## Maths Intent - Weekly timings/Term placements are approximations due to term times and number of days/weeks available

## Mathematics

EYFS Prerequisite Skills for Mathematics from Development Matters and Early Learning Goals

| EYFS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| EYFS Topics | Getting to Know You | It's me I 23 ! | Alive in 5 | Building 9 and 10 | To 20 and beyond | Find my pattern |
| Mathematical Vocabulary |  |  |  |  |  |  |
| DM FI C\&L | - Use a wider range of vocabulary. <br> - Understand 'why' questions, like: "why do you think the caterpillar is so fat?" |  |  |  |  |  |
| DM F2 C\&L | - Learn new vocabulary. <br> - Use new vocabulary throughout the day. |  |  |  |  |  |
| ELG | Communication and Language - Speaking <br> - Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. |  |  |  |  |  |
| Number and Place Value |  |  |  |  |  |  |
| Counting |  |  |  |  |  |  |
| DM FI | - Recite numbers past 5. <br> - Say one number name for each item in order: I, 2, 3, 4, 5. <br> - Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). |  |  |  |  |  |
| DM F2 | - Count objects, actions and sounds. <br> - Count beyond ten. |  |  |  |  |  |
| ELG | Mathematical patterns <br> - Verbally count beyond 20 , recognising the pattern of the counting system. |  |  |  |  |  |
| Identifying, Representing and Estimating Numbers |  |  |  |  |  |  |
| DM FI | - Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). <br> - Show 'finger numbers' up to 5 . <br> - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . <br> - Experiment with their own symbols and marks as well as numerals. |  |  |  |  |  |
| DM F2 | - Subitise <br> - Link the number symbol (numeral) with its cardinal number value. |  |  |  |  |  |
| ELG | Number <br> - Subitise (recognising quantities without counting) up to 5. |  |  |  |  |  |
| Reading and Writing Numbers |  |  |  |  |  |  |
| DM FI | - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . <br> - Experiment with their own symbols and marks as well as numerals. |  |  |  |  |  |
| DM F2 | - Link the number symbol (numeral) with its cardinal number value. |  |  |  |  |  |
| ELG |  |  |  |  |  |  |

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| Compare and Order Numbers |  |
| :---: | :---: |
| DM FI | - Compare quantities using language: 'more than', 'fewer than'. |
| DM F2 | - Compare numbers. |
| ELG | Numerical Patterns <br> - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. |
| Understanding Place Value |  |
| DM FI |  |
| DM F2 | - Understand the 'one more than/one less than' relationship between consecutive numbers. <br> - Explore the composition of numbers to 10 . |
| ELG | Number <br> - Have a deep understanding of numbers to 10 , including the composition of each number. |
| Solve Problems |  |
| DM FI | - Solve real world mathematical problems with numbers up to 5 . |
| DM F2 |  |
| ELG |  |
| Addition and Subtraction |  |
| Mental Calculations |  |
| DM FI |  |
| DM F2 | Automatically recall number bonds for numbers 0-5 and some to 10 . |
| ELG | Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10 , including double facts. |
| Solve Problems |  |
| DM FI |  |
| DM F2 |  |
| ELG | Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed evenly. |
| Describe, Measure, Compare and Solve (All Strands) |  |
|  |  |
| DM FI | - Make comparisons between objects relating to size, length, weight and capacity. |
| DM F2 | - Compare length, weight and capacity. |
| ELG |  |
| Telling the time |  |
| DM FI | - Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...' |
| DM F2 |  |
| ELG |  |
| Properties of Shape |  |
| Recognise 2D and 3D Shapes and their Properties |  |
| DM FI | - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round'. <br> - Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc. <br> - Combine shapes to make new ones - an arch, a bigger triangle, etc. |
| DM F2 | - Select, rotate and manipulate shapes in order to develop spatial reasoning skills. |

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| ELG |  |
| :---: | :---: |
| Compare and Classify Shapes |  |
| DM FI |  |
| DM F2 | $\bullet$ Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can. |
| ELG |  |

## Position, Direction and Movement

| DM FI | - Understand position through words alone - for example, "The bag is under the table," - with no pointing. <br> - Describe a familiar route. <br> - Discuss routes and locations, using words like 'in front of and 'behind'. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DM F2 | - Draw information from a simple map. |  |  |  |  |  |
| ELG |  |  |  |  |  |  |
| Patterns |  |  |  |  |  |  |
| DM FI | - Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. <br> - Extend and create $A B A B$ patterns - stick, leaf, stick, leaf. <br> - Notice and correct an error in a repeating pattern. |  |  |  |  |  |
| DM F2 | - Continue, copy and create repeating patterns. |  |  |  |  |  |
| ELG | Statistics |  |  |  |  |  |
|  |  |  |  |  |  |  |
| DM FI | - Experiment with their own symbols and marks, as well as numerals. |  |  |  |  |  |
| DM F2 |  |  |  |  |  |  |
| ELG |  |  |  |  |  |  |
| EYFS <br> Statements related to Mathematics | Have a deep understanding of number to 10 , including the composition of each number | Have a deep understanding of number to 10 , including the composition of each number Subitise up to 5 Recall number bonds up to 5 (3 in this section) Describe their immediate environment using knowledge from observation, discussion, stories and maps. | Have a deeper understanding of number to 10 , including the composition of number. Subitise up to 5 Compare quantities up to 10 in different contexts | Have a deeper understanding of number to 10 , including the composition of number. Subitise up to 5 Compare quantities up to 10 in different contexts Explore and represent patterns within numbers up to 10 | Verbally count beyond 20, recognising the pattern of the counting system <br> Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally. | Have a deeper understanding of number to 10 , including the composition of number. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally. |

