



Maths Progression Map

Years 3 and 4 (White Rose)



Year 3	Year 4
Place Value Number – place value Identify, represent and estimate numbers using different representations. Find 10 or 100 more or less than a given number; recognise the place value of each digit in a three digit number (hundreds, tens, ones). Compare and order numbers up to 1000 Read and write numbers up to 1000 in numerals and in words. Solve number problems and practical problems involving these ideas. Count from 0 in multiples of 50 and 100	Place value Count in multiples of 6, 7, 9, 25 and 1000. Find 1000 more or less than a given number. Count backwards through zero to include negative numbers. Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones) Order and compare numbers beyond 1000. Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.
Addition and Subtraction Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	Addition and Subtraction Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.
Multiplication and Division Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Solve problems including missing number problems involving multiplication and division, positive integer scaling problems and correspondence problems in which n objects are	Multiplication and Division Recall and use multiplication and division facts for multiplication tables up to 12 x 12. 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. Recognise and use factor pairs and commutatively in mental calculations. Multiply two digit and three digit numbers by a one digit number using formal written layout. 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 n objects are connected to m objects.

<p>connected to m objectives. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental methods and progressing to formal written methods.</p>	
<p>Fractions Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Count up and down in tenths. Recognise that tenths arise from dividing an object into 10 equal parts and</p>	<p>Fractions Recognise and show, using diagrams, families of common equivalent fractions. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. 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. Add and subtract fractions with the same denominator.</p>
	<p>Decimals Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places.</p>
<p>Measurement Measure, compare, add and subtract: lengths (m/cm/mm). Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Measure the perimeter of simple 2D shapes. Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed and simple equivalents of mixed units. Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm).</p>	<p>Measurement: Find the area of rectilinear shapes by counting squares. Convert between different units of measure eg kilometre to metre. Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Convert between different units of measure [for example, kilometre to metre] Find the area of rectilinear shapes by counting squares.</p>

	<p>Money</p> <p>Solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>Estimate, compare and calculate different measures, including money in pounds and pence.</p>
<p>Time</p> <p>Tell and write the time from an analogue clock, including using Roman numerals, 12-hour and 24-hour clocks.</p> <p>Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight.</p> <p>Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events [for example calculate the time taken by particular events or tasks].</p>	<p>Time</p> <p>Convert between different units of measure, e.g. hour to minute.</p> <p>Read, write & convert time between analogue and digital 12 and 24 hour clocks.</p> <p>Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p>
<p>Geometry – Property of shapes</p> <p>Recognise angles as a property of shape or a description of a turn.</p> <p>Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.</p> <p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p> <p>Draw 2-D shapes and make 3-D shapes using modelling materials.</p> <p>Recognise 3-D shapes in different orientations and describe them.</p>	<p>Geometry– Property of shapes (including angles)</p> <p>Identify acute and obtuse angles and compare and order angles up to two right angles by size.</p> <p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p> <p>Identify lines of symmetry in 2D shapes presented in different orientations.</p> <p>Complete a simple symmetric figure with respect to a specific line of symmetry.</p> <p>Describe positions on a 2D grid as coordinates in the first quadrant.</p> <p>Describe movements between positions as translations of a given unit to the left/ right and up/ down.</p> <p>Plot specified points and draw sides to complete a given polygon.</p>
<p>Statistics</p> <p>Interpret and present data using bar charts, pictograms and tables.</p> <p>Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables.</p>	<p>Statistics</p> <p>Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>