



# Year 7 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>Sequences               <ul style="list-style-type: none"> <li>Generating sequences</li> <li>Recognising special sequences</li> </ul> </li> <li>Algebraic Notation               <ul style="list-style-type: none"> <li>Function machines</li> <li>Substitution</li> <li>Rearrange and simplify</li> </ul> </li> <li>Equality &amp; Equivalence               <ul style="list-style-type: none"> <li>Inverse operations</li> <li>Using letters to represent unknowns</li> <li>Using function machines</li> <li>Solving linear equations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Place value               <ul style="list-style-type: none"> <li>Compare integers and decimals</li> <li>Inequalities</li> <li>Number lines</li> <li>Range and median of number lines</li> <li>Round to powers of ten, decimal places and significant figures</li> </ul> </li> <li>FDP               <ul style="list-style-type: none"> <li>Conversions</li> <li>Meaning of percentages</li> <li>Represent fractions as diagrams, number lines</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Addition &amp; Subtraction               <ul style="list-style-type: none"> <li>Mental strategies</li> <li>Written methods</li> <li>Solve perimeter problems</li> <li>Solve problems with tables and timetables</li> <li>Solve problems with frequency trees</li> <li>Apply addition and subtraction to bar charts, line graphs and two-way tables</li> </ul> </li> <li>Multiplying &amp; dividing               <ul style="list-style-type: none"> <li>Find factors and multiples</li> <li>HCF/LCM</li> <li>By powers of 10</li> <li>Convert metric units</li> <li>Formal methods</li> <li>Order of operations</li> <li>Problems involving area of rectangles, parallelograms, and triangles</li> <li>Problems involving the mean</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Fractions &amp; Percentages of Amounts               <ul style="list-style-type: none"> <li>Fractions of amounts</li> <li>Percentages of amounts with and without a calculator</li> <li>Directed Numbers</li> <li>Representations</li> <li>Order and use inequality symbols</li> <li>Add, subtract, multiply and divide</li> <li>Calculator use</li> <li>Algebraic expressions</li> <li>Solve two step equations</li> <li>Correct order of operations</li> </ul> </li> <li>Adding &amp; Subtracting Fractions               <ul style="list-style-type: none"> <li>Mixed numbers and improper fractions</li> <li>Equivalent fractions</li> <li>Add and subtract fractions, including mixed numbers</li> <li>Add and subtract fractions and decimals</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Constructing &amp; Measuring               <ul style="list-style-type: none"> <li>Labelling notation</li> <li>Line segments</li> <li>Use a compass</li> <li>Angles – classify, measure, draw</li> <li>Parallel and perpendicular</li> <li>Types of triangles</li> <li>Types of quadrilaterals</li> <li>Name polygons</li> <li>Construct triangles ASA, SAS and SSS</li> <li>Construct and interpret pie charts</li> </ul> </li> <li>Geometric Reasoning               <ul style="list-style-type: none"> <li>Angles around a point, on a straight line, vertically opposite, in a triangle, quadrilateral</li> <li>Solve problems</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Sets &amp; Probability               <ul style="list-style-type: none"> <li>Identify and represent sets</li> <li>Venn diagrams</li> <li>Language of probability</li> <li>Sample spaces</li> <li>Probability scale</li> <li>Sum of possible outcomes</li> </ul> </li> <li>Primes &amp; Proofs               <ul style="list-style-type: none"> <li>Multiples</li> <li>Factors of numbers and expressions</li> <li>Prime numbers</li> <li>Square and triangular numbers</li> <li>HCF and LCM</li> </ul> </li> </ul>



# Year 7 Curriculum *(continued)*

## Mathematics



<b>Extension Objectives – All Sets</b>	<ul style="list-style-type: none"><li>• Finding the nth term of a linear sequence</li></ul>	<ul style="list-style-type: none"><li>• Write 10, 100, 1000 etc as powers of 10</li><li>• Investigate negative powers of 10</li><li>• Write positive integers and decimals in standard form</li><li>• Fractions as division</li><li>• FDP conversions with fractions greater than 1</li></ul>	<ul style="list-style-type: none"><li>• Add and subtract in standard form</li><li>• Multiply by 0.1, 0.01, etc</li><li>• Problems involving area of trapezia</li><li>• Apply multiplication and division skills to algebraic contexts</li></ul>	<ul style="list-style-type: none"><li>• Problems with fractions greater than 1 and percentages greater than 100%</li><li>• Square and square root of positive numbers</li><li>• Higher powers and roots of positive numbers</li><li>• Fractions in algebraic context</li><li>• Add and subtract algebraic fractions</li></ul>	<ul style="list-style-type: none"><li>• Construct more complex polygons</li><li>• Angle sum in any polygon</li><li>• Angles in parallel lines</li><li>• Simple proofs</li></ul>	<ul style="list-style-type: none"><li>• Complement of a set</li><li>• HCF and LCM using a Venn diagram</li><li>• Tests and conjectures</li><li>• Counter example</li></ul>
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# Year 7 Assessment

## Mathematics



All pupils will sit several knowledge tests and an assessment in Year 7.

	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 7 Knowledge Organisers</li> <li>Learning Habits</li> </ul>
Topics Assessed	<ul style="list-style-type: none"> <li>Core knowledge taught until that point in the academic year</li> </ul>	The exam will assess any content taught up to this point in the year or any previously taught content. The units covered are: <ul style="list-style-type: none"> <li>Sequences</li> <li>Algebraic Notation</li> <li>Equality &amp; Equivalence</li> <li>Place Value</li> <li>Fractions, Decimals &amp; Percentages</li> <li>Addition &amp; Subtraction</li> <li>Multiplying &amp; Dividing</li> <li>Fractions &amp; Percentages of Amounts</li> <li>Directed Numbers</li> <li>Adding &amp; Subtracting Fractions</li> <li>Constructing &amp; Measuring</li> </ul> <p>A revision list and revision materials will be provided prior to the assessment</p>		<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>