



St. Katharine's Primary School Mathematics Progression Pathway Year 5

	Number				Measurement	Geometry		Statistics
Year	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals and Percentages	Measurement	Properties of Shape	Position and Direction	Statistics
5	<p>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</p> <p>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.</p> <p>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</p> <p>Solve number problems and practical problems that involve all of the above.</p>	<p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).</p> <p>Add and subtract numbers mentally with increasingly large numbers.</p> <p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p><i>(White Rose Autumn Block 2)</i></p>	<p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</p> <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>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.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Divide numbers up to 4 digits by a one-digit number using the formal written</p>	<p>Compare and order fractions whose denominators are all multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</p> <p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.</p> <p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p> <p>Read and write decimal numbers as fractions.</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p>	<p>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.</p>	<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</p> <p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</p> <p>Draw given angles, and measure them in degrees.</p> <p>Identify: -angles at a point and one whole turn (total 360 degrees), Angles at a point on a straight line and 2 1 a turn (total 180 degrees), Other multiples of 90 degrees.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p> <p>Distinguish between regular and irregular polygons based on</p>	<p>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.</p> <p><i>(White Rose Summer Block 2)</i></p>	<p>Solve comparison, sum and difference problems using information presented in a line graph.</p> <p>Complete, read and interpret information in tables, including timetables.</p> <p><i>(White Rose Spring Block 5)</i></p>



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	<p>Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p> <p><i>(White Rose Autumn Block 1)</i></p> <p><i>(White Rose Summer Block 4 for negative numbers)</i></p>		<p>method of short division and interpret remainders appropriately for the context.</p> <p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</p> <p><i>(White Rose Autumn Block 3 and Spring Block 1)</i></p>	<p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Solve problems involving number up to three decimal places.</p> <p>Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.</p> <p>Solve problems which require knowing percentage and decimal equivalents of one half, one quarter, one fifth, two fifths, four fifths and those fractions with a denominator of a multiple of 10 or 25.</p> <p><i>(White Rose Autumn Block 4 and Spring Block 2 for fractions, Spring Block 3 for decimals and percentages, Summer Block 1 for decimals)</i></p>	<p>Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water].</p> <p>Solve problems involving converting between units of time.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p> <p><i>(White Rose Spring Block 4 for area and perimeter, Summer Block 5 for converting and Summer Block 6 for volume)</i></p>	<p>reasoning about equal sides and angles.</p> <p><i>(White Rose Summer Block 1)</i></p>	
<p style="text-align: center;">DfE Ready to Progress Materials: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1017683/Maths_guidance_KS_1_and_2.pdf Slides to support Ready to Progress and PD materials:</p>							



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<https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/>

NCETM Mastery PD materials:

<https://www.ncetm.org.uk/resources/50639>

NCETM Mastery Assessment Materials: