

Year 5 Medium Term Plan Maths

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
|--|---|--|---|--|---|--|---|------------------------|
| | Number sense As part of starter activities count in steps of the multiplication tables that you want the children to rehearse, decimal and fraction (10^{th} , 100^{th}) steps and steps that help children with mental calculation strategies such as 20, 25, 50 and 75. Link to algebra – linear number sequences (15, 30, 45, 60, ? ? : formula $n + 15$). It is also helpful to count in positive and negative integers across zero. | | | | Additive Reasoning | | | |
| Term 1 The Victorians | Place Value Terms – positional, multiplicative, additive, base10 Roman Numeral investigation Place Value to 1 000 000 and hundredths Grids & Digit cards Gettegno charts | Link to measurement-practical activities with mass capacity & vice versa Ordering and comparing, Greater than, less than, equals | Fractions – link to division and decimal place value(10^{th} , 100^{th}), whole part relationships (animals) Problem solving throughout | Link to percentages /100 and make explicit links with f,d,p Pie charts, examples & bar modelling, Problem solving throughout | Mental Calculations partitioning, number pairs, double & halving multiples of 10, using known number facts, bridging through 10, counting on and counting back. Bar charts Time difference and durations Perimeter and its formula Missing number problems link to algebra | Written methods for addition and subtraction, whole numbers, subtraction to check and vice versa Bar charts, finding totals and differences | Written methods for addition and subtraction, including decimals, Measures of length, cm and mm, mass kg and g, capacity, l and ml, practical activities and problem solving (sand) | Assessment Week |

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| | Multiplicative Reasoning | | | | Geometric Reasoning | | | |
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| Term 2 The Victorians | Mental calculation strategies, partitioning (123/4) doubling and doubling, halving and halving, x by 5 and 10 and halving, / by 5 and / by 10 and doubling by 20 by x10 and double /20 by /10 and halving, x by 15, x by 10, halve and add, using known facts, Grouping Bar model problems, e.g. Sam had 23 cars, Tom had 5 times as many. How many more did | Written methods with reasoning for multiplication and division as the inverse. Make arrays using place value counters for 4 digit multiplication by single digit and link to grid method and then short written method. Link this to division using the array, for example, $1\ 365 \times 3 = 4\ 095$, so $4\ 095 \div 365 = 3$ and link to $4\ 095 \div 3 = 365$. Link to measures: 1l 245ml juice in a jug, how much in 6 jugs? | Written methods with reasoning for division and multiplication as the inverse. Use manipulatives for 4 digits by single digit. Checking using multiplication. Word problems that have remainders and the children need to decide what to do, e.g. 145 children going on trip, mini buses hold 9 children. How many mini buses needed? | Scaling up and scaling down. Link to doubling and fractions. Currency conversion and miles to kilometres conversion through problem solving. Link this to ratio. | 3D shape: using plasticine to make sphere, cube, cuboid, pyramid, exploring what doing to get each new shape and properties and then visualising net of pyramid, then cube. Exploring which patterns make nets and which don't. Repeat net work for cuboids, prisms. Pyramid problem: tetrahedron, how many faces, edges, vertices, square based pyramid, how many f, e, v, same for | 2D shape: compare and classify shapes according to properties. Focus on different named quadrilaterals and triangles | 2D shape: drawing using given dimensions and angles, focussing on how to use a protractor. Exploring missing angles and lengths in rectangles and using formula, e.g. $a = 360 - (b + c)$ Angles in a turn, $(90^\circ, 180^\circ, 270^\circ, 360^\circ)$ and distance between 2 sides in a shape | |

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| | <p>Tom have? Link in with finding areas and solid volumes and exploring the formulae for these – practically on squared paper and using interlocking cubes. Creating, e.g. time/distance line graphs where scale goes up in multiples the children need to practice Missing number problems linking to algebra</p> | | | | <p>pentagonal based pyramid, look for the pattern, then work out how many f, e, v on a 100 sided based pyramid and then generalisation for n sided based pyramid. Similar one for prisms</p> | | | |
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| <p>Term 3</p> <p>Ancient Greece</p> | <p>Place Value as in term 1</p> <p>Also include algebra: finding pairs of numbers that satisfy an equation with two unknowns, e.g. $a + b = 148$</p> <p>$a - 36 = b$</p> <p>Solving missing number problems and linking to algebra</p> | <p>Negative numbers within the context of temperature on different scales</p> <p>Roman numeral investigation</p> | <p>Fractions, decimals and percentages: addition and subtraction, finding equivalences to do this, counting in fractional steps, improper fractions and mixed numbers – link to addition and counting, e.g. $\frac{1}{2}$, 1, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, how many halves?</p> <p>Problem solving with f,d,p using bar model</p> | <p>ASSESSMENT WEEK</p> | <p>Mental calculation strategies as in Term 1, picking up on any that weren't covered, linking to time differences and durations, Perimeter of regular (with formula) and irregular shapes including compound shapes (football pitch investigation)</p> | <p>Written calculation methods for addition and subtraction, linking to money multi-step problems</p> <p>Bar charts</p> | | |

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| Term 4 Ancient Greece | Mental Calculation as in term 2 Also include finding pairs of numbers that satisfy an equation with two unknowns, e.g. $a \times 12 = b$, $a \times b = 48$ Areas of shapes | Written methods for multiplication and division for 4 digit numbers and 1 decimal place Statistics: line graphs, bar graphs | Scaling up and scaling down as in term 2 | Interesting numbers: primes and composite numbers squares linking to area, cubes linking to volume Common factors and multiples Prime factors Factor and multiple investigations. | Drawing triangles and quadrilaterals to given dimensions and angles Finding missing angles linking to algebra | Reflection and translation in the first quadrant | | |

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| Term 5 Environment | Place Value as in Term 1 and Term 3 including working with 1000ths Link to measurement- practical activities with mass capacity & vice versa Ordering and comparing, Greater than, less than, equals | | | | Written methods | | | |

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|-------------------------------------|--|-------------------------------|---------------------|---|---|--|--|--|
| Term 6 Environment | Mental calculation strategies as Terms 2 and 4 | Written calculation as Term 4 | Long multiplication | Scaling up and scaling down as Terms 2 and 4 linking to measurement | Consolidation of 3D and 2D shape including problem solving and measuring angles | Consolidation of coordinates, reflections and translations and angles as turns | | |