

Calendar	Topic	Assessment	Sequencing and Coherence <i>concepts - themes - skills</i>	Literacy <i>reading - vocabulary - oracy - writing</i>
<p><b>Autumn Term</b></p> <p><b>Half Term 1</b></p>	<p><b>Number and Proportion</b></p> <p>[1] NP1: Place Value &amp; the Number Line</p> <p>[2] NP2: Addition &amp; Subtraction</p>	<p><b>Formative Assessment</b></p> <p><i>15-20-minute end of block assessment</i></p> <p>[1] Place Value and the Number Line</p>	<p><u>Place Value &amp; the number line</u></p> <p>Pupils will build on skills covered at KS2 and will begin by focusing on integers before moving onto decimals. Use of number lines and place value charts will be used throughout this unit to support ordering integers, decimals and directed number. These representations will be used/encouraged throughout the NP blocks.</p> <p><u>Addition and Subtraction</u></p> <p>This topic focusing on building formal methods for addition and subtraction all whilst introducing new terminology. Specific focus will be on commutativity and associativity. Integers, decimals and directed number will be interleaved from the previous unit of work. Strong foundations and understanding are needed here in order to progress through the curriculum.</p>	<p>Explicit teaching of key words embedded throughout using strategies such as; entomology, synonyms and by giving examples in context. Tier 3 vocab includes: integers, natural numbers, placeholder, significant figures, sum difference, summand, minuend, subtrahend, inverse, commutative, associative</p> <p><b>Oracy Opportunities</b></p> <ul style="list-style-type: none"> <li>-Discuss misconceptions through concept cartoons</li> <li>-What's the same what's different?</li> <li>- Spot the mistake</li> <li>- Do you agree or disagree?</li> <li>- True or False</li> <li>- Always, sometimes, never</li> <li>- Choral chanting of new tier 3 vocab</li> </ul>
<p><b>Autumn Term</b></p> <p><b>Half Term 2</b></p>	<p><b>Number and Proportion</b></p> <p>[1] NP3: Multiplication &amp; Division</p>	<p><b>Formative Assessment</b></p> <p><i>15-20-minute end of block assessment</i></p> <p>[1] Addition &amp; Subtraction</p> <p>[2] Multiplication &amp; Division</p>	<p><u>Multiplication and Division</u></p> <p>Similarly to addition and subtraction, this unit focusing on formal and mental methods for multiplying and dividing. Mathematical language is a key focus here and should be encouraged throughout discussions. Integers, decimals and directed number will be interleaved from the previous unit of work. Strong foundations and understanding are needed here in order to progress through the curriculum.</p>	<p>Explicit teaching of key words embedded throughout using strategies such as; entomology, synonyms and by giving examples in context. Tier 3 vocab includes: product, multiplier, commutative, associative, quotient, divisor, dividend, power, index, square, cube</p> <p><b>Oracy Opportunities</b></p> <ul style="list-style-type: none"> <li>- Spot the mistake</li> <li>- Do you agree or disagree?</li> <li>- True or False</li> <li>- Always, sometimes, never</li> <li>- Choral chanting of new tier 3 vocab</li> </ul>

<p><b>Spring Term</b></p> <p><b>Half Term 3</b></p>	<p><b>Number and Proportion</b></p> <p>[1] NP4: Powers, roots and primes [2] NP5: Order of operations</p>	<p><b>Formative Assessment</b></p> <p><i>15-20-minute end of block assessment</i></p> <p>[1] Multiplication &amp; Division</p> <p>[2] Powers, roots and primes</p>	<p><u>Powers, roots and primes</u></p> <p>This block will look closely at square and cube numbers, factors, multiples and primes. Some of which will be revisited from KS2 NC. The concept of 'commutative calculations' will be revised here too.</p> <p><u>Order of Operations</u></p> <p>This unit brings in the idea of precedent when mixing different operations. Skills acquired and practice in the previous units will be required here. Both integers and decimals will be tested.</p>	<p>Explicit teaching of key words embedded throughout using strategies such as; entomology, synonyms and by giving examples in context. Tier 3 vocab includes: commutative, additive inverse, negative, positive, root, index</p> <p><b>Oracy Opportunities</b></p> <ul style="list-style-type: none"> <li>- Spot the mistake (common misconceptions of order of operations addressed here)</li> <li>- Choral chanting of new tier 3 vocab</li> </ul>
<p><b>Spring Term</b></p> <p><b>Half Term 4</b></p>	<p><b>Number and Proportion</b></p> <p>[2] NP6: Directed Number</p> <p><b>Geometry and Measure</b></p> <p>[1] GM1: Drawing, measuring and constructions</p>	<p><b>Formative Assessment</b></p> <p><i>15-20-minute end of block assessment</i></p> <p>[1] Order of operations</p> <p>[2] Directed Number</p>	<p><u>Directed Number</u></p> <p>In this unit, pupils will build on their knowledge of positive and negative integers from NP1 and their knowledge of the four operations (NP2/3) and order of operations (NP5) to calculate with directed number. The use of number lines (used throughout) and double-sided counters will support all pupils with calculating.</p> <p><u>Drawing, measuring and construction</u></p> <p>Pupils will revisit and extend their knowledge of drawing and measuring angles and properties of shapes by using mathematical equipment to construct. Correct notation for lines and angles will be addressed and will link with angles in GM2.</p>	<p>Explicit teaching of key words embedded throughout using strategies such as; entomology, synonyms and by giving examples in context. Tier 3 vocab includes: line segment, vertex, ray, bisector, congruency, equidistant.</p> <p><b>Oracy Opportunities</b></p> <ul style="list-style-type: none"> <li>- Choral chanting of new tier 3 vocab</li> <li>- Spot the mistakes</li> <li>- Discussions on use of language and key words when calculating with negative numbers</li> <li>- Discuss misconceptions through concept cartoons</li> </ul>

