

Curriculum Overview – Maths

YEAR GROUP	Year 7
Autumn	Number: Place value, ordering decimals, powers of 10, arithmetic with decimals, time and money calculations, rounding, understanding and calculating with negatives, factors, multiples, HCF, LCM, primes, prime factors, using a calculator Equations, functions, formulae Order of operations, algebraic notation, collecting like terms, multiplying and dividing algebraic terms, expanding single brackets, simple factorising, substituting into expressions, one and two step equations, equations with brackets, introducing inequalities Measures Accuracy in measures, converting between units, reading scales, measuring lines, decimal measures and precision Perimeter, Area, and Volume Perimeter and area of rectangles, area of triangles, area of parallelogram, area and perimeter of compound shapes, surface area of cubes and cuboids, volume of cubes and cuboids
Spring	Fractions, Decimals and Percentages: Using fractions, equivalence and simplification of fractions, converting improper and mixed fractions, comparing and ordering fractions, adding and subtracting fractions, fractions of a quantity, multiplying fractions, writing values as a fraction of another Ratio and Proportion: Converting fractions, decimals and percentages, percentages of a quantity, simple direct proportion, simplifying ratio, equivalent ratios, sharing in a ratio, ratio and proportion relationship Angles and Triangles Line and angle notation, measuring and drawing angles, angles on a line, at a point and in a triangle, vertically opposite angles,
Summer	Sequences: Sequences, nth term, sequences from diagrams, graphing sequences Analysing Data: Averages, frequency tables, tally charts, pictograms, dual and composite bar charts, two-way tables Probability: Probability language, calculating probabilities of single events, understanding experimental and theoretical probability, estimating probabilities, sample space diagrams Transformations Coordinates, rotational and line symmetry, reflection, rotation, translation, enlargement

YEAR GROUP	Year 8
Autumn	Percentages: Expressing one value as a percentage of another, calculating percentage increase and decrease, solving percentage of amounts problems Indices: Using simple index laws, combining index laws Expressions and Equations: Solving equations with brackets, solving two step equations with fractions, solving equations with unknowns on both sides, substituting into formulae, writing formulae, changing the subject of a formula, simplifying expressions with single and double brackets, solving inequalities Sequences: Term to term, position to term, patterns, missing numbers in a sequence, identifying terms in a sequence, nth term, fibonacci Ratio: Using unit ratio to solve problems, comparing ratios and proportions, applying ratio to solve problems, calculating best value, similarity Rounding and Decimals: Ordering decimals, significant figures, estimation, multiplying and dividing decimals Area, and Circles: Area of simple polygons, area of trapezium, area of compound shapes, converting units of length and area, circumference and area of circles
Spring	Standard Form Using index laws, converting to and from standard form, calculating with standard form Venn Diagrams and Probability Completing and using frequency trees, probability from frequency trees, completing and using Venn diagrams, probability from Venn diagrams 3D shapes, Surface Area and Volume Recognise 3D shapes, Nets, volume of cube, cuboids, triangular prisms, plans and elevations, surface area of cubes and cuboids, convert units for volume, problem solving Co-ordinates and Linear Graphs Midpoint of a line, horizontal and vertical line, plotting linear graphs, calculating gradient, calculating equation of a line
Summer	Lines and Angles Angles in triangles and quadrilaterals, parallel lines, interior and exterior angles, constructing angles equations Statistical Diagrams Drawing and interpreting pie charts, measures of spread, mean from a frequency table, two-way tables Calculating with Fractions Ordering fractions, adding and subtracting with fractions, understanding the reciprocal, multiplying and dividing algebraic fractions, multiplying and dividing fractions Constructions Drawing scale diagrams, constructing bisectors, constructing shapes, problem solving Real Life Graphs Conversion graphs, speed, distance and time, distance time graphs, time series graphs, contextual linear and non-linear graphs Review Inequalities and Brackets Recurring decimals

