



# Year 8 Curriculum

## Mathematics



	Term 1 (Autumn)		Term 2 (Spring)		Term 3 (Summer)	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Key Concepts – All sets</b>	<ul style="list-style-type: none"> <li>Ratio               <ul style="list-style-type: none"> <li>Representation and notation</li> <li>Links to proportion</li> <li>Simplifying and comparing</li> <li>Problem solving</li> </ul> </li> <li>Scale and rates of change               <ul style="list-style-type: none"> <li>Direct proportion</li> <li>Conversion graphs</li> <li>Currency conversions</li> <li>Similar shapes</li> <li>Scale factor and scale diagrams</li> </ul> </li> <li>Multiplying &amp; Dividing Fractions               <ul style="list-style-type: none"> <li>Integers, unit fractions and any proper fractions</li> <li>Reciprocals</li> </ul> </li> <li>Working in a Coordinate Grid               <ul style="list-style-type: none"> <li>Four quadrants</li> <li>Lines parallel to the axes</li> <li><math>y = x</math>, <math>y = kx</math>, <math>y = x + a</math></li> <li>Plot <math>y = mx + c</math></li> <li>Gradient</li> <li>Link to linear sequences</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Representing Data               <ul style="list-style-type: none"> <li>Scatter graphs</li> <li>Correlation and line of best fit</li> <li>Types of data</li> <li>Frequency tables</li> <li>Two-way tables</li> </ul> </li> <li>Tables &amp; Probability               <ul style="list-style-type: none"> <li>Sample space</li> <li>Two-way tables</li> <li>Venn diagrams</li> </ul> </li> <li>Brackets Equations &amp; Inequalities               <ul style="list-style-type: none"> <li>Expand brackets and simplify</li> <li>Form and solve linear equations with brackets</li> <li>Form and solve simple inequalities</li> <li>Directed numbers with algebra</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Sequences               <ul style="list-style-type: none"> <li>Generating sequences, including from the <math>n</math>th term</li> <li>Find the <math>n</math>th term of linear sequences</li> </ul> </li> <li>Indices               <ul style="list-style-type: none"> <li>Add, subtract, multiply and divide with indices</li> <li>Laws of indices for multiplication and division</li> </ul> </li> <li>Fractions &amp; Percentages               <ul style="list-style-type: none"> <li>Convert between FDP</li> <li>Fractions of amounts</li> <li>Percentages of amounts</li> <li>Percentage increase and decrease</li> <li>Express as a fraction or percentage</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Standard Form               <ul style="list-style-type: none"> <li>Positive and negative powers of ten</li> <li>Convert between large and small numbers into standard form</li> <li>Compare and order</li> <li>Add, subtract, multiply and divide</li> <li>Calculator use</li> </ul> </li> <li>Accuracy &amp; Conversion               <ul style="list-style-type: none"> <li>Round to powers of ten, decimal places and significant figures</li> <li>Order of operations</li> <li>Estimation</li> <li>Convert metric units of length, mass and capacity</li> </ul> </li> <li>Angles               <ul style="list-style-type: none"> <li>Notation</li> <li>Names</li> <li>Problems in parallel lines, special quadrilaterals</li> <li>Construct special shapes</li> <li>Properties of special quadrilaterals</li> <li>Interior and exterior angle sum of polygons</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Trapezia &amp; Circles               <ul style="list-style-type: none"> <li>Area of triangles, rectangles, parallelograms, trapezium</li> <li>Perimeter and area of compound shapes</li> <li>Area and circumference of a circle, including problem solving</li> </ul> </li> <li>Symmetry &amp; Reflection               <ul style="list-style-type: none"> <li>Line symmetry</li> <li>Reflect in horizontal, vertical and diagonal lines</li> <li>Reflect on a coordinate grid</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Data Handling               <ul style="list-style-type: none"> <li>Questionnaires</li> <li>Bar charts, including dual bar charts</li> <li>Pictograms</li> <li>Pie charts</li> <li>Line graphs</li> <li>Compare</li> <li>Grouped data</li> </ul> </li> <li>Averages &amp; Spread               <ul style="list-style-type: none"> <li>Mean, median and mode</li> <li>Range</li> <li>Identify outliers</li> <li>Compare distributions</li> </ul> </li> </ul>



# Year 8 Curriculum *(continued)*

## Mathematics



	Term 1 (Autumn)		Term 2 (Spring)		Term 3 (Summer)	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Extension Objectives – All sets</b>	<ul style="list-style-type: none"><li>• Link ratio to gradient of a straight line</li><li>• Link to diameter and circumference</li><li>• Graphs representing direct proportion</li><li>• Read map scale factors</li><li>• Multiply and divide improper fractions and mixed numbers</li><li>• Multiply and divide simple algebraic fractions</li><li>• Explore negative gradients</li><li>• Non-linear graphs</li><li>• Midpoint of a line segment</li></ul>	<ul style="list-style-type: none"><li>• Identify linear and non-linear relationships</li><li>• Product rule for counting to find the total number of possible outcomes</li><li>• Expand double brackets</li><li>• Form and solve equations and inequalities with unknowns on both sides</li></ul>	<ul style="list-style-type: none"><li>• Find the nth term for complex linear sequences</li><li>• Raise one power to another</li><li>• Percentage change</li><li>• Reverse percentage change</li></ul>	<ul style="list-style-type: none"><li>• Understand and use negative indices</li><li>• Fractional indices (unit fractions only)</li><li>• Error interval notation</li><li>• Convert metric units of area and volume</li><li>• Properties of diagonals in special quadrilaterals</li><li>• Construct angle bisector and perpendicular bisector</li></ul>	<ul style="list-style-type: none"><li>• Area and perimeter of compound shapes including parts of circles</li><li>• Recognise and name lines of symmetry on a coordinate grid</li></ul>	<ul style="list-style-type: none"><li>• Mean from ungrouped frequency table</li><li>• Estimate from grouped frequency table</li></ul>




# Year 8 Assessment

## Mathematics



All pupils will sit several knowledge tests and an assessment in Year 8.

	Knowledge Tests	Assessment		Revision Resources
	Autumn/Spring Terms	Summer Term		
Style of Assessment	Each knowledge test consists of 10 multiple-choice questions	<b>Paper 1:</b> Non-Calculator	<b>Paper 2:</b> Calculator	<i>Kennet Resources</i> <ul style="list-style-type: none"><li>• Year 8 Knowledge Organisers</li><li>• <a href="#">Learning Habits</a></li></ul> <i>External Resources</i> <ul style="list-style-type: none"><li>• <a href="http://www.mymaths.co.uk">www.mymaths.co.uk</a></li><li>• <a href="http://www.bbc.com/bitesize">www.bbc.com/bitesize</a></li></ul> <p>You can also find revision material on Frog</p> 
Topics Assessed	<ul style="list-style-type: none"><li>• Core knowledge taught until that point in the academic year</li></ul>	<p>The exam will assess any content taught up to this point in the year or any previously taught content. The units covered are:</p> <ul style="list-style-type: none"><li>• Ratio</li><li>• Rates of Change</li><li>• Multiplying &amp; Dividing Fractions</li><li>• Working on a Coordinate Grid</li><li>• Representing Data</li><li>• Tables &amp; Probability</li><li>• Brackets, Equations &amp; Inequalities</li><li>• Sequences</li></ul> <p>A revision list and revision materials will be provided prior to the assessment.</p>		