

## MATHS – 5 year plan

Year 7	Year 8	Year 9	Year 10V	Year 10A	Year 11V	Year 11A
<p>Number (a) - Place value, ordering numbers, adding and subtracting, multiplication and division by 2, 3, 4, 5 and 10, units of length, mass and capacity, time, money, reading scales</p>	<p>Number (b) - Mathematical symbols, factors, multiples, number patterns, addition of integers and decimals, subtraction of integers and decimals, short multiplication of integers and decimals, short division of decimals and integers, powers of 10, negatives in real-life, directed numbers.</p>	<p>Number (c) - BODMAS, distance tables, timetables, real-life problems, introduction to fractions - shading, equivalent fractions, simplifying fractions, percentages introduction, percentages of an amount, powers and roots, function machines and inverse operations, rounding.</p>	<p>Number - Symbols, factors, multiples, number patterns, all four operations with integers and decimals, multiplying and dividing by the powers of 10 for integers and decimals, negatives in real life, directed numbers BODMAS</p>	<p>Number (1F) - place value, ordering, reading scales, simple notation, interpreting real-life tables, four operations with integers and decimals, inverse operations, money questions, negatives in real-life, fractions, half-way values, factors, multiples and primes, powers and indices, powers of 10, rounding</p>	<p>Number - Real-life distance tables, time tables, real-life problems without a calculator/with a calculator, shading fractions, equivalent fractions, simplifying fractions, introduction to percentages, percentages of an amount, powers and roots, function machines and inverse operations, rounding to the nearest 10, 100, 1000, rounding to decimal places.</p>	<p>Number (3F) - Product of primes, HCF, LCF, squares, cubes and roots, working with indices, standard form, decimals and fractions, fractions, percentages and decimals, significant figures, estimating answers, index notation, number bounds, mathematical reasoning</p>

<p>Algebra (a) - Coordinates of the 1st quadrant, coordinates of all 4 quadrants, algebraic vocabulary, formulae expressed in words, algebraic notation</p>	<p>Algebra (b) - Horizontal and vertical lines, collecting like terms, algebraic simplification with multiplying and dividing, expanding brackets, factorisation, substitution, sequences</p>	<p>Algebra (c) - finding the nth term, solving basic equations, rearranging formulae, straight line graphs, gradients, drawing quadratic functions</p>	<p>Algebra - Horizontal and vertical lines, collecting like terms, algebraic simplification, expanding brackets, factorisation, substitution.</p>	<p>Algebra (1F) - Algebraic conventions, coordinates, simplifying, function machines, generating a sequence, expanding brackets, simple factorisation, substitution, straight line graphs. Gradients of a line, drawing quadratic graphs, finding the nth term.</p>	<p>Algebra - Sequences: term-to-term rules, position-to-term rule, finding the nth term, solving basic equations, rearranging formulae, straight line graphs, drawing quadratic functions.</p>	<p>Algebra (2F) - Mid-point of a line graph, expanding and simplifying brackets, solving equations, rearranging formulae, forming formulae, inequalities on a number line, solve linear inequalities, simultaneous equations, fibonacci sequences</p>
<p>Geometry (a) - Basic definitions, properties of circles, line symmetry, reflection, translation, rotation, rotational symmetry, perimeter and area</p>	<p>Geometry (b) - Polygons, properties/models and nets of 3-D shapes, angle facts, properties of quadrilaterals, scale drawings, properties of special triangles, angles in a triangle calculation, angles and parallel lines, angle sum of polygons</p>	<p>Geometry (c) - areas of rectangles, parallelograms, triangles, trapeziums, Volume of cuboids, surface area of cuboids, circumferences of circles, areas of circles.</p>	<p>Geometry - Angle facts, properties of quadrilaterals, scale drawings, properties of special triangles, angles in a triangle calculation, angles and parallel lines, angle sum of polygons, area of rectangles, parallelograms, triangles, trapeziums, cuboids volumes, surface area, circumference and area.</p>	<p>Geometry (1F) - Definitions, polygons, symmetries, tessellations, angles, properties of solids, nets, angles on a line at a point, measuring and drawing angles, protractor work, reflections, rotations, translations, plans and elevations, perimeters, areas of basic shapes, metric conversions, surface areas of cuboids, volume of a cuboid, circle definitions</p>	<p>Geometry - Loci, enlargement, bounds, pythagoras</p>	<p>Geometry (2F) - Area of a circle, volume of a prism, angles &amp; parallel lines, angles in a triangle, properties of special triangles, angle sum of polygons, bearings, bisecting an angle, drawing using a compass, enlargements, tangents, arcs, sectors and segments, pythagoras' theorem</p>

Ratio (a) - real-life contexts, introduction to ratio - shading, unit conversions	Ratio (b) - Expressing quantities as fractions, unit pricing, simplifying ratios, sharing ratios, scale factors of maps, simple interest and direct proportion.	Ratio (c) - expressing quantities as fractions, unit pricing, ratios - simplifying, ratios sharing, scale factors of maps, simple interest, direct proportions.	Ratio - Expressing quantities as fractions, unit pricing simplifying ratios, sharing ratios, scale factors of maps, simple interest and direct proportion	Ratio (1F) - Introduction to ratio, using ratio for recipe questions, introduction to percentages, value for money, introduction to proportion, exchanging money, sharing using ratio, ratios, fractions and graphs.	Ratio - Increase/decrease by a percentgae basics and multiplier, Scale factors of similar shapes.	Ratio (2F) - increase/decrease by a percentage, percentage change, reverse percentage problems, simple interest, compound units, distance-time graphs, similar shapes, compound interest and depreciation.
Probability (a) - The probability scale	Statistics (b) & Probability (b) - Frequency tables, frequency diagrams, median/mode/range, the mean average, outcomes, mutually exclusive events, two-way tables.	Statistics and probability (c) - The probability scale, outcomes, mutually exclusive events, two-way tables, pictograms interpretation and drawing, bar charts darwing and interpretation, frequency tables of ungrouped data	Probability - The probability scale, outcomes basics, outcomes harder questions, mutually exclusive events, two-way tables	Probability (1F) - Probability scale, tally charts and bar charts, pictograms, frequency trees, listing outcomes, calculating probabilities, mutually exclusive events, two-way tables, averages and the range, vertical line charts, frequency tables and diagrams, experiemntal probabilities, venn diagrams, representing data, averages from a table.	Probability - Two-way tables and Venn diagrams	Probability (2F) - simple tree diagrams, sampling populations, time series, harder tree diagrams, stratified sampling
Statistics (a) - Interpreting and drawing pictograms, interpreting and drawing bar charts, frequency tables			Statistics - Frequency tables of grouped data, frequency diagrams, median, mode and range, the mean average.			