Year 9	Lower sets	Higher sets
Autumn	Number: + - $\times \div$ Negative numbers, + - $\times \div$ decimals, Bidmas Geometry and measures: Convert metric units, order different units, use scales, 3d shapes, plans, views, elevation, nets, isometric drawings Statistics: Frequency tables, pictogram, bar chart, line graph, compare line graphs, averages, justify averages, averages from tables, averages from grouped tables Algebra: Expressions and formulae, substitute, expand single brackets, 2 brackets and double brackets, factorise 1 bracket, 2 brackets, Change the subject Number: Factors, Multiples and Primes, LCM, HCF, Prime factors, LCM and HCF of Venn Diagrams, square, cube numbers, square and cube roots, complicated calculator	Basic number Calculations, Significant figures, Estimating, Prime factors HCF, LCM, Negative numbers Fractions, ratios and proportion Find value given fraction, reciprocals, $+ - \times \div$ Mixed Numbers, % of amount, Reverse %, Compound interest. Find interest rate Stats diagrams and averages Averages from tables, Averages from grouped tables, Scatter diagrams Algebra Manipulation Factorise, expand, expand 3 brackets, change subject, Quadratic Factorisation Ratio and proportion Simplify ratio, share ratio, ratio with parts missing, combined ratio, Direct proportion problems, inverse proportion problems, Best Buys, SDT, MDV, FPA Angles Missing angles, angles in polygons, regular polygons, bearings and scale Transformations, constructions and loci Congruent triangles, Transformations, combined transformations
Spring	Number: Rounding decimals and large numbers. Significant figures, estimation, estimate square roots Number: Decimals and fractions, converting fractions, decimals and %, reciprocal, fractions of amounts, + - $\times \div$ fractions and mixed numbers Geometry and measures: Angles at point, on line, vertically opposite, in triangles, special triangles, quadrilaterals special quadrilaterals, interior angles polygons and regular polygons, Ratio and proportion and rates of change: Ratio, speed, distance, time, Multistep SDT, proportion, best buy	Transformations, constructions and loci Cont.: Line/angle bisectors, other construction, 3D plans/views etc. Number & Sequences linear sequences, find linear nth term, quadratic sequences, find nth term quadratic sequences Length, area and Volume Circles and part circles, Parallelograms and trapeziums, arc length, sector area, Volume prisms, Surface area prisms, Cylinders Graphs Draw linear graphs, Gradient, $y = mx + c$, find equation of graph, Real life graphs, Midpoints of graphs, interpret real life graphs, Parallel and perpendicular graphs Right-angled triangles 2D and 3D Pythagoras, Trigonometry application
Summer	Geometry and measures: Perimeter and area, compound shapes, circles, parts of circles Geometry and measures: Transformations, symmetry Probability 2-way table, frequency tree, expectation, combinations, sample space Geometry and measures:	Exploring and applying probability Experimental probability, Mutually exclusive events, Exhaustive outcomes, Expectation, Venn diagrams Powers and standard form Laws of indices, Standard form Equations Linear equations, unknowns both sides, set up and solve equations, simultaneous equations Counting, accuracy, powers and surds

