



## Year 4/5 yearly overview

This mixed-age plan follows the same progression as the White Rose Maths mixed age planning, except where divergence improves the alignment of the *Power Maths* lessons. The main aim of these plans is to allow teachers to cover the same topic with both groups more often than with our existing (2019) mixed age plans, which follow the *Power Maths* progression more strictly in each year group.

Note: Shaded colours refer to the strand colours used in the textbooks.

Year 4	Year 5	Number of lessons
Autumn term		54
<b>Unit 1: Place value – 4-digit numbers (1)</b> <ul style="list-style-type: none"><li>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)</li><li>identify, represent and estimate numbers using different representations</li><li>round any number to the nearest 10, 100 or 1,000</li><li>count in multiples of 6, 7, 9, 25 and 1,000</li><li>find 1,000 more or less than a given number</li><li>order and compare numbers beyond 1,000</li></ul>	<b>Unit 1: Place value within 100,000</b> <ul style="list-style-type: none"><li>read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit</li><li>count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000</li><li>round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</li><li>solve number problems and practical problems that involve all of the above</li><li>read Roman numerals to 1,000 (M) and recognise years written in Roman numerals</li></ul>	9

<p><b>Unit 2: Place value – 4-digit numbers (2)</b></p> <ul style="list-style-type: none"> <li>• find 1,000 more or less than a given number</li> <li>• order and compare numbers beyond 1000</li> <li>• identify, represent and estimate numbers using different representations</li> <li>• round any number to the nearest 10, 100 or 1,000</li> <li>• count in multiples of 6, 7, 9, 25 and 1,000</li> <li>• solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li>• count in multiples of 6, 7, 9, 25 and 1,000</li> <li>• interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> <li>• count backwards through zero to include negative numbers</li> </ul>	<p><b>Unit 2: Place value within 1,000,000</b></p> <ul style="list-style-type: none"> <li>• read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit</li> <li>• solve number problems and practical problems that involve all of the above</li> <li>• round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</li> <li>• interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</li> <li>• count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000</li> <li>• solve number problems and practical problems that involve all of the above</li> </ul>	<p><b>9</b></p>



<b>Unit 3: Addition and subtraction</b> <ul style="list-style-type: none"><li>• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction, where appropriate</li><li>• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</li><li>• round any number to the nearest 10, 100 or 1,000</li><li>• estimate and use inverse operations to check answers to a calculation</li></ul>	<b>Unit 3: Addition and subtraction</b> <ul style="list-style-type: none"><li>• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li><li>• use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li><li>• add and subtract numbers mentally with increasingly large numbers</li><li>• solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why</li><li>• estimate and use inverse operations to check answers to a calculation</li></ul>	<b>15</b>



<b>Unit 5: Multiplication and division (1)</b> <ul style="list-style-type: none"><li>• use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1, multiplying together three numbers</li><li>• recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></li><li>• solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.</li></ul>	<b>Unit 5: Multiplication and division (1)</b> <ul style="list-style-type: none"><li>• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li><li>• solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes</li><li>• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li><li>• establish whether a number up to 100 is prime and recall prime numbers up to 19</li><li>• recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>), identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li><li>• solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li><li>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000</li></ul>	11



<b>Unit 4: Perimeter</b> <ul style="list-style-type: none"><li>• convert between different units of measure [for example, kilometre to metre, hour to minute]</li><li>• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li></ul>	<b>Unit 6: Area and perimeter</b> <ul style="list-style-type: none"><li>• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li><li>• calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</li></ul>	<b>10</b>
<b>Unit 7: Area</b> <ul style="list-style-type: none"><li>• find the area of rectilinear shapes by counting squares</li><li>• estimate, compare and calculate different measures, including money in pounds and pence</li></ul>		



Year 4	Year 5	Number of lessons
<b>Spring term</b>		<b>54</b>
<p><b>Unit 6: Multiplication and division (2)</b></p> <ul style="list-style-type: none"><li>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li><li>• multiply two-digit and three-digit numbers by a one-digit number using a formal written layout</li><li>• recognise and use factor pairs and commutativity in mental calculations</li><li>• multiply two-digit and three-digit numbers by a one-digit number using a formal written layout</li><li>• use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1, multiplying together three numbers</li><li>• solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</li></ul>	<p><b>Unit 7: Multiplication and division (2)</b></p> <ul style="list-style-type: none"><li>• multiply and divide numbers mentally drawing upon known facts</li><li>• multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers</li><li>• divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</li></ul>	<b>15</b>

<p><b>Unit 8: Fractions (1)</b></p> <ul style="list-style-type: none"> <li>count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</li> <li>recognise and show, using diagrams, families of common equivalent fractions</li> <li>solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</li> <li>add and subtract fractions with the same denominator</li> </ul> <p><b>Unit 9: Fractions (2)</b></p> <ul style="list-style-type: none"> <li>add and subtract fractions with the same denominator</li> <li>solve problems involving increasingly harder fractions to calculate quantities, and use fractions to divide quantities, including non-unit fractions where the answer is a whole number</li> </ul>	<p><b>Unit 8: Fractions (1)</b></p> <ul style="list-style-type: none"> <li>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>and write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>]</li> <li>compare and order fractions whose denominators are all multiples of the same number</li> </ul> <p><b>Unit 9: Fractions (2)</b></p> <ul style="list-style-type: none"> <li>add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> <li>recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>and write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>]</li> </ul>	<p><b>20</b></p>

