Collingwood Primary School

Year 5 Maths Long Term Curriculum Plan

Autumn **3x,6x,** **12x**	**Spring** **11x, 9x** **2x, 4x, 8x**	**Summer** **x7** **Revision - all tables**	**Continually revisited objectives**
Number: Place Value (Within 1,000,000) •Read, write, order and compare numbers to at least 1 000 000 and determine the place value of each digit. (use < = and >) •Determine the PV of decimal numbers and fractions. •Round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000.	**Number: Multiplication and division** •Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including short multiplication and long multiplication for two-digit numbers. •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 as fractions, as decimals or by rounding. •Apply understanding of number operations to solve number puzzles, routine and non –routine problems and explain reasoning.	**Geometry: Shape** •Continue to compare and classify geometric shapes and solve problems using properties •Use the properties of rectangles to deduce related facts and find missing lengths and angles. •Identify 3D shapes, including cubes and other cuboids, from 2D representations. •Draw accurate lines with a ruler to the nearest mm •Measure with a protractor •Use conventional markings for parallel lines and right angles. •Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. •Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles. •Draw given angles and measure them in degrees (°). •Identify: -angles at a point and one whole turn (total 360°) -angles at a point on a straight line and ½ a turn (total 180°) -other multiples of 90°. •Use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems.	•Count forwards or backwards in steps of powers of 10 from any given number up to 1 000 000 . •Interpret (and order) negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. •Read, write order and compare numbers to 1,000,000 and determine the value of each digit. Use < > = •Round any whole number to a required degree of accuracy. •Mentally add and subtract tenths, and ones and tenths •Multiply and divide numbers mentally using known facts •Use estimation to predict and check. •Pupils continues to practice use all multiplication tables •To test divisibility rules •Identify multiples and factors, including finding all factor pairs and common factors/multiples of two numbers. •Know and use the vocabulary: prime numbers, prime factors, composite numbers. •Establish all prime numbers up to 19 •To establish whether a number (up to

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		• Use the term diagonal	100) is/is not prime. •Recognise and use square/cube numbers & the notation. •Learn and read Roman Numerals to 1000(M) in years •Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. •Find, name and write fractions of numbers and quantities. •Counting forwards and backwards using fractions and decimals, including bridging through zero •Identify the value of each digit in numbers given to 3DP and divide by 10, 100, 1000. •Read, write, order and compare numbers with up to 3DP •Recall equivalences between simple FDPs. •Generalisations of number patterns •Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. •Continue to use read and write standard metric units and their abbreviations, developing fluency in their relationships. •convert units of metric measure (e.g. km/m, g/kg, l/ml). •Recognise and use the eight compass directions
	Number: Fractions •Connect equivalent fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders, using the number line and other models, and hence move from these to improper and mixed fractions •Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. •Connect multiplication by a fraction to using fractions as operators (fractions of) and to division. This relates to scaling by simple fractions, including fractions > 1.	**Geometry: Position and Direction** •Identify, describe and represent the position of a shape following a reflection, using the appropriate language, and know that the shape has not changed. •Recognise and use reflection and translation (coordinates in the first quadrant). •Reflection should be in lines that are parallel to the axes.	
Number: Addition and Subtraction •Add and subtract numbers mentally with increasingly large numbers •Add and subtract whole numbers with more than 4 digits, including using formal written methods (column addition and subtraction). •Add and subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 (e.g.0.83+ 0.17 =1) using formal written methods when appropriate. •Add and subtract fractions with the same denominator and with	**Number: Decimals and Percentages** •Link decimals to fractions.•Read and write decimal numbers as fractions •Recognise and use thousandths and relate them to tenths, hundredths, decimal equivalents and measures. •Round decimals with two decimal places to the nearest whole number and to one decimal place. •Read, write, order and compare numbers with up to three decimal places. •Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and	**Number: Decimals** •Add and subtract decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 (e.g.0.83+ 0.17 =1) using formal written methods when appropriate •Multiply and divide decimals by 10,100 and 100	

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denominators that are multiples of the same number. •Use rounding, estimation and inverse operations to check answers to calculations and determine, in the context of a problem, levels of accuracy. •Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. •Solve calculation problems using information from a range of tables and charts.	write percentages as a fraction with denominator 100 and as a decimal fraction. •Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25. •Make connections between percentages, fractions and decimals e.g. 100% represents a whole quantity, 1% is 1/100… and relate this to finding 'fractions of'. •Understand that percentages, decimals and fractions are different ways of expressing proportions		•Continue to read the time, interpret timetables and use units of time, including to solve problems involving converting between units of time.
Number: Multiplication and division •Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 (and derive related facts). •Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	**Measurement: Perimeter and Area** •Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. •Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. •Use the relations of perimeter or area to find unknown lengths, missing measures questions such as these can be expressed algebraically e.g. 4 + 2b = 20 for a rectangle of sides 2cm and bcm and perimeter 20cm. •Calculate area from scale drawings using given measurements.	**Number: Negative Numbers** •Interpret (and order) negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	

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<td></td>
<td rowspan="2">Statistics
•Complete, read and interpret information in (a wide range of charts) and tables.
•Solve comparison, sum and difference problems using information presented in a line graph.
•Pose questions that can be answered using different graphs, charts and tables.
•Understand and use Venn and Carroll diagrams (shapes).
•Collect, represent and interpret statistical data.</td>
<td>Measurement: Converting Units
•convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) using knowledge of place value and multiplication / division
•Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</td>
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<tr>
<td>Number: Fractions
•Find, name and write fractions of numbers and quantities.
•Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
•Recognise mixed numbers & improper fractions. convert from one form to the other & write mathematical statements > 1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5).
•Add and subtract fractions with the same denominator and with denominators that are multiples of the same number extending to calculations that exceed 1 as a mixed number.
•Compare and order fractions whose denominators are all multiples of the same number.</td>
<td>Measurement: Volume
•Estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water).</td>
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