



# Mathematics Curriculum Plan Overview

## Year 8

### Year 8 working towards Pearson Entry Level and GCSE future pathways

Term	Topic	Learning	How can parents' best support	Key Vocab
Autumn 1	<b>Data Handling</b> <b>Positive Numbers</b> <b>Function Machine</b>	Display data using line graphs . Conduct surveys and present them as graphs. Non-calculator methods with 4 operations. BIDMAS. Using function machines to generate sequences.	Talk about graphs and charts seen in the media. <a href="https://www.mathgames.com/">https://www.mathgames.com/</a> has resources and games on every topic.	Add, sum, total, calculate. subtract, take away, minus, difference. multiply, divide.  Compare, read, find, interpret. Draw, plot.  function machine, inverse, input, output.
		<b><u>Self assessment and topic tests</u></b>		
Autumn 2	<b>Sequences</b> <b>Fractions</b> <b>Ratio and Proportion</b> <b>Time</b>	Continue sequences and find the missing numbers in a sequence. Find the rule of a sequence and find the Nth Term. Find fractions of an amount, identify fractions, simplify fractions and apply 4 operations to fractions. Simplifying ratio, sharing ratio, difference in ratio, direct and inverse proportion.	Spot patterns in the household or in public. When cutting food such as pizza ask what fraction of the food they think they have. Ratio within baking and what to do with ingredients when making for more or less people than the recipe says. <a href="https://www.mathgames.com/">https://www.mathgames.com/</a> has resources and games on every topic.	Pattern, increase, decrease, sequence.  Numerator, denominator, fraction, divide, multiply, add, subtract, simplify.  Ratio, share, inverse, direct, difference, simplify  Annual, annually, yearly, monthly, daily.
		<b><u>Self assessment and topic tests</u></b>		
Spring 1	<b>Decimals</b> <b>Estimation and units of measurement</b> <b>Forming expressions</b> <b>Properties of 2D/3D shapes</b>	Language associated with different types of number-factor, multiple and prime. Order, add and subtract decimals. Find the area and perimeter of rectangles and triangles. Find the properties of different 2D shapes.	Search the internet for ways that prime numbers are used in coding and other areas outside maths. Recap names of 2D and 3D shapes in real life situations and around the home. <a href="https://www.mathgames.com/">https://www.mathgames.com/</a> has resources and games on every topic.	Multiply, calculate, workout, times., decimal, tenth, hundredth.  Estimate, approximate, Weight, capacity, units, scale.  Rounding, nearest division, interval.  Expression, term, like term,  2D, vertices, edges, lines of symmetry.
		<b><u>Self assessment and topic tests</u></b>		

<b><u>Self assessment and topic tests</u></b>				
<b>Spring 2</b>	<b>Area and Perimeter probability Percentages</b>	<p>Find the area and perimeter of rectangles and triangles. Apply four operations with fractions and probability.</p> <p>Be able to find simple probabilities of an event occurring. Find the relative frequency of a test.</p> <p>Find percentages of an amount, Dividing into percentages. Percentage increase and decrease.</p>	<p>Talk about how long a walk around a football field or park may be and estimate the perimeter. Research interesting probability problems like the Monty Hall problem. <a href="https://www.mathgames.com/">https://www.mathgames.com/</a> has resources and games on every topic.</p>	<p>Area, perimeter, length, width, shape, square, rectangle, triangle probability, chance, relative frequency, fraction, certain, evens, likely, unlikely, impossible, scale, percentage, interest rate, increase, decrease.</p>
<b><u>Self assessment and topic tests</u></b>				
<b>Summer 1</b>	<b>Algebra Coordinates Transformations</b>	<p>Equations and expressions - solving 1 and 2 step equations. Forming expressions from problems in real life.</p> <p>Plot coordinates on a 4 grid diagram. Introduction to vectors and translations using vectors.</p> <p>Begin to understand different ways to transform shapes namely translation and reflection.</p>	<p>Look at any plans you have at home for buildings or your house or flat. Look at the plans available on estate agents websites and discuss how these relate to the buildings. Look at the work of Escher and how art relates to 2D/3D shapes and geometry. Look at symmetry and reflection patterns in art. Practice coordinates using online games <a href="https://mathsframe.co.uk/en/resources/resource/469/Coordinates-Alignment-Attack">https://mathsframe.co.uk/en/resources/resource/469/Coordinates-Alignment-Attack</a></p>	<p>Total, sum, calculate, change, difference, total amount.</p> <p>Straight line, right angle, acute angle, obtuse angle, reflex angle, full turn.</p> <p>Algebra, inverse operation (opposite), function, expression, term, equation, formula, expand, factorise, solve.</p>
<b><u>End of Year assessment</u></b>				
<b>Summer 2</b>	<b>Nets Fractions Angles of shapes and parallel lines Averages Money</b>	<p>Using isometric paper to draw 2D representations of 3D shape. Draw plans and elevations of buildings in different views. Finding unit fractions of amounts using times tables or mental division methods. Use all 4 operations on fractions. Calculate using money involving decimals.</p>	<p>Look through newspapers and on the internet to see how averages are used/misused in the media. Discuss fractions when cooking or sharing food. Calculate change in shops. <a href="https://natwest.mymoneysense.com/students/students-5-8/the-change-game/">https://natwest.mymoneysense.com/students/students-5-8/the-change-game/</a></p>	<p>Multiply, divide, add, subtract, numerator, denominator, Obtuse, acute, reflex, right angle, straight line, pound, pence, convert, net, 3D, 2D, prism averages, median, mean, mode, range.</p>