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| Core Knowledge (White Rose) | To count to 10 <br> To understand that numbers have to be said in a certain order. <br> To count objects up to 10. <br> To order numbers up to 10 | To identify representations of I, 2 and 3. <br> To match number names to quantities. <br> To count up to three objects in different arrangements. <br> Use mark making to represent 1,2 and 3 <br> To compare I,2 and 3 using one more and one less pattern. <br> To understand that all numbers are made up of smaller numbers ( $1,2,3$ in this unit). <br> To identify the properties of 2d shapes (circle and triangle). To use positional language to describe the positional relationships of objects. <br> To represent places they have visited in stories or real life in models, drawings or maps | To understand and identify 0 <br> To compare numbers to 5. <br> To understand that all numbers are made of smaller numbers (composition of 4 and 5) To compare the mass of objects. <br> To compare the capacity of containers. | To count, represent and arrange numbers to 9 and 10 . <br> To compare numbers to 10. <br> To explore number bonds to 10 . <br> To explore and compare 3d shapes <br> To explore and complete patterns (more complex patterns that use items that repeat more than once $A B B$ AAB AABB AABBB) | Consolidate <br> Subitising to 10 <br> To count forwards and backwards to 10 . <br> To compare and order numbers to ten. <br> To build and identify numbers to 20 . <br> To recognise that the numbers I-9 repeat after every full ten. <br> To count on and back beyond 10 <br> To order and sequence numbers beyond 10 <br> To select and rotate shapes to fill a given space, and explain their reasoning for it. <br> To match arrangements of shapes and describe their position using positional language. | Consolidate <br> Subitising to 10 <br> To count forwards and backwards to 10 . <br> To compare and order numbers to ten. <br> To recognise double as twice as many. To build doubles using concrete objects. <br> To sort doubles and non-doubles. <br> To recognise and make equal groups. <br> To recognise that some objects are left over when they share or group and make suggestions what to do with them. <br> To recognise that some quantities can be shared into two equal groups and some cannot. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EYFS Topics | Just Like me (Wks 4-6) | Light and Dark | Growing 6,7, and 8 | Consolidation | First then now | On the Move |
| EYFS <br> Statements related to Mathematics | Have a deep understanding of number to 10 , including the composition of each number. <br> Compare quantities up to 10 in different contexts, recognising when one is greater, less than or the same. Explore and represent patterns up to 10 . | Have a deep understanding of number to 10 , including the composition of each number. <br> Subitise up to 5. Automatically recall number bonds up to 5 . Compare quantities up to 10 in different contexts, recognising when one is greater | Have a deeper understanding of number to 10 , including the composition of number. Subitise up to 5 Compare quantities up to 10 in different contexts Automatically recall number bonds up to 5 . |  | Verbally count beyond 20 , recognising the pattern of the counting system <br> Have a deeper understanding of number to 10 , including the composition of number. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or | Explore and represent patterns within numbers up to 1 |

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|  |  | than, less than or the same. <br> Explore and represent patterns within numbers up to 10 ( 5 in this block) and how quantities can be distributed. |  |  | the same as the other quantity; - Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Core Knowledge (White Rose) | To find and match objects based on criteria. <br> To sort objects based on criteria <br> To identify why objects have been sorted into groups. <br> To compare amounts based on quantity. <br> To compare objects based on size, mass and capacity. <br> To make patterns and identify errors. | To count on and back to <br> 4. <br> To subitise sets of objects up to 4. <br> Use mark making to represent numbers to 4. To count on and back to <br> 5. <br> To subitise sets of objects up to 5 . Use mark making to represent numbers to 5 . Use a five frame to represent numbers. To represent 5 objects on a five frame and know that if the frame is full then there are five. <br> Match number names to numerals and quantities. <br> To represent numbers in different arrangements. <br> To identify one more and one less (up to 5). <br> To learn that squares and rectangles have four sides. <br> To recognise shapes in everyday items. <br> To identify shapes that can be made by combining shapes. Identify night and day. Use language to describe when events happen in | Can count objects to 6,7 and 8. <br> Can subitise numbers to 8 <br> Can find and make matching pairs. <br> Can combine two groups to find how many altogether. <br> Can compare and describe objects by height. <br> Can order and sequence times using the relevant vocabulary soon, now, before, later, after, then, next, yesterday, tomorrow, today, etc) | , | Consolidate <br> Subitising to 10 <br> To count forwards and backwards to 10. <br> To compare and order numbers to ten. <br> To use concrete objects to add more in meaningful contexts. To use real objects to see that quantity can be changed by taking items away. <br> To understand that shapes can be combined to create new shapes. To create shapes in different ways using smaller shapes. | Consolidate <br> Subitising to 10 <br> To count forwards and backwards to 10 . <br> To compare and order numbers to ten. <br> To recognise the relationship between numbers and shape. To create a wide range of repeating patterns and symmetrical constructions. <br> To use positional language to describe the relationship between objects. <br> To compare similarities and differences between objects through matching and sorting. <br> To copy, continue and create repeating patterns To make maps and plans to represent places and see where things are in relation to other things. |

