrant, coordinates, horizontal, vertical, axis, origin, parallel, equation, diagonal, scale, linear, direct, unitary, gradient, input, output, symmetrical, equidistant	Outcomes, sample space, set, systematic, chance, event, unbiased, set, intersection, union, region, order	Position, term, linear, non-linear, Fibonacci, term to term, algebraic, linear, non-linear, position to term	Base, index, power, exponent, negative, original, place value, commutative, scientific notation, zero, reciprocal, root	Formula, area, parallel, perpendicular height, compound, component, sector, estimate, infinity, radius, pi, diameter

		perimeter, circumference, constant, diameter, regular, gradient, slope, steep Proportion, double, triple, linear, variable, approximation, conversion, axes, rates, currency, directly proportional, origin, relationship, corresponding, scale factor, enlargement, length, image, not to scale, distance, metric Unit fraction, numerator, denominator, product, repeated addition, square, whole, commutative, quotient, divide, estimate, convert, reciprocal, simplify, factors	Variable, Correlation, Positive, Negative, Extrapolate, outlier, discrete, continuous, qualitative, quantitatively, ungrouped, sub-total, tally, frequency, class, boundary	Expression, Simplify, term, substitute, coefficient, equivalent, Solve, expand, bracket, identity, factorise, like terms, binomial, quadratic, expand	Index, power, multiply, expand,, base, exponent, product Decimal, numerator, denominator, equivalent, fraction key, rounding, conversion, tenth, hundredth, interest, profit, loss, original, invest, reverse,	Round, significant, power, integer, nearest, decimal, estimate, root, discrete, continuous, bound, order, priority, deposit, interest, balance, credit, metric, metre, prefix, area, perpendicular, dimensions Adjacent, vertically opposite, acute, obtuse, reflex, right angle, straight, transversal, alternate, corresponding, supplementary, co-interior, isosceles, equilateral scalene, rhombus, parallelogram, trapezium, kite, bisect, delta, interior, exterior, polygon, sum, regular, compass	Regular, polygon, isosceles, equilateral, reflect, congruent, vertical, horizontal, object, image, vertex Hypothesis, investigation, enquiry, sample, primary, secondary, biased, pictogram, bar chart, line chart, tally, frequency, scale, comparison, key, pie chart, scatter graph, bivariate, grouped, discrete, continuous, intervals, range, spread, average, consistent, distribution, mislead
	Opportunities for retrieval practice: All lessons start with a **Do Now** that include 4 questions: one from each of the following: last lesson, last week, last topic and last term. These are planned with interleaving and spacing in mind to keep essential skills sharp and to help with retrieval. Mathswatch is also used for homeworks and as a useful revision tool.						

Long-Term Plan

		Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Year 9	Topics to be covered:	Straight Line Graphs Forming and Solving Equations	Testing Conjecture 3D Shapes	Constructions and Congruency Numbers Using Percentages	Maths and Money Deduction Rotation and Translation	Pythagoras' Theorem Enlargement and Similarity	Ratio and Proportion Rates
	Skills to be developed:	Reasoning with algebra	Constructing in 2 & 3D Dimensions	Reasoning with Number	Reasoning with Geometry	Reasoning with Geometry	Reasoning with Proportion
	Key assessments taking place:	End of block assessment (Straight Line Graphs) End of block assessment (Forming and Solving Equations)	End of block assessment (Testing Conjecture) End of block assessment (3D Shapes) Autumn Assessment	End of block assessment (Constructions and Congruency) End of block assessment (Numbers) End of block assessment (Using Percentages)	End of block assessment (Maths and Money) End of block assessment (Deduction) End of block assessment (Rotation and Translation) Spring Assessment	End of block assessment (Pythagoras' Theorem) End of block assessment (Enlargement and Similarity)	End of block assessment (Rotation and Proportion) End of block assessment (Rates) End of Year Assessment
	Key vocab	Axis, Parallel, Horizontal, vertical, equation,	Factor, Multiple, Prime, Common, Verify,	Acute, obtuse, reflex, right angle, protractor,	Total, debit, credit, balance, expense,	Square, square root, hypotenuse, right	Relationship, multiplier, scale

