Curriculum Mapping in Maths

KS2 (Years 5–6)

In KS2 students follow the White Rose Maths (WRM) Schemes of Work (SOW). The vocabulary is not an exhaustive list, but the 12 words most used in the given topics.

Year	Term	Content	Key Skills	Vocabulary
Year 5	Autumn	Place Value, four operations	• Place value • Comparing and ordering integers • Rounding to 10, 100, 1000 • Formal methods of calculation	• Digit, Column, Vertical, Compare, Order, Symbol, Positive, Negative, Partition, Exchange, Integer, Equivalent • Fewer, Difference, Reduce, Altogether, Combined, Sum, Increase, Decrease, Leaves, Total, Calculation, Operations • Factor, Inverse, Integer, Operation, Product, Partitioning, Divide, Divisible, Share, Array, Row, Column, Remainder
Year 5	Spring	Perimeter and area, fractions, decimals and percentages	• Understanding perimeter and area • Counting squares to find perimeter area of rectilinear shapes • Understanding fractions • Fraction of amounts • Links between fractions, decimals and percentages	• Perimeter, Area • Multiply, Divide, Decimal, Decimal Place, Tenth, Thousandth, Hundredth, Numerator, Denominator, Ratio, Percentage, Proportion
Year 5	Summer	Shape, position and direction, negative numbers	• Angle types, drawing angles, calculating angles • Plotting, drawing, translating and reflecting with coordinates • Lines of symmetry • Understanding number lines, including negative numbers. • Counting through zero • Comparing and ordering negative numbers	• Three-dimensional, Two-dimensional, Regular, Irregular, Vertex, Vertices, Polygon, Isosceles, Perpendicular, Parallel. angle • Reflection, Rotation, Translation, Origin, Co-ordinates, Quadrant, Axis, Direction, Position, Clockwise, Anticlockwise, symmetry • place value, negative, numberline

Year 6	Autumn	Place Value, four operations	- Read and write numbers up to 10,000,000 - Powers of 10 - Compare and order numbers - Round any integer - Add and subtract integers - Common multiples and factors - Rules of divisibility - Primes, square and cubed numbers - Short division - Order of operations	- Digit, Column, Vertical, Compare, Order, Symbol, Positive, Negative, Partition, Exchange, Integer, Equivalent - Fewer, Difference, Reduce, Altogether, Combined, Sum, Increase, Decrease, Leaves, Total, Calculation, Operations - Factor, Inverse, Integer, Operation, Product, Partitioning, Divide, Divisible, Share, Array, Row, Column, Remainder
Year 6	Spring	Area perimeter and volume, fractions decimals and percentages, algebra	- Calculation perimeter and area - Area of triangles and parallelograms - Volume – counting cubes - Decimal and fraction equivalent - Percentages - Equivalent fraction/decimal/percentage - Percentage of amounts - Function machines - Expressions, substitution, and formulae - Solving 1 and 2-step equations	- Perimeter, Area, Volume, Cubic, Degree, Digital - Multiply, Divide, Decimal, Decimal Place, Tenth, Thousandth, Hundredth, Numerator, Denominator, Ratio, Percentage, Proportion
Year 6	Summer	Shape, position and direction, statistics	- Measure and classifying angles - Angles in a triangle, quadrilateral and polygons - Draw shapes - Nets of 3D shapes	- Three-dimensional, Two-dimensional, Regular, Irregular, Vertex, Vertices, Polygon, Isosceles, Perpendicular, Parallel. angle - Reflection, Rotation, Translation, Origin, Co-ordinates, Quadrant, Axis, Direction, Position, Clockwise, Anticlockwise, symmetry - place value, negative, number line

KS3 (Years 7–9)

In KS3 students continue to follow the White Rose Maths (WRM) Schemes of Work (SOW). This is the core curriculum students follow but where necessary there is a support scheme which can be used to ensure all students can experience success and make progress in mathematics. The vocabulary is not an exhaustive list but some of the most key words and those which students most commonly forget or have misconceptions of.

Year	Term	Content	Key Skills	Vocabulary
Year 7	Autumn	**Algebraic Thinking** (Half Term 1) **Place Value and Proportion** (Half Term 2)	• Sequences • Understand and use algebraic notation • Equality and Equivalence • Place value and ordering integers and decimals • Fraction, decimal and percentage equivalence	• Difference, linear, position, term • Function, input, operation, output • Equal(s), fact family, equation, expression • Digit, hundredths, interval, placeholder, scale, tenths, units • Equivalent, factors, part, simplify, whole
Year 7	Spring	**Applications of Number** (Half Term 1) **Directed Number** (Half Term 2) **Fractional Thinking** (Half term 2)	• Solving problems with addition & subtraction • Solving problems with multiplication and division • Fractions & percentages of amounts • Operations and equations with directed number • Addition and subtraction of fractions	• Commutative, carrying, difference, inverse, partition, sum, total • Array, dividend, even, odd, product, quotient, remainder • Denominator, numerator, whole • Ascending, descending, decrease, increase, negative, positive, zero pair • Common denominator, improper fraction, mixed number
Year 7	Summer	**Lines and Angles** (Half Term 1) **Reasoning with Number** (Half Term 2)	• Constructing, measuring, and using geometric notation • Developing geometric reasoning • Developing number sense • Sets and probability • Prime numbers and proof	• Acute, angles, length, line, obtuse, reflex, segment, width • Adjacent, vertically opposite • Compensation, estimate, partition • Element, intersection, Union • Factor, multiples, relationship
Year 8	Autumn	**Proportional Reasoning** (Half Term 1) **Representations** (Half Term 2)	• Ratio and scale • Multiplicative change • Multiplying and dividing fractions • Working in the cartesian plane • Representing data	• Divide, part(s), share, total • Corresponding, proportional, scale • Convert, product, reciprocal • Coordinate(s), equidistant, origin • Extrapolate, correlation, outlier