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|  |  | their daily routine (e.g. <br> day, night, morning, <br> afternoon, before, after, <br> today, tomorrow) <br> To measure time in <br> simple ways (e.g. number <br> of sleeps till an important <br> event) |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |


| Year I | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | 5 weeks - Place Value (within 10) | 5 weeks - Addition and Subtraction with 10 (I/2 weeks in Advent one) <br> I week-Geometry - Shape | Place Value (3 weeks) <br> Addition and <br> Subtraction (3 weeks) | Place Value (2 Weeks) <br> Length and Height ( 2 weeks) Mass and Volume (2 weeks) | Multiplication and Division (3 Weeks) Fractions (2 Weeks) Position and Direction (I Week) | Place Value (2 Weeks) <br> Money (I Week) <br> Time (2 Weeks) |
| National Curriculum | Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. | Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer). <br> Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20. <br> Add and subtract I digit and 2-digit | Count to and across 100, forwards and backwards, beginning with zero or I, or from any given number. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Count, read and write numbers to 100 in numerals; count in multiples of $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10s. | Count to and across 100, forwards and backwards, beginning with zero or I, or from any given number. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Given a number, identify I more and I less. <br> Compare, describe and solve practical | Count, read and write numbers to 100 in numerals; count in multiples of $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10s. <br> Solve one-step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. Recognise, find and name a half as one of two equal parts of an object, shape or quantity. | Count to and across 100, forwards and backwards, beginning with zero or I, or from any given number Count, read and write numbers to 100 in numerals; count in multiples of $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10s <br> Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Recognise and know the value of different |

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|  |  | numbers to 20 , including zero. <br> Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. | Read and write numbers from I to 20 in numerals and words. <br> Given a number, identify I more and I less. <br> Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Add and subtract Idigit and 2-digit numbers to 20, including zero Represent and use number bonds and related subtraction facts within 20 Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ ? - 9 | problems for: lengths and height; mass/weight; capacity and volume; time Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume; time | Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. <br> Describe position, direction and movement, including whole, half, quarter and three-quarter turns Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance). <br> Practise counting (1, 2, 3...), ordering (for example, Ist, 2nd, 3rd ...) (non-statutory guidance). | denominations of coins and notes <br> Count, read and write numbers to 100 in numerals; count in multiples of $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10s <br> Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) <br> Recognise and use language relating to dates, including days of the week, weeks, months and years Compare, describe and solve practical problems for time Measure and begin to record time (hours, minutes, seconds) Tell the time to the hour and half past the hour and draw the hands on a clockface to show these times |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Core Knowledge (White Rose) | To sort objects based on a range of attributes. Count up to ten objects. | Identify parts and wholes of a number. Write addition number sentences. | To count to and within 20. <br> To develop an understanding of ten (ten ones and bonds) | To count forwards and backwards between 20 and 50 Counting in multiples of 10 up to 50 | To count in multiples of 2 and 5 beyond 20 and up to 50 <br> To count in multiples of 10 . | To count from 50 to 100 <br> To count in tens up to 100 |

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|  |  |  | To explore and find related + and - facts | To compare volume using more than and less than To measure capacity using non-standard units of measure. <br> To compare capacity |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Skills | Counting forwards and backwards to 10 . <br> Using a number line. | Using a part whole model. <br> Using +, -and = Know addition fact families. <br> Using a number line. Geometry Identifying 3d and 2d shapes. <br> To understand and create patterns | Counting forwards and backwards within 20 <br> Using a number line Using a tens frame Subitise using concrete objects | Counting forwards and backwards within 50 <br> Using a number line Using a tens frame Subitise using concrete objects Identify tens and ones To measure using non-standard objects. <br> To measure using cm Using a ruler <br> Using a balance scale Using a measuring cylinder <br> Pouring water | Count in steps of 2, 5 and 10 <br> Share and group objects equally. <br> Use a tens frame. <br> Use a number line. <br> Cutting accurately Colouring accurately Recognising equal amounts | Count up to 100 Count in steps of 10 Use a number line Identify tens and ones Use a place value chart Use part whole models Using a calendar Using a clock |
| Vocabulary | Number object sort set group colour shape size same different count(ing) forwards backwards left represent cube/counter words letters match different/difference more less fewer greater than less than equal to symbol order | Whole part <br> Number Bonds <br> Fact families <br> Systematic <br> Total altogether plus <br> Minus subtract take away number line Geometry <br> 2d shape 3d shape cube cuboid cylinder pyramid cone sphere curved flat square circle triangle rectangle hexagon pentagon surface face | Number ten frame count forwards backwards different tens ones numerals words part whole same different less more change represent mark number line start end greater less jump estimate compare greatest smallest notice number bonds doubles near doubles | Number ten frame count miscount forwards backwards different tens ones numerals words part whole same different less more change represent mark number line start end greater less jump estimate compare greatest smallest notice next after digit Taller longer smaller shorter height length | Count multiple group array share equal unequal total altogether double <br> Half quarter quantity equal groups equal parts shaded amount different ways split <br> Turn turned half quarter here quarter full left right forwards backwards above below on top of between first | Count forwards backwards number tens ones partition place value chart part whole model Less than greater than complete missing <br> Coin note coin and note names value amount compare <br> Days of the week, Months of the year clock face hand hour |