		intercept, linear, function, gradient, positive, negative, intercept, co-ordinate, reciprocal Inequality, unknown, inverse, solve, solution, expand, satisfy, greater than, less than, balance, coefficient, substitute, formula, subject, rearrange	Counterexample, prove, verify, demonstrate, expand, factorise, expression, binomial, quadratic Dimensions, Cube cuboid, cylinder, cone, sphere, pyramid, tetrahedron, face, edge, vertex, polygon, prism, cross-section, net, area, plan, perspective, isometric, front/side elevation, formula, compound, perpendicular height, circumference, pi, height, width, length, commutative	scale, ratio, multiply, conversion, units, locus, path, equidistant, construction lines, arc, perpendicular, bisector, line segment, congruent, identical, invariant, reflection, corresponding Integer, real, rational, root, irrational, square root, cube root, surd, directed, operation, quotient, product, sum, remainder, adjust, compensate, operation, factor, prime product of primes, fraction, mixed number, improper fraction, standard form, index, exponent Convert, equivalent, multiplier, increase, decrease, profit, loss, reverse, change, original, repeated, depreciate, exponent	bill, percentage, interest, annual, deposit principle, rate, compound, multiplier, tax, value added, original, VAT, income, salary, wage, exemption, overtime, currency, convert, exchange, unitary Alternate, corresponding, co-interior, transversal, parallel, isosceles, interior, exterior, regular, equation, polygon, conjecture, prove, counterexample, bisector Symmetry, order, regular, irregular, Rotational, mirror, direction, invariant, clockwise, anti-clockwise, centre, translate, vector, horizontal, vertical	angled triangle, opposite, adjacent, sum, quadrant, negative, gradient Ratio, scale factor, corresponding, object, image, centre, distance, position, fraction, inverted, orientation	factor, linear, non-linear, variable, gradient, inverse, product, proportional, share, equivalent Speed, distance, time, hours, minutes, convert, accuracy, average, gradient, aces, density, mass, volume, re-arrange, units, constant rate, flow rate, curve, volume, conversion, rate of change, imperial, metric, convert
	Opportunities for retrieval practice:						

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Long-Term Plan

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Year 10	Topics to be covered:	Collecting like terms Simplifying products and quotients Multiplying out brackets Factorising Completing the Square (H) Substitution into formulae and expressions Change the subject of a formula Algebraic fractions (H) Algebraic terminology and proofs	Rounding and estimation Upper and lower bounds Circumference and area of circles Arc length and sector area Surface area and Volume of prisms, cylinders, pyramids, cones and spheres Pythagoras' theorem	Trigonometry Constructions & Loci Ratio & Proportion Percentage Change Growth & Decay Using graphs to solve equations Solving quadratic equations by factorising	Using graphs to solve equations Solving quadratic equations Recurring decimals (H) Simultaneous Equations Scatter Graphs	Standard form Manipulating surds (H) Solve inequalities Plot graphs of linear functions	Compound measures Maps and scale drawings Plans and elevations Sine and cosine rules (H)
	Skills to be developed:	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems

	Key assessments taking place:	An End of Unit Assessment will follow every Unit. Pupils are provided with feedback and given time to reflect, respond and improve.	An End of Unit Assessment will follow every Unit. Pupils are provided with feedback and given time to reflect, respond and improve. Autumn Assessment	An End of Unit Assessment will follow every Unit. Pupils are provided with feedback and given time to reflect, respond and improve.	An End of Unit Assessment will follow every Unit. Pupils are provided with feedback and given time to reflect, respond and improve. Spring Assessment	An End of Unit Assessment will follow every Unit. Pupils are provided with feedback and given time to reflect, respond and improve.	An End of Unit Assessment will follow every Unit. Pupils are provided with feedback and given time to reflect, respond and improve. End of Year Assessment
	Key vocab	Simplify, product, quotient, expand, factorise, formulae, substitute, kinematics, manipulate	Approximate, significant, truncation, circumference, hypotenuse	Trigonometric ratio, adjacent, sine, cosine, tangent, reciprocal, locus, loci, perpendicular bisector, midpoint, equidistant, constant, proportionality, multiplier, depreciation, linear	simultaneous, quadratic, variable, coefficient, correlation, interpolate, extrapolate, outlier	Index, indices, surd, inequality, solid dot, open dot, gradient, y-intercept	compound, density, pressure, elevation
	Opportunities for retrieval practice: All lessons start with a **Do Now** that include 4 questions: one from each of the following: last lesson, last week, last topic and last term. These are planned with interleaving and spacing in mind to keep essential skills sharp and to help with retrieval. Mathswatch is also used for homeworks and as a useful revision tool.						

Long-Term Plan

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Year 11	Topics to be covered:	Recap area and circumference of circles Recap angles including within parallel lines and interior and exterior angles Recap Pythagoras and trigonometry Straight line graphs: parallel and perpendicular lines	Probability: sample spaces, Venn diagrams and Sets, tree diagrams Sequences: nth terms, generating quadratic sequences, Fibonacci Review straight line graphs	Transformations Similarity and congruence Recognise and sketch graphs Drawing linear, quadratic, cubic, exponential, reciprocal graphs Vectors	Pupils follow a bespoke programme of study based on strengths and weaknesses taken from November mock.	Pupils follow a bespoke programme of study based on strengths and weaknesses taken from November mock.	
	Skills to be developed:	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	Develop fluency Reason mathematically Solve problems	
	Key assessments	Sept mini-mock	Oct mini-mock	November Mocks		March Mocks	

	Key vocab	Circumference, chord, parallel, alternate, corresponding, co-interior, interior, exterior, hypotenuse, adjacent, perpendicular, intercept, gradient	sample space, Venn, universal set, tree diagrams, nth term, quadratic, Fibonacci	transformation, scale factor, column vector, congruent, similar, linear, quadratic, cubic, exponential, reciprocal			
	Opportunities for retrieval practice: All lessons start with a **Do Now** that include 4 questions: one from each of the following: last lesson, last week, last topic and last term. These are planned with interleaving and spacing in mind to keep essential skills sharp and to help with retrieval. Mathswatch is also used for homeworks and as a useful revision tool.						