

# Curriculum Rationale and Overview



Subject: Maths

Year group: 7

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>National Curriculum context</b>	Sequences Understanding and using algebraic notation Equality and Equivalence	Place value and ordering integers and decimals Fractions, decimals and percentage equivalence	Solving problems with addition and subtraction Solving problems with multiplication and division Fractions, decimals and percentages of amount	Four Operations with directed number Addition and subtraction of fractions	Constructing, measuring and using geometric notation Developing geometric reasoning	Developing number sense Sets and probability Prime numbers and proof Consolidation
<b>Scheme of Learning Title:</b>	Algebraic Thinking	Place Value and Proportion	Applications of Number	Directed Number and Fractional Thinking	Lines and Angles	Reasoning with Numbers
<b>Content</b> <i>What will students know?</i>	<ul style="list-style-type: none"> <li>Describe and continue sequences in diagrams and number forms, both linear and non-linear</li> <li>Using single function machines and series of two function machines with numbers, bar models and letters</li> <li>Forming and substituting into expressions, including generating sequences</li> <li>Representing functions graphically</li> <li>Understanding equality and fact families</li> <li>Forming and solving one-step equations</li> <li>Understanding equivalence</li> </ul>	<ul style="list-style-type: none"> <li>Integer place value up to one billion</li> <li>Decimal place value to hundredths</li> <li>Working out and using number lines</li> <li>Comparing and ordering numbers</li> <li>The range and median</li> <li>Rounding positive powers of ten and to one significant figure</li> <li>Exploring and using standard index form</li> <li>Representing tenths and hundredths on diagrams and number lines</li> <li>Interchanging between fractions, decimals and percentages for multiples of tenths and quarters</li> <li>Interpreting pie charts</li> <li>Equivalent fractions</li> </ul>	<ul style="list-style-type: none"> <li>Use formal methods of addition with integers and decimals</li> <li>Solve problems in the context of perimeter, money and frequency trees and tables</li> <li>Multiplying by 10, 100 and 1000; unit conversions</li> <li>Formal methods of multiplication and division</li> <li>HCF and LCM</li> <li>Areas of triangles, rectangles and parallelograms</li> <li>Finding the mean</li> <li>Finding fractions and percentages of amounts</li> <li>Solving two-step equations</li> </ul>	<ul style="list-style-type: none"> <li>Ordering directed numbers with and without context</li> <li>Revisit four operations to include directed number</li> <li>Using a calculator with directed number</li> <li>Order of operations</li> <li>Representing tenths and hundredths on diagrams and number lines</li> <li>Adding/subtracting fractions with common denominators, including with answers above one</li> <li>Revisit equivalent fractions</li> <li>Adding and subtracting fractions with simple different denominators</li> <li>Mixed questions</li> </ul>	<ul style="list-style-type: none"> <li>Drawing and measuring lines and angles using ruler and protractor</li> <li>Understanding and using notation for lines and angles</li> <li>Understand parallel and perpendicular</li> <li>Recognise types of triangles, quadrilaterals and other polygons</li> <li>Drawing triangles given SSS, SAS, ASA</li> <li>Drawing and interpreting pie charts</li> <li>Calculating using angles at a point, angles on a straight line and vertically opposite angles</li> <li>Calculating missing angles in triangles and quadrilaterals</li> <li>Addition in standard form</li> </ul>	<ul style="list-style-type: none"> <li>Mental arithmetic strategies</li> <li>Using known facts to derive other facts, including algebraic expressions</li> <li>Understanding and using set notations</li> <li>Venn diagrams</li> <li>Probability of single events</li> <li>Types of number, including prime factorisation</li> <li>Powers and roots</li> <li>Using counter examples.</li> <li>Venn diagrams for HCF and LCM</li> </ul>