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|  |  | pattern repeat How <br> many next describe <br> order | objects number <br> sentence pattern | centimetre ruler lined <br> up exactly heavier <br> lighter balance scale <br> mass units of measure <br> Container full empty <br> nearly volume capacity <br> fill | second third etc <br> ordinal number | minute second before <br> after morning evening <br> night afternoon o'clock <br> half past |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| Year 2 | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | Place value - 4 weeks | Addition and subtraction-5 weeks (2/3 weeks in Advent I) <br> Shape - 2 week | Money (2 Weeks) Multiplication and Division (4 Weeks) | Length and Height <br> (2 Weeks) <br> Mass, Capacity and Temperature (3 Weeks) | Fractions (3 Weeks) Time (3 Weeks) Statistics | Statistics (2 Weeks) <br> Position and <br> Direction (2 Weeks) |
| Core Knowledge <br> (National Curriculum) | Read and write numbers from I to 20 in numerals and words (YI) <br> Read and write numbers to at least 100 in numerals and in words <br> Read and write numbers to at least 100 in numerals and in words <br> Identify, represent and estimate numbers using different representations, including the number line Count in steps of 2, 3 and 5 from 0 , and in IOs from any number, forward and backward | Represent and use number bonds and related subtraction facts within 20 (YI) Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a $2-$ digit number and Is, a 2-digit number and 10s, two 2-digit numbers and adding three I-digit numbers | Recognise and use symbols for pounds $(£)$ and pence (p); combine amounts to make a particular value Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change <br> Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication $(x)$, | Choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); temperature ( ${ }^{\circ} \mathrm{C}$ ); capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacity and record the results using >, < and = Solve problems with addition and subtraction using concrete objects and | Recognise, find, name and write fractions I 3, I 4, 24 and 34 of a length, shape, set of objects or quantity Write simple fractions, for example 12 of $6=$ 3 and recognise the equivalence of 24 and I 2 <br> Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clockface to show these times Know the number of minutes in an hour and the number of hours in a day | Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity <br> Ask and answer questions about totalling and comparing categorical data Recall and use multiplication and division facts for the 2 , 5 and 10 multiplication tables, including recognising odd and even numbers |

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|  | Recognise the place value of each digit in a digit number tens, ones | Compare and order numbers from 0 up to 100; use and = signs Shape Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line. <br> Compare and sort common 2-D and 3-D shapes and everyday objects. | division ( $\div$ ) and equals (=) signs <br> Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <br> Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers | pictorial representations, including those involving numbers, quantities and measures Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Core knowledge White Rose | To read, write and order numbers to 20. To partition numbers to 20 into tens and ones. <br> Count objects to 100 by counting tens. Recognise and identify tens and ones in a two digit number. <br> Represent a two digit number in a place value chart. <br> To partition a two digit number into tens and ones. | To calculate and identify number bonds to 10. <br> To calculate and identify number bonds within 20. <br> Use knowledge of number bonds to 10 to identify related facts. <br> To know and use number bonds to 10 to calculate bonds to 100 <br> To add and subtract Is To add by making tens. | To count money in pence <br> To count money in pounds <br> To count money in pounds in pence To choose notes and coins to make a total To make amounts in different ways <br> To compare amounts of money <br> To calculate with money <br> To make a pound in different ways | To measure in centimetres To measure in metres To compare length and height <br> To order length and height <br> To use all four operations to solve problems involving length and height. <br> To compare mass To measure in grams To measure in kg | To recognise and use the vocabulary part and whole <br> To identify equal and unequal parts of an object. <br> To recognise and find half of an object or quantity. <br> To recognise and find a quarter of an object or quantity. <br> To recognise and find a third of an object or quantity. | To create, read and interpret tables. <br> To create, read and interpret tally charts To create, read and interpret block diagrams To interpret and draw pictograms to represent data. (2,5 and 10) <br> To solve problems by interpreting pictograms. (2,5 and 10) |