<p><b>Unit 10: Decimals (1)</b></p> <ul style="list-style-type: none"> <li>recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>solve simple measure and money problems involving fractions and decimals to two decimal places</li> <li>find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li> <li>recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten</li> </ul>	<p><b>Unit 11: Decimals and percentages</b></p> <ul style="list-style-type: none"> <li>read, write, order and compare numbers with up to three decimal places</li> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>round decimals with two decimal places to the nearest whole number and to one decimal place</li> <li>recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred',</li> <li>and write percentages as a fraction with denominator 100, and as a decimal</li> </ul>	<p><b>12</b></p>
<p><b>Unit 13: Time</b></p> <ul style="list-style-type: none"> <li>Convert between different units of measure [for example, kilometre to metre, hour to minute]</li> </ul>	<p><b>Unit 10: Fractions (3)</b></p> <ul style="list-style-type: none"> <li>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> <li>recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>write mathematical statements <math>&gt; 1</math> as a mixed number [for example, <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>]</li> </ul>	<p><b>7</b></p>





Year 4	Year 5	Number of lessons
<b>Summer term</b>		<b>41</b>
<p><b>Unit 11: Decimals (2)</b></p> <ul style="list-style-type: none"> <li>recognise and write decimal equivalents of any number of tenths or hundredths</li> <li>add and subtract fractions with the same denominator</li> <li>compare numbers with the same number of decimal places up to two decimal places</li> <li>find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li> <li>round decimals with one decimal place to the nearest whole number</li> <li>recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></li> <li>solve simple measure and money problems involving fractions and decimals to two decimal places</li> </ul>	<p><b>Unit 16: Measure – converting units</b></p> <ul style="list-style-type: none"> <li>convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</li> <li>use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</li> <li>understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>solve problems involving converting between units of time</li> </ul>	<b>16</b>
<p><b>Unit 12: Money</b></p> <ul style="list-style-type: none"> <li>estimate, compare and calculate different measures, including money in pounds and pence</li> <li>solve simple measure and money problems involving fractions and decimals to two decimal places</li> </ul>		



<b>Unit 14: Statistics</b> <ul style="list-style-type: none"><li>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li><li>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</li></ul>	<b>Unit 4: Graphs and tables</b> <ul style="list-style-type: none"><li>complete, read and interpret information in tables, including timetables</li><li>solve comparison, sum and difference problems using information presented in a line graph</li></ul>	<b>5</b>

<b>Unit 15: Angles and 2D shape</b> <ul style="list-style-type: none"><li>identify acute and obtuse angles and compare and order angles up to two right angles by size</li><li>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li><li>identify lines of symmetry in 2D shapes presented in different orientations</li><li>complete a simple symmetric figure with respect to a specific line of symmetry</li></ul>	<b>Unit 13: Geometry – properties of shapes (1)</b> <ul style="list-style-type: none"><li>identify:<ul style="list-style-type: none"><li>angles at a point and one whole turn (total <math>360^\circ</math>)</li><li>angles at a point on a straight line and <math>1/2</math> a turn (total <math>180^\circ</math>)</li><li>other multiples of <math>90^\circ</math></li></ul></li><li>know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li><li>draw given angles, and measure them in degrees (<math>^\circ</math>)</li><li>use the properties of rectangles to deduce related facts and find missing lengths and angles</li></ul>	<b>12</b>



	<p><b>Unit 14: Geometry – properties of shapes (2)</b></p> <ul style="list-style-type: none"><li>• identify:<ul style="list-style-type: none"><li>○ angles at a point and one whole turn (total <math>360^\circ</math>)</li><li>○ angles at a point on a straight line and <math>1/2</math> a turn (total <math>180^\circ</math>)</li><li>○ other multiples of <math>90^\circ</math></li></ul></li><li>• draw given angles, and measure them in degrees (<math>^\circ</math>)</li><li>• use the properties of rectangles to deduce related facts and find missing lengths and angles</li><li>• distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li><li>• identify 3D shapes, including cubes and other cuboids, from 2D representations</li><li>• identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed</li></ul>	

<p><b>Unit 16: Position and direction</b></p> <ul style="list-style-type: none"> <li>describe positions on a 2D grid as coordinates in the first quadrant</li> <li>plot specified points and draw sides to complete a given polygon</li> <li>describe movements between positions as translations of a given unit to the left/right and up/down</li> </ul>	<p><b>Unit 15: Geometry – position and direction</b></p> <ul style="list-style-type: none"> <li>identify, describe and represent the position of a shape following a reflection or translation, using appropriate language, and know that the shape has not changed</li> </ul> <hr/> <p><b>Unit 17: Measure – volume and capacity</b></p> <ul style="list-style-type: none"> <li>estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li> </ul>	<p><b>8</b></p>