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	<ul style="list-style-type: none"> <li>Collecting like terms</li> </ul>	<ul style="list-style-type: none"> <li>Converting between any fraction, decimals and percentages.</li> </ul>	<ul style="list-style-type: none"> <li>Introduction to the order of operations</li> </ul>		<ul style="list-style-type: none"> <li>Parallel lines rules</li> <li>Angles in polygons</li> </ul>	
<i>What will students understand?</i>	<ul style="list-style-type: none"> <li>Describe and continue sequences in diagrams and number forms, both linear and non-linear</li> <li>Using single function machines and series of two function machines with numbers, bar models and letters</li> <li>Forming and substituting into expressions, including generating sequences</li> <li>Representing functions graphically</li> <li>Understanding equality and fact families</li> <li>Forming and solving one-step equations</li> <li>Understanding equivalence</li> <li>Collecting like terms</li> </ul>	<ul style="list-style-type: none"> <li>Integer place value up to one billion</li> <li>Decimal place value to hundredths</li> <li>Working out and using number lines</li> <li>Comparing and ordering numbers</li> <li>The range and median</li> <li>Rounding positive powers of ten and to one significant figure</li> <li>Exploring and using standard index form</li> <li>Representing tenths and hundredths on diagrams and number lines</li> <li>Interchanging between fractions, decimals and percentages for multiples of tenths and quarters</li> <li>Interpreting pie charts</li> <li>Equivalent fractions</li> <li>Converting between any fraction, decimals and percentages.</li> </ul>	<ul style="list-style-type: none"> <li>Use formal methods of additional with integers and decimals</li> <li>Solve problems in the context of perimeter, money and frequency trees and tables</li> <li>Multiplying by 10, 100 and 1000; unit conversions</li> <li>Formal methods of multiplication and division</li> <li>HCF and LCM</li> <li>Areas of triangles, rectangles and parallelograms</li> <li>Finding the mean</li> <li>Finding fractions and percentages of amounts</li> <li>Solving two-step equations</li> <li>Introduction to the order of operations</li> </ul>	<ul style="list-style-type: none"> <li>Ordering directed numbers with and without context</li> <li>Revisit four operations to include directed number</li> <li>Using a calculator with directed number</li> <li>Order of operations</li> <li>Representing tenths and hundredths on diagrams and number lines</li> <li>Adding/subtracting fractions with common denominators, including with answers above one</li> <li>Revisit equivalent fractions</li> <li>Adding and subtracting fractions with simple different denominators</li> <li>Mixed questions</li> </ul>	<ul style="list-style-type: none"> <li>Drawing and measuring lines and angles using ruler and protractor</li> <li>Understanding and using notation for lines and angles</li> <li>Understand parallel and perpendicular</li> <li>Recognise types of triangles, quadrilaterals and other polygons</li> <li>Drawing triangles given SSS, SAS, ASA</li> <li>Drawing and interpreting pie charts</li> <li>Calculating using angles at a point, angles on a straight line and vertically opposite angles</li> <li>Calculating missing angles in triangles and quadrilaterals</li> <li>Addition in standard form</li> <li>Parallel lines rules</li> <li>Angles in polygons</li> </ul>	<ul style="list-style-type: none"> <li>Mental arithmetic strategies</li> <li>Using known facts to derive other facts, including algebraic expressions</li> <li>Understanding and using set notations</li> <li>Venn diagrams</li> <li>Probability of single events</li> <li>Types of number, including prime factorisation</li> <li>Powers and roots</li> <li>Using counter examples.</li> <li>Venn diagrams for HCF and LCM</li> </ul>
<i>What will students be able to do?</i>	<ul style="list-style-type: none"> <li>Describe and continue sequences in diagrams and number forms, both linear and non-linear</li> <li>Using single function machines and series of two function</li> </ul>	<ul style="list-style-type: none"> <li>Integer place value up to one billion</li> <li>Decimal place value to hundredths</li> <li>Working out and using number lines</li> <li>Comparing and ordering numbers</li> </ul>	<ul style="list-style-type: none"> <li>Use formal methods of additional with integers and decimals</li> <li>Solve problems in the context of perimeter, money and frequency trees and tables</li> </ul>	<ul style="list-style-type: none"> <li>Ordering directed numbers with and without context</li> <li>Revisit four operations to include directed number</li> <li>Using a calculator with directed number</li> </ul>	<ul style="list-style-type: none"> <li>Drawing and measuring lines and angles using ruler and protractor</li> <li>Understanding and using notation for lines and angles</li> <li>Understand parallel and perpendicular</li> </ul>	<ul style="list-style-type: none"> <li>Mental arithmetic strategies</li> <li>Using known facts to derive other facts, including algebraic expressions</li> <li>Understanding and using set notations</li> </ul>

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<p><b>How will they be formally assessed?</b></p>	<p>End of topic test:</p> <p>Baseline Unit tests for the scheme titles above</p>	<p>End of topic tests:</p> <p>Baseline Unit tests for the scheme titles above</p>	<p>End of topic test:</p> <p>Baseline Unit tests for the scheme titles above</p>	<p>End of topic test:</p> <p>Baseline Unit tests for the scheme titles above</p>	<p>End of topic test:</p> <p>Baseline Unit tests for the scheme titles above</p>	<p>End of Year Exam</p>