

Term	Theme	Intended Knowledge Acquisition
Autumn Term	Place Value	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Understand place value in integers</li> <li>• Understand place value in decimals, including headings in fractional, exponent and word format.</li> <li>• Be able to multiply and divide by powers of 10.</li> <li>• Understand place value in the context of measure.</li> <li>• Order and compare numbers using <math>&lt;</math>, <math>&gt;</math>, <math>=</math>, <math>\neq</math></li> </ul>
	Properties of Numbers	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Understand multiples</li> <li>• Understand integer exponents and roots</li> <li>• Understand and use the unique prime factorisation of a number</li> </ul>
	Arithmetic Procedures with Integers & Decimals	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Understand the mathematical structures that underpin addition &amp; subtraction of positive and negative integers.</li> <li>• Generalise and fluently use written addition and subtraction strategies, including columnar formats, with decimals.</li> <li>• Understand the mathematical structures that underpin multiplication &amp; division of positive and negative integers.</li> <li>• Generalise and fluently use written multiplication and division strategies to calculate accurately with decimals.</li> <li>• Use the laws and conventions of arithmetic to calculate efficiently.</li> <li>• Use the commutative, associative and distributive laws to flexibly and efficiently solve problems.</li> </ul>
Spring Term	Expressions & Equations	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Understand and use the conventions and vocabulary of algebra, including forming and interpreting algebraic expressions and equations</li> <li>• Understand that a letter can be used to represent a generalised number</li> <li>• Understand that algebraic notation follows particular conventions and that following these aids clear communication</li> <li>• Know the meaning of and identify: term, coefficient, factor, product, expression, formula and equation</li> <li>• Understand and recognise that a letter can be used to represent a specific unknown value or a variable</li> <li>• Understand that relationships can be generalised using algebraic statements</li> <li>• Understand that substituting particular values into a generalised algebraic statement gives a sense of how the value of the expression changes.</li> <li>• Simplify algebraic expressions by collecting like terms to maintain equivalence.</li> <li>• Manipulate algebraic expressions using the distributive law to maintain equivalence</li> </ul>
	Coordinates & Graphs	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Describe and plot coordinates, including non-integer values, in all four quadrants</li> <li>• Solve a range of problems involving coordinates</li> <li>• Know that a set of coordinates, constructed according to a mathematical rule, can be represented algebraically and graphically*</li> <li>• Understand that a graphical representation shows all of the points (within a range) that satisfy a relationship</li> </ul>
Summer Term	Perimeter & Area	<p>By the end of this module, students should ...</p> <ul style="list-style-type: none"> <li>• Understand the concept of perimeter and use it in a range of problem-solving situations</li> <li>• Use the properties of a range of polygons to deduce their perimeters</li> <li>• Understand the concept of area and use it in a range of problem solving situations</li> <li>• Understand that the areas of composite shapes can be found in different ways</li> <li>• Derive and use the formula for the area of a trapezium*</li> </ul>
	Arithmetic Procedures involving Fractions	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Work interchangeably with terminating decimals and their corresponding fractions</li> <li>• Understand that a fraction represents a division and that performing that division results in an equivalent decimal</li> <li>• Understand the process of simplifying fractions through dividing both numerator and denominator by common factors</li> <li>• Compare and order positive and negative integers, decimals and fractions</li> <li>• Understand the mathematical structures that underpin the multiplication and division of fractions</li> <li>• Know, understand and use fluently a range of calculation strategies for addition, subtraction, multiplication and division of fractions</li> </ul>
	Understanding Multiplicative Relationships (Ratio & Fractions)	<p>By the end of this module, students should ....</p> <ul style="list-style-type: none"> <li>• Understand the concept of multiplicative relationships</li> <li>• Understand that multiplicative relationships can be represented in a number of ways and connect and move between those different representations</li> <li>• Understand that fractions are an example of a multiplicative relationship and apply this understanding to a range of contexts</li> <li>• Understand that ratios are an example of a multiplicative relationship and apply this understanding to a range of contexts</li> <li>• Understand the language and notation of ratio and use a ratio table to represent a multiplicative relationship and connect to other known representations</li> </ul>