	Volumes and surface areas of prisms Linear Graphs: Recognise simple graphs, draw linear graphs using a table, gradients, use $y = mx + c$, Match graphs to real situations. Solve simultaneous equations using graphs	Surds, Limits and bounds
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10	Lower sets	Higher sets
Autumn	Algebra Expand brackets, factorise, expand double brackets, factorise quadratics Algebra Solve Linear equations, solve with Brackets, Unknowns both sides Set up and solve, Change the subject Geometry and measures: Volume and Surface area Prisms and Cylinders Number: Convert fractions, decimals and %, Calculate fractions and % amount Convert fractions, decimals and %, Calculate fractions and % amount, increase. Decrease by %, repeated % change, Writing %, reverse % Compound Measures SDT, MDV, Direct & inverse proportion Geometry and measures: Transformations, symmetry	Algebra and number: Reinforce equations, Draw and solve inequalities, Inequality regions, reciprocals, Converting recurring decimals to fractions Counting, accuracy, powers and surds Laws of indices, negative and fractional powers, Surds, Rationalise denominator, error interval and limits and bounds Quadratic equations Plotting quadratic graphs, factorising quadratics, solving by factorising, solving using formula, Complete the square Significant points of the curve. Solve quadratic inequalities DATA: Diagrams Frequency Polygons, Cumulative Frequency, Box plots, Histograms, sample space, Tree Diagrams, Conditional Probability, Independent events
Spring	Statistics: Pie charts, Scatter diagrams, Averages from tables, Estimated mean Number and sequences Extend patterns, generate, find nth term, Special number sequences Geometry and measures: Circles, parts of circles, donut problems Was taught during Lockdown Pythagoras, apply Pythagoras, Trigonometry to find sides and angles, Exact Trig, Apply Trig Probability: Probability, Venn diagrams and notation, Tree Diagrams Number Laws of indices, standard form, calculate with standard form	Properties of circles Circle Theorems, Cyclic quadrilaterals, Tangents and Chords, Alternate segment theorem Similar shapes Missing sides, compound shapes, ratio area/length/vol Variation Direct and Inverse proportion using the constant of proportionality Triangles Pythagoras, 3D pythagoras, Exact Trig, Trig, 3D Trig, Sine Rule, Cosine Rule, Area any triangle Volume and Surface area Prisms, cones, Pyramids and Spheres
Summer	Algebra: Non-linear graphs, Real life graphs, Velocity time graphs, Quadratic graphs, solve quadratics by factorising, Draw cubic graphs Geometry and measures: Congruency triangles, similar shapes, similar compound shapes, Ratio in similar shape A:L:V Algebra: Simultaneous equations, draw linear inequalities, state integers for inequalities, solve inequalities	Graphs Distance time graphs, Velocity time graphs, Estimating area under curve, Rates of change, Algebraic fractions and functions 4 rules algebraic fractions, simplify algebraic fractions, change subject of formulae, functions, composite & Inverse functions, Iteration Algebraic Proof Data:

	Geometry and measures: Constructions and loci Vectors: Describe, add and multiply vectors	Capture, recapture, Stratified sampling
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Year 11	Lower sets	Higher sets
Autumn	Number Review: Product of primes, fractions and mixed numbers, fractions, %, decimals, fraction, % ratio problem Algebra Review: Simplify, expand, Solve, Substitute, setup and solve, inequalities DATA Review: Venn diagrams, Averages, Averages from tables, estimated mean, Frequency polygons, Probability, Probability trees and Pie charts Number: Best Buy, Direct and inverse proportion, Simple and compound interest, Error intervals and limits SSM: Angles, Regular polygons, multi-step sdt, mdv, bearings, Scale, Pythagoras, Trig Algebra: Factorise, Factorise quadratics Algebra: Non-linear graphs, Real life graphs, Velocity time graphs, Quadratic graphs, solve quadratics by factorising, Draw cubic graphs,	Number Review Compound interest, Reverse %, Direct and Inverse proportion, Surds Algebraic fractions and functions 4 rules algebraic fractions, simplify algebraic fractions, change functions, composite & Inverse function, Iteration, nth term of quadratic Data Review Probability trees, Cumulative Frequency, Box Plots, Histograms, Venn Diagrams, Capture/recapture, combinations, stratified sampling, Product rule for counting Graphs Gradient, y-intercept, equation, midpoint, parallel and perpendicular graphs, acceleration and area under curve Transformations, constructions and loci Congruent triangles, Transformations, combined transformations Similar shapes and Congruent triangles Missing sides, compound shapes, ratio area/length/vol Algebraic Proof Prove algebraic statements are correct. Prove odd and even numbers, multiples of a number etc. Geometric proof
Spring	SSM: Transformations, Plans and elevations, Similar shapes, conversion graphs Number: Standard Form, Reverse %, deposits, exchange rates ALGEBRA: nth term, setup and solve, simultaneous equations REVISION COMPLETE Exam Papers AIMING for Booklets BY TOPIC REVISION	Vector Geometry + x vectors, vector geometry, prove lines and parallel Trigonometry review Sine rule, Cosine rule, Area of any triangle, Trig graphs, Exact trig ALGEBRA: simultaneous equations one linear, one quadratic, Inequality regions, Solve quadratic inequalities TO BE CONFIRMED, BASED ON STUDENTS
Summer	REVISION	REVISION

	COMPLETE Exam Papers AIMING for Booklets BY TOPIC REVISION	COMPLETE Exam Papers AIMING for Booklets BY TOPIC REVISION
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