Proposed Stockport School 5 Year Maths Curriculum

	Red Module Place Value, Symmetry and Transformations, Averages	Yellow Module Calculations, Angles, Sequences	Green Module Fractions, Algebraic Manipulation, Charts, Shapes	Orange Module Decimals, Equations, Units, Properties of Numbers	Blue Module Percentages, Graphs, Probability, Perimeter, Area & Volume, Ratio
Unit I	• Vector proofs • Matrix multiplication • Transformations of matrices • Combinations of transformations using matrices	• Equation of a circle • Tangents to circles • Pythagoras theorem and trigonometry in 3 dimensions • Geometric proof (including similarity and congruence) • Trigonometric equations and identities • Advanced sequences	• Algebraic fractions • Change the subject of more complex formulae • Algebraic proof • Completing the square a>1 • Expand polynomials using Pascal's triangle • Factor theorem	• Iteration • Solve equations involving negative and fractional indices • Quadratic inequalities • Sketch quadratics • Transformation of functions including trig • Simultaneous equations in three variables • Rationalising more complex denominators	• Growth and decay (exponential) • Quadratic inequalities • Gradient of a curve • Gradient of a tangent • Area under graphs • Differentiation
Unit H	• Apply upper and lower bounds • Co-ordinates in 3 dimensions • Calculations with vectors • Sampling • Capture-recapture method	• Circle theorems • Equation of a circle centre (0,0) • Trig graphs • Area of a triangle using trigonometry • Sine and cosine rules • nth term of a quadratic sequence	• Factorise quadratics a>1 • Completing the square a=1 • Quadratic formula • Form quadratic equations and solve • Cumulative frequency diagrams • Histograms	• Simultaneous equations with quadratics • Solve linear inequalities graphically • Simple algebraic proof • Dimensional analysis • Surds - expanding brackets and rationalising • Estimate powers and roots • Negative fractional indices • Functions, inverse functions and composite functions	• Repeated percentage change • Identifying the equation of a line from coordinates • Parallel and perpendicular lines • Sketch graphs from key points • Gradient as a rate of change • Direct and inverse proportion • Graphs of direct and inverse proportion • Conditional probabilities • Similarity with length, area and volume
Unit G	• Truncation • Calculate with numbers in standard form • Recurring Decimals • Fractional and negative enlargements • Column vectors and basic combinations • Loci • Invariance • Quartiles and box plots	• Bearings • Trigonometry in right angled triangles • Know exact trig ratios • Similarity and rules of congruent triangles • Recognise geometric sequences and Fibonacci	• Four operations with fractions and mixed numbers, positive and negative • Factorise quadratics a=1 • Form expressions and equations • Lines of best fit and predicting	• Solve fractional equations • Form and solve systems of simultaneous equations • Solve quadratic equations by factorising • Compound units (SDT PFA DMV) • Convert area and volume units • Convert related compound measures • Surds - Simplifying and 4 operations	• Plot quadratics, cubics and reciprocals • Tree diagrams (non-conditional) • Product rule for counting • Surface area and volume of spheres, pyramids and cones • Arc lengths, angles and areas of sectors • Equivalent and unitary ratios • Ratios, fractions and equations
Unit F	• Estimating • Error intervals • Standard form • Constructions • Enlargements • Estimated averages from grouped frequency tables • Compare distributions	• Four operations with integers and decimals, positive and negative • Pythagoras theorem • Angle sum of polygons • n^{th} term of linear sequences • Recognise common sequences	• Divide fractions • Index laws with algebra • Expand two or more binomials • Scatter diagrams and correlation • Population sampling • Congruent triangles	• Rearrange formulae • Solve inequalities • Inequalities on a number line • Simultaneous equations algebraically • Inverse proportion • LCM and HCF • Product of prime factors • Roots and indices • Negative indices • Fractional indices	• Percentage change • Compound percentages • Reverse percentages • Gradients from linear graphs • Identifying the equation of a line from a graph • Solve simultaneous equations graphically • Experimental probability • Venn diagrams • Area and perimeter of composite shapes • Volume of prisms • Surface area of prisms • Scale diagrams and maps

