

Year 5 Maths Half Termly Planning

Autumn 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Basic Skills / Daily Mental Maths	Counting Count forwards and backwards in steps of powers of 10 from any given number up to 1 000 000. Use counting sticks, and/or Gattegno charts to model counting.		Using partitioning to add with increasingly larger numbers (move on to bigger numbers as needed) $432 + 123 = 400 + 100$ $30 + 20$ $2 + 3$	Using partitioning to subtract (move on to bigger numbers as needed). $432 - 123 = 423 - 100 - 20 - 3$	Count on a number line to subtract (move on to bigger numbers as needed). $300 - 99 =$ $99 + 1 = 100$ $100 + 200 = 300$ So... $200 + 1 = 201$	Multiples and Factors Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Investigations Week Allow children to apply skills they have been taught this half term through investigations and puzzles. Use NRICH investigations too, this is a valuable source of application and assessment as the children apply their knowledge.
Maths Unit	Place Value Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	Place Value Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.	Addition Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)	Subtraction Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)	Addition & Subtraction Problem Solving week Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Use a variety of resources such as NRICH worded problems to enable the children to practise their addition and subtraction skills learnt in various contexts. Allow them to estimate answers, work in pairs/independently/groups, reason, explain and work systematically.	Geometry Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Bring empty packaging such as toothpaste box, Toblerone box etc. Cut them open so the children see the nets and discuss the 2D shapes on the faces. Allow the children to investigate many everyday packages before moving on to identifying nets and creating their own.	
Reasoning/ Problem Solving	Solve number problems and practical problems that involve all of the above.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Solve addition multi-step problems in contexts, deciding which operations and methods to use and why.	Solve subtraction multi-step problems in contexts, deciding which operations and methods to use and why.			

Mental Maths strategies should be kept on the boil throughout all units, remind children of them when you model concepts. Drip-feed teaching Time, use daily opportunities to teach/discuss it.

Number and Place Value	Multiplication and Division	Addition and Subtraction	Fractions/Decimals	Geometry	Statistics	Measures
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Year 5 Maths Half Termly Planning

X tables	TTRS Counting Sticks <i>Children should be secure with all of their tables up to x12 by the end of Year 4. Identify those who are not and target them through TTRS heat maps and daily recall.</i>	TTRS Counting Sticks	TTRS Counting Sticks	TTRS Counting Sticks	TTRS Counting Sticks	TTRS Counting Sticks	
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Autumn 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Basic Skills /Daily Mental Maths	X 10, 100 and 1000 mentally. <i>Children need to understand that the answer increases in multiplication. The Dienes and the 1, 10, 100, 1000 on place value board show visually what happens as the digits move left.</i>	Divide by 10, 100 and 1000 mentally. <i>Children need to understand that the answer decreases in division. The Dienes and the 1, 10, 100, 1000 on place value board show visually what happens as the digits move right.</i>	Prime Numbers and Prime Factors <i>Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers.</i>	Number. Establish whether a number up to 100 is prime and recall prime numbers up to 19.	Recognise factor pairs to aid mental calculations $4 \times 3 = 12$ $40 \times 3 = 120$ $400 \times 3 = 1200$	Investigations Week Allow children to apply skills they have been taught this half term through investigations and puzzles. Use NRICH	Counting in fractions past 1 Fraction number linear lines
Maths Unit	Multiplication 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	Division 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.	Fractions Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Fractions Compare and order fractions whose denominators are all multiples of the same number.	Measurement 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.		Measurement Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
Reasoning/ Problem Solving	Solve problems involving multiplication.	Solve problems involving division.	Apply these skills in different contexts and through different visual representations.	Find the value of missing lengths of sides using the formulae for area.	Use all four operations to solve problems involving measure.		