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|  |  | Make patterns with 2d/3d shapes |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Skills | Count in tens Use a number line to count forwards and backwards | Writing vertical addition/subtraction questions in the correct format/spacing. Understanding < > = Shape mirror | Recognise the value of notes and coins <br> Add and subtract two digit numbers <br> Using a number lines <br> Make equal groups <br> Count objects <br> Count forward and backwards in steps of <br> 2, 5 and 10 | Using a ruler <br> Using a tape measure <br> Use <> and = <br> To use a balance and circular scale <br> To read a scale using 1,2,5 and 0,100 <br> To pour water accurately <br> To use and read a measuring cylinder To read a thermometer | Cutting accurately Colouring accurately Using a bar model Using a part whole model Using a clock | Read tables and charts of different varieties Use tallies |
| Vocabulary | Tens ones count before after words numerals group bundle represent total place value chart partition part whole words numerals number sentence equal plus add number line starting point ending point interval estimate greater than less than more than fewer than order most least | Number bonds counters add more make. <br> Number sentence equal tens ones add subtract together altogether partition question. Multiple tens greater than less than equal to <br> Shape <br> 2d 3d shape, names of 2d 3 d shapes cube cuboid pyramid sphere cone cylinder triangle octagon hexagon pentagon square rectangle circle sides faces vertices vertex edges symmetry symmetrical polygon mirror sort group properties diagram | Coin note worth more less calculate total value altogether pence pound different compare how much more change fewest most spent difference <br> Group equal unequal total altogether same different recognise Add multiply multiple multiplication addition sentence multiplication sentence repeated addition organise share counters represent shared equally array double halve odd even tens ones column | Ruler cm measure object lined up length height metre short different greater than less than longer shorter compare longest tallest add subtract multiply divide Heavier lighter balance scale mass scale arrow pointing gram kilogram volume capacity container holding estimate efficient litres millilitres thermometer degrees Celsius | Fraction equal equally unequal half quarter three quarter third Part whole unit nonunit equivalent sharing Clock hand face hour minute second day month week year o'clock half past quarter past quarter to match between past to passed start end duration time longest shortest longer shorter | More less altogether total difference tally tallies tally chart pictogram represent column row horizontal vertical popular most popular least popular block diagram <br> Forwards backwards left right top bottom on top underneath above below direction turn half turn quarter turn three quarter turn full turn clockwise anticlockwise facing opposite pattern |

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|  |  | curved straight flat <br> surface pattern <br> repeat/repeating |  |  |
| :--- | :--- | :--- | :--- | :--- |


| Year 3 | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | Place Value - 3 weeks <br> Addition and Subtraction - 5 weeks (2 weeks in advent two) | Multiplication and division - 4 weeks | Multiplication and Division B (3 Weeks) Length and Perimeter (3 Weeks) | Fractions A (3 Weeks) Mass and Capacity (3 Weeks) | Fractions B (2 Weeks) <br> Money (2 Weeks) <br> Time (3 Weeks) | Shape (2 Weeks) Statistics (2/3 Weeks) |
| Core Knowledge <br> (National Curriculum) | Identify, represent and estimate numbers using different representations Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) <br> Count from zero in multiples of $4,8,50$ and 100 ; find 10 or 100 more or less than a given number Read and write numbers up to 1,000 in numerals and words <br> Compare and order numbers up to 1,000 | Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times Idigit numbers, using mental and progressing to formal written methods Show that multiplication of two numbers can be done in any order (commutative) and division on one number by another cannot (Y2) | Recall and use multiplication facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times Idigit numbers, using mental and progressing to formal written methods Solve problems, including missing | Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators Compare and order unit fractions, and fractions with the same denominators Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g); volume/capacity ( $/ / \mathrm{ml}$ ) <br> Recognise and show, using diagrams, equivalent fractions with small denominators | Add and subtract fractions with the same denominator within one whole Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators <br> Add and subtract amounts of money to give change, using both £ and p in practical contexts <br> Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12 -hour and 24hour clocks Estimate and read time with increasing accuracy to the nearest | Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half turn, three make threequarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle Measure the perimeter of simple 2-D shapes Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g); volume/capacity ( $1 / \mathrm{ml}$ ) |

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|  | Add and subtract numbers mentally, including: a 3-digit number and ones, a 3-digit number and tens, a 3-digit number and hundreds Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers. | Count in steps of 2 , 3 and 5 from 0 , and in 10 s from any number, forward and backward (Y2) Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (Y2) Recall and use multiplication and division facts for the 3,4 and 8 multiplication tables | number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which $n$ objects are connected to $m$ objects <br> Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); volume/capacity ( $1 / \mathrm{ml}$ ) <br> Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); volume/capacity ( $1 / \mathrm{ml}$ ) <br> Measure the perimeter of simple 2-D shapes. | Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g); volume/capacity ( $1 / \mathrm{ml}$ ) | minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events | Identify horizontal and vertical lines and pairs of perpendicular and parallel lines Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them <br> Interpret and present data using bar charts, pictograms and tables Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Core Knowledge (White Rose) | To represent numbers to 100 To partition numbers to 100 To identify the position of a number on a number line | To make and recognise equal and unequal groups To use arrays to make links between addition and multiplication. | Calculate and identify multiples of ten To identify related multiplication problems. | Understand the denominators of unit fractions Compare and order unit fractions | To add and subtract fractions with the same denominator. To partition the whole into unit and non-unit fractions | To make and describe turns, and recognise them as angles <br> To identify a right angle and their |