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Unit E	• Convert fluently between FDP • Round to significant figures • Apply reflections, rotations and translations • Averages from discrete frequency tables • Stem and leaf diagrams	• Division with decimals • Use of a calculator • Angles in parallel lines • Generate linear (and simple quadratic) sequences	• Multiply fractions • Factorisation • Time series graphs • Plans and elevations • Construct 2D shapes • Congruence and similarity	• Solve linear equations in one variable, unknowns on both sides • Plot conversion graphs • Direct proportion with recipes and money • Powers and roots	• Percentage increase and decrease • Plot graphs of y=mx+c • Plot piecewise linear graphs • Probability sum to one • Real life graphs • Two way-tables and frequency trees • Sample space diagrams • Area and circumference of circles • Area of trapezia • Share in a given ratio • Part: part and part: whole
Unit D	• Fractions as decimals • Round decimals • Order positive and negative integers and decimals • Rotations • Translations as vectors • Mean, mode, median and range	• Multiply decimals • Mental calculations • Order of operations with indices • Angle facts including angles in a triangle	• Compare and order fractions • Mixed numbers to improper fractions • Add and subtract fractions with different denominators • Algebraic notation • Substitution • Expanding single brackets • Names of parts of circles • Pie charts	• Multiply and divide by 10, 10^2 and 10^3 • Solve linear equations in one variable • Convert measures of length, mass and volume using conversion graphs	• Use of decimal and fractional multipliers • One amount as a percentage of another • Percentages greater than 100% • Horizontal and vertical graphs • Simple graphs (y=mx) • Calculate probabilities • Similar shapes • Area of triangles and parallelograms • Volume of cuboids • Ratio notation
Unit C	• Round to nearest integer • Decimals as fractions • Order decimals up to three decimal places • Calculate across zero • Coordinates in all four quadrants • Reflection in axes • Rotational symmetry • Translation as vectors (basics)	• Negative numbers – addition and subtraction • Grid Multiplication • Short division • Negative numbers – multiplication and division • Order of operations BIDMAS • Draw and measure angles • Find missing angles at a point, on a straight line, vertically opposite	• Add and subtract fractions with same denominator • Simplify fractions • Compare and order fractions with same denominator or unit fractions • Calculate fraction of amounts • Collecting like terms • Composite and dual bar charts • Frequency polygons • Properties of 2D shapes • Nets	• Multiply and divide by 10, 100 and 1000 • Simple equivalent FDP • Convert metric units • Convert between metric and imperial units using given conversions • Multiples and factors • Prime numbers • Square and cube numbers	• Calculate percentages • Probability basics • Perimeter of compound shapes • Area of rectangles • Volume by counting cubes
Unit B	• Place value up to 10 million • Decimal place value • Round to powers of 10 • Use negative numbers • Line symmetry • Translation - left, right, up, down	• Addition and subtraction including mental arithmetic • Money • Multiplication and division facts • Acute, obtuse and reflex angles	• Calculate unit fractions of amounts • Equivalent fractions • Bar charts • Properties of 2D and 3D shapes	• Convert simple fractions to decimals • Convert units of time • Measure and estimate using metric units • Factor pairs and multiples	• Calculate simple percentages • Simple FDP equivalents (1/2, 1/4, 1/5, 1/10 and 1/100) • Convert between percentages to decimals • Time tables • Perimeter • Area by counting squares
Unit A	• Place value up to 1000 • Reflecting shapes • Simple translation • Co-ordinates in the first quadrant	• Addition and subtraction • Multiples and times tables • Right angles and turns	• Find 1/2 and 1/4 • Simple equivalent fractions • Understand pictures of simple fractions • Pictograms and tally charts • Recognise 2D and 3D shapes	• Convert tenths and hundredths to decimals • Use 12 and 24 hour time • Telling the time, basic time interval facts	• Recognise % symbol as “parts per hundred” • Categorical data • Perimeter by counting

Key

Level 2 Further Maths Skill

Higher GCSE Maths Skill

Foundation GCSE Maths Skill