			• Tables & probability	• Bias, outcomes, region, set, union
Year 8	Spring	**Algebraic Techniques** (Half Term 1)	• Brackets, equations and inequalities • Sequences • Indices	• Binomial, coefficient, factorise fully, inequality, unknown, variable • Difference, linear/non-linear • Base, exponent, power
		Developing Number (Half Term 2)	• Fractions and percentages • Standard index form • Number sense	• Express, change, interest, loss, profit • Power, scientific notation • Bounds, estimate, significant figure(s)
Year 8	Summer	**Developing Geometry** (Half Term 1)	• Angles in parallel lines and polygons • Area of trapezia and circles • Line symmetry and reflection	• Alternate, corresponding, transversal • Parallel, perpendicular height • Congruent, image, object
		Reasoning with Data (Half Term 2)	• The data handling cycle • Measures of location	• Discrete, hypothesis, continuous • Mean, median, mode, modal, range
Year 9	Autumn	**Reasoning with Algebra** (Half Term 1)	• Straight line graphs • Forming and solving equations • Testing conjectures	• Function, gradient, intercept • Balance, rearrange, subject • Factor, multiple, prime, prove, verify
		Constructing in 2 and 3 Dimensions (Half Term 2)	• Three-dimensional shapes • Constructions and congruency	• Edge, face, plan, prism, vertex • Arc, line segment, SAS/RHS/SSS/ASA
Year 9	Spring	**Reasoning with Number** (Half Term 1)	• Numbers • Using percentages • Maths and money	• Compensate, cube, root, square • Appreciate, depreciate, multiplier • Annual, credit, debit, expense, wage
		Reasoning with Geometry (Half Term 2)	• Deduction • Rotation and translation • Pythagoras' Theorem	• Bisect(or), justify, locus • Anti-clockwise, direction, invariant • Adjacent, hypotenuse, opposite
Year 9	Summer	**Reasoning with Proportion** (Half Term 1)	• Enlargement and similarity • Solving ratio & proportion problems • Rates	• Inverted, orientation, position • Constant, inversely proportional, variable(s) • Flow rate, per, rates of change

		Representation and Revision (Half Term 2)	• Probability • Algebraic representation • Revision	• Equally likely, relative frequency, trial • Curve, parabola, satisfy, turning point • All words covered over KS3

KS4 (Years 10–11)

In KS4 students continue with the WRM SOW and during this time students will prepare for their first experience of GCSE mock examinations at the end of Year 10. Students will be entered into the most appropriate tier, either Foundation or Higher tier (GCSE grades possible are 1-5 and 3-9 respectively). *

Year	Term	Content	Key Skills	Vocabulary
Year 10	Autumn	**Similarity** (Half Term 1) **Developing Algebra** (Half Term 2)	• Congruency, similarity and enlargement • Trigonometry • Representing solutions of equations and inequalities • Simultaneous Equations	• Length/area/volume scale factor • Exact value, plane, slope, surd • Expression, solution set, region, union, y-intercept • Eliminate, intersection
Year 10	Spring	**Geometry** (Half Term 1) **Proportions and Proportional Change** (Half Term 2)	• Angles and bearings • Working with circles • Vectors • Ratios & fractions • Percentages and interest • Probability	• Co-interior, Due East/South/West • Chord, radius, sector, segment • Collinear, magnitude, scalar • Exchange rate, integer • Compound, decay, growth • Relative frequency, universal set
Year 10	Summer	**Delving into data** (Half Term 1) **Using number** (Half Term 1/2)	• Collecting, representing and interpreting data • Non-calculator methods • Types of number and sequences • Indices and roots	• Continuous, discrete, qualitative, quantitative • Adjust, error interval, truncate • Arithmetic, geometric, Fibonacci • Base, exponent, power

		Expressions (Half Term 2)	• Manipulating expressions	• Counterexample, proof
Year 11	Autumn	**Graphs** (Half Term 1) **Algebra** (Half Term 2)	• Gradients and lines • Non-linear graphs • Using graphs • Expanding and factorising • Changing the subject • Functions	• Parallel, perpendicular • Asymptote, cubic, reciprocal • Acceleration, model, piecewise • Binomial, DOTS, quadratic, • Converge, iterate, rearrange • Composite, inverse
Year 11	Spring	**Reasoning** (Half Term 1) **Revision and communication** (Half Term 2)	• Multiplicative reasoning • Geometric reasoning • Algebraic reasoning • Transforming and constructing • Listing and describing • Show that …	• Constant ratio, smooth curve • Cyclic quadrilateral • Demonstrate, second difference • Mapping, rotational symmetry • Causation, elevation, exhaustive • Condition, quartiles
Year 11	Summer	**Revision** (Half Term 1) **Examinations** (Half Term 2)		

*Our aim is for all students to sit a GCSE in Mathematics. However, we recognize that GCSE Mathematics is too demanding for some of our students. As such we offer the ELC (Entry Level Certificate) Mathematics that offers students who are unlikely to achieve a grade in GCSE Mathematics the opportunity to achieve a certificated award.

Full details of this award can be found

https://www.aqa.org.uk/subjects/mathematics/elc/mathematics-5930/specification/subject-content