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|  | hundreds to a I,2 or 3 digit number (not crossing tens) Identify patterns in numbers Add and subtract ones, tens and hundreds to a I,2 or 3 digit number (crossing tens) Add and subtract two and three digit numbers using column method (no exchange) Add and subtract two and three digit numbers using column method (with exchanges across 10 or 100) Add and subtract a 2 digit number from a three digit number. Find compliments to 100 <br> To estimate answers to calculations <br> To calculate answers to calculations using the inverse. |  |  | To measure capacity and volume in L and ml To identify equivalent capacities and volumes (L and ml ) <br> To compare capacity and volume To solve problems involving capacity and volume (+ and ) | days use this knowledge to solve problems. <br> Understand the relationship between days and hours use this knowledge to solve problems. <br> To calculate durations using start and end times (hours and minutes) <br> To understand the relationship between minutes and seconds and use this knowledge to solve problems. <br> To choose <br> appropriate units of time <br> To compare units of time <br> To solve problems with time |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Skills | Using a number line Identifying when an exchange is necessary | Make equal groups Group and share objects equally Use a bar model | Make equal groups Group and share objects equally | Identify equal parts. Read/Measure using a scale/measuring equipment | Identify equal parts Use concrete objects and pictorial | Measure and draw accurately with a ruler |

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|  | To use < > = <br> Rounding numbers to the nearest ten Using a place value chart |  | Use a bar model Count in repeated steps. <br> To use a ruler/tape measure to measure in $\mathrm{mm}, \mathrm{cm}$ and m | Use a number line Use measuring scales (balance, circular) to calculate mass Use measuring cylinders/jugs to measure volume and capacity | representations to solve problems Recognise numerical representations of fractions Use bar models and part whole models. Use a number line Recognise coins and notes <br> To use and read a digital and analogue clock | Complete grids and charts <br> Read a clock <br> Read a compass <br> Read and raw tallies <br> Add and subtract <br> using formal methods |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vocabulary | Tens ones group/grouped represent partition whole par base 10 start point end point interval number line estimate hundreds thousands tens ones exchange value partition flexibly more less compare greater than less than equal to order ascending descending greatest smallest pattern before after <br> Number bonds bar model tens ones whole parts number facts exchange | Equal/equally unequal groups arrays altogether multiplication multiple lots before previous after odd even bar model multiply divide strategy relationship | Equal/equally unequal groups arrays altogether multiplication multiple lots before previous after odd even bar model multiply divide strategy relationship Place value chart calculation increase decrease partition tens ones flexibly partition divide division remainder possibilities combinations <br> Measure ruler length millimetres centimetres metres equipment long | Diagram equal parts shaded denominator fraction divided equally same different compare numerator bar model unit fraction non-unit fraction pattern equivalent scale measure interval number line mass measurement grams kilograms half quarter exact heavier lighter total mass container volume capacity liquid | Fraction whole part equal unit fraction half quarter third fifth sixth eighth tenth numerator denominator multiply divide bar model money coin note greater than less than equal to change remaining amount value add subtract Roman numerals hour minute hand quarter past half past o'clock quarter to minute second hour day week month year duration start time end time before after quickest slowest | Direction turn clockwise anticlockwise quarter turn half turn three quarter turn full turn right angle north south east west compass acute obtuse angle more less centimetre millimetre horizontal vertical perpendicular parallel polygon 2d shape 3d shape vertices faces edges sides surfaces curved straight <br> Pictogram key value symbol equal to data represent bar chart x -axis y -axis greatest most least difference |

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|  | column addition <br> subtraction increase <br> decrease change stay <br> the same operation <br> pattern column <br> method place value <br> compliment estimate <br> calculation inverse <br> commutative. |  | measure height <br> intervals partition <br> convert equivalent <br> units perimeter grid <br> square sides equal | earliest latest earlier <br> later | popular information <br> table |
| :--- | :--- | :--- | :--- | :--- | :--- |


| Year 4 | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | Place Value (4 weeks) Addition and Subtraction (3 Weeks) | Area (I week) Multiplication and division (3 weeks) | Multiplication and Division B (3 Weeks) Length and Perimeter (2 Weeks) | ```Fractions (4 Weeks) Decimals A (3 Weeks)``` | Decimals B (2 Weeks) <br> Money (2 Weeks) <br> Time (2 Weeks) | Shape (2 Weeks) Statistics (I Week) Position and Direction (2 Weeks) |
| Core Knowledge <br> (National Curriculum) | Read and write numbers up to 1,000 in numerals and words (Y3) <br> Identify, represent and estimate numbers using different representations Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) (Y3) <br> Count in multiples of 6, 7, 9, 25 and 1,000 Recognise the place value of each digit in a 4-digit number | Find the area of rectilinear shapes by counting squares <br> Recall multiplication and division facts for multiplication tables up to $12 \times 12$ Recognise and use factor pairs and commutativity in mental calculations Count in multiples of 6, 7, 9, 25 and 1,000 Recognise and use factor pairs and commutativity in mental calculations Use place value, known and derived | Recognise and use factor pairs and commutativity in mental calculations Recall multiplication and division facts for multiplication tables up to $12 \times 12$ Multiply and divide whole numbers and those involving decimals by 10,100 and 1,000 (Y5) <br> Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by I digit, | Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators (Y3) Recognise and show, using diagrams, families of common equivalent fractions Add and subtract fractions with the same denominator <br> Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in | Recognise and write decimal equivalents of any number of tenths or hundredths Solve simple measure and money problems involving fractions and decimals to 2 decimal places <br> Compare numbers with the same number of decimal places up to 2 decimal places Round decimals with I decimal place to the nearest whole number Recognise and write decimal equivalents to $\mathrm{I} / 4, \mathrm{I} / 2$ and $3 / 4$ | Recognise angles as a property of shape or a description of a turn (Y3) <br> Identify acute and obtuse angles and compare and order angles up to two right angles by size Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes <br> Identify lines of symmetry in 2-D shapes presented in different orientations |



