



# Mount Pleasant Primary School

## Maths Medium-Term Plan / Small Steps: Year 5

Autumn	NC	<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>Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</p> <p>Solve number problems and practical problems that involve all of the above</p> <p>Read Roman numerals up to 1,000 (M) and recognise years written in Roman numerals</p>	<p>Add and subtract numbers mentally with increasingly large numbers</p> <p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</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><b>Problem Solving Skills</b></p> <p>All possibilities Logic Rules</p>	<p>Multiply and divide numbers mentally drawing upon known facts</p> <p>Multiply and divide whole numbers by 10, 100 and 1000</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</p> <p>Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)</p> <p>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</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>Recognise and use thousandths and relate them to tenths and hundredths</p> <p>Compare and order fractions whose denominators are 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 <math>&gt;1</math> as a mixed number [for example <math>2/5 + 4/5 = 6/5 = 1 + 1/5</math>]</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>
	Small Steps	<p><b>Place Value</b></p> <p>Roman numerals to 1,000</p> <p>Numbers to 10,000</p> <p>Numbers to 100,000</p> <p>Numbers to 1,000,000</p> <p>Read and write numbers to 1,000,000</p> <p>Powers of 10</p> <p>10/100/1,000/10,000/100,000 more or less</p> <p>Partition numbers to 1,000,000</p> <p>Number line to 1,000,000</p> <p>Compare and order numbers to 100,000</p> <p>Compare and order numbers to 1,000,000</p> <p>Round to the nearest 10, 100 or 1,000</p> <p>Round within 100,000</p> <p>Round within 1,000,000</p>	<p><b>Addition &amp; Subtraction</b></p> <p>Mental strategies</p> <p>Add whole numbers with more than four digits</p> <p>Subtract whole numbers with more than four digits</p> <p>Round to check answers</p> <p>Inverse operations (addition and subtraction)</p> <p>Multi step addition and subtraction problems</p> <p>Compare calculations</p> <p>Find missing numbers</p>		<p><b>Multiplication &amp; Division</b></p> <p>Multiples</p> <p>Common multiples</p> <p>Factors</p> <p>Common factors</p> <p>Prime numbers</p> <p>Square numbers</p> <p>Cube numbers</p> <p>Multiply by 10, 100 and 1,000</p> <p>Divide by 10, 100 and 1,000</p> <p>Multiples of 10, 100 and 1,000</p>	<p><b>Fractions A</b></p> <p>Find fractions equivalent to a unit fraction</p> <p>Find fractions equivalent to a non unit fraction</p> <p>Recognise equivalent fractions</p> <p>Convert improper fractions to mixed numbers</p> <p>Convert mixed numbers to improper fractions</p> <p>Compare fractions less than 1</p> <p>Order fractions less than 1</p> <p>Compare and order fractions greater than 1</p> <p>Add and subtract fractions with the same denominator</p> <p>Add fractions within 1</p> <p>Add fractions with total greater than 1</p> <p>Add to a mixed number</p> <p>Add two mixed numbers</p> <p>Subtract fractions</p> <p>Subtract from a mixed number</p> <p>Subtract from a mixed number breaking the whole</p> <p>Subtract two mixed numbers</p>
	Number	Problem Solving Skills	Measurement	Geometry		Statistics



