

Year 8 Maths	Emerging	Developing	Secure	Mastery
Term 1				
Ratio	Moving towards mastering the core content of the curriculum.	Understand ratio. Ratio problems (whole given or part given). Simplify ratios. Compare ratios and fractions.	Ratio problems (different given). Express ratios in the form 1:n and n:1 Solve problems with ratio.	
Proportion and scale	Moving towards mastering the core content of the curriculum.	Direct proportion. Convert between currencies. Similar shapes. Convert metric unit.	Scale diagrams. Conversion of graphs. Direct proportion graphs.	Interpret maps using scale and ratio.
Algebraic manipulation	Moving towards mastering the core content of the curriculum.	Form algebraic expressions. Identify and use formula expressions, identities and equations. Simplify expressions. Substitution with directed number. Expand a single bracket.	Use directed numbers, algebra. Factorise into a single bracket. Expand single brackets and simplify.	Expand double bracket. Factorise quadratic expressions.

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Coordinates and graphs	Moving towards mastering the core content of the curriculum.	<p>Coordinates in all four quadrants.</p> <p>Lines parallel to the access table of values.</p>	<p>Recognise and use $y=x$</p> <p>Lines in the form $y=mx$</p> <p>Introduce gradient.</p> <p>Lines with a negative gradient.</p> <p>Lines in the form $y=x+c$</p> <p>Lines in the form $y=mx+c$</p>	<p>Link $y=mx$ to direct proportion.</p> <p>Find the midpoint of a line segment.</p> <p>Solve problems with coordinates and graphs.</p> <p>Quadratic graphs</p>
Multiply and divide fractions	Moving towards mastering the core content of the curriculum.	<p>Multiply a fraction by an integer.</p> <p>Multiply fraction.</p> <p>Divide a fraction by an integer.</p> <p>Divide an integer by a fraction.</p> <p>Divide a fraction by a unit fraction.</p>	<p>Understand reciprocal.</p> <p>Divide fraction.</p> <p>Multiply and divide mixed number.</p>	Multiply and divide algebraic fractions.
Symmetry & reflection	Moving towards mastering the core content of the curriculum.	<p>Line symmetry.</p> <p>Rotational symmetry.</p>	Reflect a shape in a diagonal line.	<p>Reflect a shape given equation of a line.</p> <p>Describe a reflection.</p>

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		Reflect a shape in a horizontal or vertical line.		
Term 2				
Area, volume and density	Moving towards mastering the core content of the curriculum.	Name 2-D and 3-D shape. Shapes. Area of a 2-D. Recognise prisms. Volume of cubes and cuboid.	Area of a compound shape. Convert metric unit of mass and capacity. Understand the units of density mass volume.	Problems with density, mass and volume.
Equations and inequalities	Moving towards mastering the core content of the curriculum.	Solve one step and two step equation. Understand and using inequalities. Inequalities on the number line. Solve inequalities.	Solve more complex equations. Solve fractional equations. Form and solve equations. Solve equation with unknowns on both sides. Form and solve in qualities.	Solve inequalities with unknowns on both sides.
	Moving towards mastering the core content of the curriculum.	Percentage of an amount. Convert between percentages and decimals.	Convert between decimals and percentages greater than.	Choose appropriate method to solve percentage problems

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Percentages		<p>Use multipliers to find percentage.</p> <p>Increase using a multiplier.</p> <p>Decrease using a multiplier.</p> <p>Express one number as a fraction or percentage of another (with and without a calculator).</p>	<p>Percentages increase and decrease using a multiplier.</p> <p>Percentage.</p> <p>Find the original value given in a percentage.</p>	
Indices	Moving towards mastering the core content of the curriculum.	<p>Add and subtract expressions with indices.</p> <p>Multiply and divide expressions with indices.</p> <p>Addition Law for indices.</p> <p>Subtraction law for indices.</p>	Addition and subtraction laws for indices.	<p>Power of powers.</p> <p>Negative indices.</p> <p>Fractional indices.</p>
Interpret and represent data	Moving towards mastering the core content of the curriculum.	<p>Types of data.</p> <p>Outliers and error.</p> <p>Averages and range.</p> <p>Averages from an ungrouped frequency table.</p>	<p>Choose the most appropriate average.</p> <p>Compare distributions using average and the range.</p> <p>Represent and interpret grouped, discrete data.</p>	Mean and mode from a group frequency table.

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			Represent and interpret continuous data grouped into equal classes.	
Term 3				
Standard form	Moving towards mastering the core content of the curriculum.	Positive and negative powers of 10. Numbers greater than one in standard form.	Numbers between zero and one in standard form. Standard form on a calculator.	
Angles in parallel lines & polygons	Moving towards mastering the core content of the curriculum.	Basic angles rules and notation. Angles between a parallel line and a transversal. Alternate and corresponding angles. Alternate to corresponding and co-interior angles properties of special quadrilaterals and their diagonals. Find side and angles in special quadrilaterals.	Solve complex problems with angles in parallel lines Exterior angles of a polygon Interior angles of a poly Interior angles in a regular polygon	Prove simple geometric proofs

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Tables and probability	Moving towards mastering the core content of the curriculum.	<p>Probability vocabulary.</p> <p>The probability scale.</p> <p>The probability of a single event.</p> <p>Use the sum of probability being equal to one</p>	<p>Probability experiment.</p> <p>Sample space for one or more events.</p> <p>Probability from sample space diagrams.</p> <p>Two weight tables.</p> <p>Probabilities from two-way tables.</p> <p>Frequency three.</p> <p>Probabilities from a frequency tree.</p>	
Circles	Moving towards mastering the core content of the curriculum.	<p>Circle vocab.</p> <p>Circumference of a circle.</p> <p>Area of a circle.</p> <p>Area and circumference of a circle.</p>	<p>Pie as a ratio.</p> <p>Perimeter of parts of a circle.</p> <p>Area parts of a circle.</p>	<p>Perimeter of compound shapes with circles.</p> <p>Perimeter and area of compound shapes with circles.</p>

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Graphs and charts	Moving towards mastering the core content of the curriculum.	<p>Pictograms and bar Charts.</p> <p>Vertical liner, Charts.</p> <p>Line graphs.</p>	<p>Draw a pie chart.</p> <p>Interpret pie charts.</p> <p>Choose the most appropriate graphical chart.</p> <p>Compare distributions using graphs.</p>	Misleading graphs and charts.
Sequences	Moving towards mastering the core content of the curriculum.	<p>Generate and describe a sequence given a rule in words.</p> <p>Generate a sequence given a simple algebra rule.</p>	Nth Term of a linear sequence.	Generator sequence given a complex algebraic rule.