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|  | addition and <br> subtraction where <br> appropriate <br> Estimate and use <br> inverse operations to <br> check answers to a <br> calculation |  |  |  | unit to the leff/right <br> and up/down |
| :--- | :--- | :--- | :--- | :--- | :--- |

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| Core Knowledge (White Rose) | Represent numbers <br> to 1000 <br> Partition numbers to 1000 <br> Label, identify and find missing values on a number line to 1000 <br> Counting forwards and backwards in 1000's <br> Represent numbers to 10,000 <br> Partition numbers to 10,000 <br> Partition numbers to 10,000 flexibly. <br> Find I, I0, I00, 1000 more or less. <br> Label, identify and find missing values on a number line to 10,000 <br> Estimate numbers on a number line to 10,000 <br> Compare numbers to 10,000 <br> Order numbers to 10,000 <br> Round to the nearest 10,100 and 1000 <br> To use Roman numerals (I to 12 ) | To understand area is the amount of space taken up by a 2d shape or surface. Calculate the area of rectilinear shapes by counting squares. Make rectilinear shapes to fulfil criteria (area) Compare the areas of rectilinear shapes. <br> Counting in 3's and recognising the relationship with the three times table Multiply and divide by 6 . <br> Use known facts to develop fluency in the 6 times tables. Multiply and divide by 9 <br> Use multiplication facts in a range of contexts. <br> Make links between the 3,6 and 9 times tables. <br> Multiply and divide by 7 ., II and I2. Know the effects of multiplying and | Identify, calculate and use factor pairs Multiply and divide by 10 and 100 Identify, calculate and use related multiplication facts (multiples of 10 and 100) <br> Use formal methods for calculating 2 and 3 digit by I digit multiplications. <br> Divide a 2 or 3 digit number by a one digit number, including questions with or without remainders. <br> To use multiplication to solve correspondence problems. <br> To use efficient methods for multiplication. <br> To measure in km and $m$ <br> To identify and calculate equivalent lengths (km and m) | Understand the whole and identify how many parts are needed to make it (how many more) Count beyond one in fractions <br> Partition a mixed number in a variety of ways Representing mixed numbers on a number line <br> Compare and order mixed numbers Understanding improper fractions Convert mixed numbers to improper fractions Convert improper fractions to mixed numbers <br> Find equivalent fractions on a number line Calculate equivalent fraction families Add two or more fractions Add and subtract fractions and mixed numbers | Make a whole with tenths <br> Make a whole with hundredths <br> Partition decimals <br> Flexibly partition decimals <br> Compare decimals <br> Order decimals <br> Round to the nearest whole number <br> To recognise and calculate with halves and quarters as decimals. <br> Write money using decimals Convert between pounds and pence Compare amounts of money <br> Estimate with money Calculate with money Solve problems with money <br> Understand the relationship between years, months, weeks and days and use this knowledge to solve problems. <br> Understand the relationship between | Understand angles as turns <br> Identify angles <br> Compare and order angles <br> Identify and compare characteristics of triangles <br> Identify and compare characteristics of quadrilaterals Identify and compare characteristics of polygons <br> To identify and draw lines of symmetry in any direction <br> To complete a symmetrical figure in any direction <br> Interpret charts Use discrete data for comparison, to find the sum and the difference between values. <br> Interpret line graphs Draw line graphs <br> Describe position using coordinates Plot coordinates Draw 2d shapes on a grid |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

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| Skills | Using a number line Partitioning numbers Counting forwards and backwards reliably Estimation Rounding | Identifying 2d shapes Using < > = <br> To multiply by a one digit number. <br> Identify patterns and make links between calculations | Partitioning numbers Multiply a one digit number by a one digit number Use a place value chart Use a number line <br> Use a ruler Identify fractions Identify regular and irregular shapes | Split number and shapes into equal parts <br> Partition numbers <br> Use part whole models <br> Use a number line <br> To use a number line <br> To use a place value chart <br> To use part whole models <br> Divide by 10 and 100 | Partition numbers Create equal groups Use number lines, place value charts and part whole models. <br> Recognise coins and notes Use <> and = to compare numbers. Read analogue and digital clocks Read a calendar | Draw accurately with a ruler Use mirror Recognise 2d shapes Use and read charts and tables |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vocabulary | Value represent hundreds tens ones thousands ten thousands number numerals digit part whole same different value start point end point intervals multiple previous next equal to thousand partition exchange midpoint method accurate estimate greatest least compare ascending descending numeral Roman number system | Area square rectangle count measure greatest smallest full half inside systematically rectilinear same different <br> Multiple sum digit before after equal groups shared commutative inverse calculation altogether represent multiplication division partition strategies facts place value array | Multiply multiple factor factor pairs altogether whole number calculate equivalent calculation placeholder dividing division remainder one tenth one hundredth represent digit column ones tens hundreds exchange partition possibilities combinations <br> Length kilometre metre greater than | Divided equal parts whole shaded fraction numerator denominator sequence forwards backwards proper fraction improper fraction mixed number partition diagram part whole intervals labelling previous compare integer fractional part remainder equivalent represent connection <br> Tenths hundredths decimal fraction | Fraction decimals part whole equal tenth hundredth half quarter partition flexibly order compare integer whole number digit column <br> Multiple estimate approximately pounds pence calculation change cost <br> Convert day week month year calendar minute second hour equal to approximately | Turn half turn quarter turn three quarter turn clockwise anticlockwise direction facing angle right angle acute obtuse right angle north south east west compass greatest smallest quadrilateral polygon 2d shape names isosceles scalene equilateral symmetry symmetrical line of symmetry vertices vertex |