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Spring	NC	<p>Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for 2-digit numbers</p> <p>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</p> <p>Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p>	<p>Recognise and use thousandths and relate them to tenths and hundredths</p> <p>Compare and order fractions whose denominators are 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 <math>&gt;1</math> as a mixed number [for example <math>2/5 + 4/5 = 6/5 = 1 + 1/5</math>]</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, write, order and compare numbers with up to three decimal places</p> <p>Read and write decimal numbers as fractions (e.g. <math>0.71 = 71/100</math>)</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place</p> <p>Solve problems which require knowing percentage and decimal equivalents of <math>1/2, 1/4, 1/5, 2/5, 4/5</math> and those fractions with a denominator of a multiple of 10 or 25</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 <math>1/2, 1/4, 1/5, 2/5, 4/5</math> and those fractions with a denominator of a multiple of 10 or 25</p>	<p>Measure and calculate the perimeter of composite rectilinear shapes in cm and m</p> <p>Calculate and compare the area of rectangles (including squares), and including using standard units, <math>cm^2, m^2</math> estimate the area of irregular shapes</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (<math>2</math>) and cubed (<math>3</math>)</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>
	Small Steps	<p><b>Multiplication &amp; Division</b></p> <ul style="list-style-type: none"> <li>multiply 4 by 1</li> <li>multiply 2 by 2</li> <li>multiply 3 by 2</li> <li>multiply 4 by 2</li> <li>divide 4 by 1</li> </ul>	<p><b>Fractions B</b></p> <ul style="list-style-type: none"> <li>equivalent fractions</li> <li>improper to mixed</li> <li>mixed to improper</li> <li>fraction sequences</li> <li>compare and order fractions</li> <li>add fractions</li> <li>subtract fractions</li> <li>fractions of amounts</li> <li>fractions as operators</li> </ul>	<p><b>Decimals &amp; Percentages</b></p> <ul style="list-style-type: none"> <li>decimals to 2dp</li> <li>decimals as fractions</li> <li>decimals to 3dp</li> <li>rounding decimals</li> <li>compare &amp; order decimals</li> <li>understand percentages</li> <li>FDP</li> </ul>	<p><b>Perimeter &amp; Area</b></p> <ul style="list-style-type: none"> <li>measure perimeter</li> <li>calculate perimeter</li> <li>area of rectangles</li> <li>area of compound shapes</li> <li>area of irregular shapes</li> </ul>	<p><b>Statistics</b></p> <ul style="list-style-type: none"> <li>read &amp; interpret line graphs</li> <li>draw line graphs</li> <li>use line graphs</li> <li>read &amp; interpret tables</li> <li>two-way tables</li> <li>timetables</li> </ul>
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Summer	NC	<p>Identify 3D shapes, including cubes and other cuboids, from 2D representations</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 reasoning about equal sides and angles</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 (<math>^{\circ}</math>)</p> <p>Identify: angles at a point and one whole turn (total <math>360^{\circ}</math>), angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>) other multiples of <math>90^{\circ}</math></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>Multiply and divide numbers involving decimals by 10, 100 and 1000</p> <p>Solve problems involving number up to three decimal places</p> <p>Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</p>	<p>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero</p>	<p>Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</p> <p>Solve problems involving converting between units of time</p>	<p>Estimate volume [for example using <math>1\text{ cm}^3</math> blocks to build cuboids (including cubes)] and capacity [for example, using water]</p> <p>Use all four operations to solve problems involving measure using decimal notations including scaling.</p>
	Small Steps	<p><b>Shape</b></p> <p>measuring angles</p> <p>drawing angles</p> <p>drawing lines</p> <p>calculating angles</p> <p>calculating lengths</p> <p>regular v irregular</p>	<p><b>Position &amp; Direction</b></p> <p>coordinates in 1<sup>st</sup> quadrant</p> <p>translation</p> <p>reflection</p>	<p><b>Decimals</b></p> <p>complements to 1</p> <p>adding decimals</p> <p>subtracting decimals</p> <p>decimal sequences</p> <p>multiply decimals by 10, 100, 1000</p> <p>divide decimals by 10, 100, 1000</p>	<p><b>Negative Numbers</b></p> <p>counting through zero</p> <p>sequences</p> <p>increases</p> <p>decreases</p> <p>differences</p>	<p><b>Converting Units</b></p> <p>KG and KM</p> <p>MM &amp; ML</p> <p>imperial units</p> <p>converting units of time</p> <p>timetables</p>	<p><b>Volume</b></p> <p>what is volume</p> <p>compare volume</p> <p>estimate volume</p> <p>estimate capacity</p>

Number

Problem Solving Skills

Measurement

Geometry

Statistics