Curriculum Map: Year 8

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Topic	Ratio and Scale. Multiplicative change. Multiplying and dividing fractions.	Working in the Cartesian plane. Representing data. Tables and Probability.	Brackets, equations and inequalities. Sequences. Indices.	Fractions and Percentages. Standard index form. Number sense.	Angles in parallel lines and polygons. Area of trapezia and circles. Lines of symmetry and reflection.	The data handling cycle. Measures of location.
Intent	Ensure students are resilient learners with the ability to persevere through challenges. Develop a deep understanding of mathematical concepts.					
Key Knowledge	Ratio Scale Proportional Reasoning Conversion Graphs Equivalence Fraction arithmetic	Cartesian Plane Linear graphs Bivariate data Grouped and ungrouped data Probability Sample spaces	Expanding & Factorising Linear equations Linear Inequalities Linear sequences Algebraic rules for sequences Index Laws	Equivalent fractions, decimals & percentages Percentage increase and decrease Standard form Estimation Metric Units	Angle rules Parallel lines Properties of polygons Constructions Area and Perimeter Line symmetry Reflection	Data Collection Data Representation Misleading Graphs Questionnaires Averages Range Outliers
Key Skills	Understand and simplify ratios. Share in a ratio. Linking ratio to contexts such as circumference and gradient. Using both direct and inverse proportion. Currency Conversions. Using scale in diagrams, maps and similar shapes. Multiplying and dividing both integers and fractions. Understanding the reciprocal and its use.	Plotting coordinates. Understanding equations for vertical and horizontal lines. Substituting into a linear equation to plot a graph. Drawing and interpreting scatter graphs. Understanding types of data and their uses. Choosing and interpreting appropriate graphical representations. Understanding and using sample spaces for probability. Finding probability from two-way tables and Venn diagrams.	Expanding and simplifying single brackets. Expanding double brackets. Factorising in a single bracket. Solving equations with brackets. Understanding and solving inequalities. Generating sequences from an algebraic rule. Finding the nth term of a linear sequence. Simplifying expressions with indices including adding and subtracting. Using the index laws for multiplying, dividing and powers of powers.	Convert between fractions, decimals and percentages. Calculate percentages. Use of multipliers for increase, decrease and reverse percentages. Express one number as a percentage of another. Work with and find percentage change. Convert to and from standard form. Calculate with numbers in standard form. Round numbers to significant figures and decimal places. Estimate the answer to a calculation. Convert metric units for weight, length, capacity, area and volume.	Use basic angle facts. Identify and calculate with alternate, corresponding and co-interior angles. Construct triangle and quadrilaterals. Understand and use the interior and exterior angle sum of polygons. Construct bisectors. Calculate the area of triangles, rectangles, parallelograms, circles and trapeziums. Find the perimeter and area of compound shapes. Recognise line symmetry. Reflect a shape in a line with a given equation.	Design and criticise questionnaires. Draw and interpret bar charts, pictograms, pie charts and line graphs. Choose appropriate diagrams. Compare distributions using charts. Identify misleading graphs. Understand and find mean, median and mode. Find averages from grouped and ungrouped data. Identify outliers. Compare distributions using averages and range.

Key Vocabulary	Ratio	Quadrant	Expand	Decimal	Polygon	Hypothesis
	Scale	Co-ordinate	Factorise	Percentage	Interior	Sample
	Proportion	Horizontal	Binomial	Conversion	Exterior	Biased
	Simplify	Vertical	Highest Common Factor	Multiplier	Alternate	Frequency
	Equivalent	Equation	Equation	Increase	Corresponding	Tally
	Factor	Intercept	Expression	Decrease	Co-interior	Scale
	Multiple	Linear	Like and Unlike Terms	Express	Parallel	Axes
	Denominator	Correlation	Inequality	Profit	Construct	Key
	Numerator	Line of best fit	Solve	Loss	Perpendicular	Proportion
	Circumference	Outlier	Term	Interest	Formula	Comparison
	Gradient	Interpolate	Coefficient	Standard form	Diameter	Spread
	Exchange rate	Extrapolate	Linear	Power of ten	Radius	Average
	Directly proportional	Quantitative	Non-linear	Place Value	Quadrilateral	Consistent
	Inversely proportional	Qualitative	Position	Negative	Parallelogram	Misleading
	Similar	Discrete	Substitute	Positive	Trapezium	Mean
	Reciprocal	Continuous	Index/Indices	Significant Figures	Compound	Median
	Improper Fraction	Frequency	Simplify	Integer	Symmetry	Mode
	Mixed Number	Class	Expression	Decimal places	Reflect	Modal
		Outcome	Power	Estimate	Object	Frequency
		Sample space	Base	Underestimate	Image	Midpoint
		Intersection	Exponent	Overestimate	Congruent	Outlier
		Union	Product	Bounds	Vertex	

Key Reading	Sparx Maths Website
	Individual Mathematics exercise books
	Microsoft Teams work

End Point	Students should be fluent in the key knowledge and skills listed for each topic.
	Students should be able to apply understanding to reason and solve problems in a variety of contexts.

Form of Assessment	End of unit assessment after each topic including section for prior learning.
	Key skills tests twice a half term.

Enrichment opportunities	UKMT Maths challenge and team Maths challenge.
	Sparx independent learning and games.
	Seasonal rewards: Christmaths lesson; spring maths enrichment trip; summer puzzle day.

AMBITION   RESILIENCE   COURTESY   KINDNESS