*The breakdown of the half term content covered is an approximate time frame for each unit of work. Decisions should be made about the most appropriate pathway for certain pupils/classes: curriculum coverage should never come before teaching pupils the right maths at the right time. If some groups need to take more time, then they must be allowed to do so before moving to the next unit.*

<p><b>Summer Term</b></p> <p><b>Half Term 5</b></p>	<p><b>Number and Proportion</b> [1] NP7: Fractions</p> <p><b>Algebra</b> [2] Introduction to Algebraic Thinking</p>	<p><b>Formative Assessment</b> <i>15-20-minute end of block assessment</i></p> <p>[1] Drawing, Measuring and Construction</p> <p>[2] Fractions</p>	<p><u>Fractions</u> This unit of work builds on the recent work on decimals, but focuses more on pupils developing a deeper understanding of the links between equivalent fractions. Pupils will also have the opportunity to revisit key skills from last term e.g. positions on a number line and equivalent fractions.</p> <p><u>Introduction to Algebraic Thinking</u> Starting with algebraic expressions which is only covered briefly in KS2 should provide pupils will a sense of awe and wonder of meeting a newer topic and applying previous number skills with algebraic skills. The skills developed here will be further built upon in the next block.</p>	<p>Explicit teaching of key words embedded throughout using strategies such as; entomology, synonyms and by giving examples in context. Tier 3 vocab includes: numerator, denominator, coprime, reciprocal, variable, simplifying</p> <p><b>Oracy Opportunities</b></p> <ul style="list-style-type: none"> <li>- Choral chanting of new tier 3 vocab</li> <li>- True or False</li> <li>-Discuss misconceptions through concept cartoons</li> </ul>
<p><b>Summer Term</b></p> <p><b>Half Term 6</b></p>	<p><b>Algebra</b> [1] Simplifying Expressions</p> <p><b>Number and Proportion</b> [1] Percentages, Fractions and Decimals</p>	<p><b>Formative Assessment</b> <i>15-20-minute end of block assessment</i></p> <p>[1] Intro to algebraic thinking</p> <p>[2] Simplifying Expressions</p> <p><b>Summative Assessment</b> One non-calculator paper and one calculator based on topics covered so far in Y8 (including some key topics from Y7)</p>	<p><u>Simplifying Expressions</u> This extends on pupils' understanding of Algebraic thinking and continues to link previous work on directed numbers and indices. The use of manipulatives e.g. algebraic tiles will be introduced and encouraged throughout as will the idea of additive inverse (first seen in the directed number block)</p> <p><u>Percentages, Fractions and Decimals.</u> This unit of work builds on the recent work on fractions and place value (half term 1) but focuses more on pupils' developing a deeper understanding of FDP equivalences. Multiple representations will be explored and encouraged through the use of bar models. Pupils will explore the effect of multiplying by numbers between 0 and 1 (linking to multiplying by 0.1, 0.01) compared with numbers greater than 1.</p>	<p>Explicit teaching of key words embedded throughout using strategies such as; entomology, synonyms and by giving examples in context. Tier 3 vocab includes: expression, term, coefficient, constant, binomial</p> <p><b>Oracy Opportunities</b></p> <ul style="list-style-type: none"> <li>- Choral chanting of new tier 3 vocab</li> <li>- Discuss misconceptions through concept cartoons</li> </ul>