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Spring	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Basic Skills / Daily Mental Maths	<i>Number inside a number with 3-digit numbers to add and subtract.</i> $360 - 82 = 360 - 60 - 20 - 2$	<i>Round and adjust to add.</i> $452 + 103 = 450 + 100 + 2 + 3$	Square Numbers Recognise and use square numbers numbers, and the notation for squared (2).	Cube Numbers Recognise and use cube numbers, and the notation for cubed (3).	Fractions Recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ and $\frac{3}{4}$. <i>Recall Known Facts:</i> $25/100 = 0.25 = \frac{1}{4}$ $50/100 = 0.5 = \frac{2}{4}$ $75/100 = 0.75 = \frac{3}{4}$	Investigations Week Allow children to apply skills they have been taught this half term through investigations and puzzles. Use NRICH investigations too, this is a valuable source of application and assessment as the children apply their knowledge.	Measurement (Time) <i>Know (and convert) the number of seconds in a minute, and the number of days in each month, year and leap year.</i>
Maths Unit	Geometry Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (o)	Addition and Subtraction, Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Multiplication and Division Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Fractions (Decimals) Read, write, order and compare numbers with up to three decimal places. Round decimals with two decimal places to the nearest whole number and to one decimal place. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$].	Statistics Complete, read and interpret information in tables, including timetables.		
Reasoning/ Problem Solving	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Solve problems involving number up to three decimal places.	Begin to decide which representations of data are most appropriate and why.		

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Spring 2	Week 1	Week 2	Week 3	Week 4	Week 5
Basic Skills / Daily Mental Maths	Roman Numerals <i>Read Roman Numerals to 1000 (M) and recognise years written in Roman Numerals.</i>	Partition to multiply $123 \times 5 =$ 100×5 20×5 3×5	Partition to divide $126 \text{ divided by } 6 =$ $120 \text{ divided by } 6 \text{ then}$ $6 \text{ divided by } 6$	Multiplication and Division Recognise and use factor pairs and commutativity in mental calculations. <i>One factor of 36 is 4, what is its pair?</i>	Investigations Week Allow children to apply skills they have been taught this half term through investigations and puzzles. Use NRICH investigations too, this is a valuable source of application and assessment as the children apply their knowledge.
Maths Unit	Measurement Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Geometry Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Fractions Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	Fractions Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	
Reasoning/ Problem Solving	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Become accurate in drawing lines with a ruler to the nearest millimetre, and measuring with a protractor.	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.		

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Summer 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Basic Skills / Daily Mental Maths	<p><i>Adding using number inside a number strategy.</i></p> <p>$37 + 45 = 37 + 3 + 40 + 2$</p> <p><i>Progress to apply the above skill to 3 and 4 digit numbers</i></p>	<p>Compensate to subtract</p> <p>$35 - 18 = ?$</p> <p>Add two to 18 to make 20 (friendly number)...</p> <p>$35 - 20 = 15$</p> <p>Then add 2 back on...</p> <p>$15 + 2 = 17$</p> <p><i>Progress to apply the above skill to 3 and 4 digit numbers.</i></p>	<p><i>Subtracting from 90, 180 and 360 using number inside a number method (see Spring 1 Week 1)</i></p>	<p><i>Use near doubles to add</i></p> <p>$123 + 125 = 125 + 125 - 2$</p>	<p>Investigations Week</p> <p>Allow children to apply skills they have been taught this half term through investigations and puzzles. Use NRICH investigations too, this is a valuable source of application and assessment as the children apply their knowledge.</p>	<p>Known Facts – Halving</p> <p>Half of 1000 = 500 Half of 500 = 250 Half of 300 = 150 Half of 100 = 50 Half of 50 = 25</p>

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Year 5 Maths Half Termly Planning

Maths Unit	Statistics Solve comparison, sum and difference problems using information presented in a line graph.	Number Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	Measurement Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]	Geometry Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and 1/2 a turn (total 180°) and other multiples of 90°.		Place Value Read Roman numerals to 1000 (M) and recognise years written in Roman numerals
Reasoning/ Problem Solving Opportunities	Begin to decide which representations of data are most appropriate and why.	Solve number problems and practical problems that involve all of the above	Missing measures questions for volume to find a missing value. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems		Solve number problems and practical problems that involve all of the above
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Year 5 Maths Half Termly Planning

Summer 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Basic Skills / Daily Mental Maths	<i>Use AfL to revisit mental strategies that the children would benefit from being taught again.</i>						Investigations Week Allow children to apply skills they have been taught this half term through investigations and puzzles. Use NRICH investigations too, this is a valuable source of application and assessment as the children apply their knowledge.
Maths Unit	Fractions Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$].	Fractions 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.	Measurement Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	Geometry Use the properties of rectangles to deduce related facts and find missing lengths and angles	Geometry 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		
Reasoning/ Problem Solving Opportunities	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.		Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems	Recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes.		
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2 Day Week – Revise units that the children need to revisit.

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