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| Year 5 | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | Place Value (3 Weeks) <br> Addition and <br> Subtraction (2 weeks) | Multiplication and Division (3 weeks) Fractions (4 weeks) | Multiplication and Division (3 Weeks) <br> Fractions B (2 Weeks | Decimals and Percentages (3 weeks) <br> Perimeter and Area (2 weeks) Statistics (I week?) | Shape (3 Weeks) Position and direction (2 weeks) Decimals (3 Weeks - will run into Pentecost 2) | Negative numbers <br> (I week) <br> Converting units (2 Weeks) <br> Volume (I Week) |
| Core Knowledge <br> (National Curriculum) | Read Roman numerals to I,000 (M) and recognise years written in Roman numerals <br> Read, write, order and compare numbers to at least $I, 000,000$ and determine the value of each digit <br> Count forwards or backwards in steps of powers of 10 for any given number up to $1,000,000$ Read, write, order and compare numbers to at | Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes | Multiply numbers up to four digits by a 1 or 2-digit number using a formal written method, including long multiplication for 2digit numbers Divide up to four digits by a I-digit number using the formal written method of short division and interpret remainders | Read, write, order and compare numbers with up to 3 decimal places Read and write decimal numbers as fractions Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths | Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees ( ${ }^{\circ}$ ) Identify angles at a point and I whole turn (total $360^{\circ}$ ) Use the properties of rectangles to deduce related facts and find | Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero <br> Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram |



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|  | $100,1,000,10,000$ and 100,000 <br> Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy | write mathematical statements > I as a mixed number Compare and order fractions whose denominators are all multiples of the same number Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Add and subtract fractions with the same denominator, and denominators that are multiples of the same number |  | perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm2) and square metres (m2), and estimate the area of irregular shapes <br> Solve comparison, sum and difference problems using information presented in a line graph <br> Complete, read and interpret information in tables, including timetables |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Core Knowledge (White Rose) | Read and write Roman numerals to 1000 . Recognise similarities and differences between Roman numerals and our number system. <br> Read, write, order and partition numbers to | Identify multiples and common multiples. Identify factors and common factors. Identify and recall prime numbers. Identify prime factors. Identify and recall square numbers and | Multiply a 4 digit number by a one digit number Multiply a 2 digit number by a 2 digit number Multiply a 3 digit number by a 2 digit number | Represent decimals to 2 decimal places Identify equivalent fractions and decimals (tenths) Identify equivalent fractions and decimals (hundredths) | Understand and use degrees Classify angles Estimate angles Measure angles up to 180 degrees Draw lines and angles accurately | Understand and use negative numbers Count through zero in I's Count through zero in multiples Compare and order negative numbers |



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|  | Use inverse operations to find missing numbers. | Add two mixed numbers Subtract fractions Subtract from a mixed number. <br> Subtract two mixed numbers |  | Calculate the perimeter of polygons <br> Calculate the area of rectangles Calculate the area of compound shapes Estimate the area of shapes <br> Draw line graphs Read and interpret line graphs Read and interpret tables <br> Read and interpret two way tables Read and interpret timetables | Use efficient strategies for adding and subtracting decimals Complete decimal sequences Multiply and divide decimals by 10,100 and 1000 Calculate missing values when multiplying and dividing with decimals. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Skills | Partitioning numbers Rounding Identifying place value Identify patterns and relationships between numbers. <br> Rounding <br> Mental addition and subtraction Identify patterns and relationships between numbers. <br> Partitioning numbers Identifying inverse operations | Understand place value. <br> Partition numbers Know multiplication facts up to $12 \times 12$ Identify patterns and relationships between numbers. <br> Round to the nearest multiple of 10,100 , 1000 etc <br> Identifying fractions from pictorial representations | Use a place value chart <br> Represent numbers with concrete objects Partition numbers <br> Use a bar model Multiply and divide by one digit numbers | Use number lines, place value chart, bar models and part whole models <br> Partition numbers <br> Represent numbers using concrete objects Multiply and divide by 10 and 100 Multiply and divide by a one digit number <br> Identify 2d shapes Use a ruler | Measure and draw accurately with a ruler Measure and draw accurately with a protractor <br> Recognise 2d and 3d shapes <br> Recognise and write coordinates <br> Use a place value chart <br> Represent numbers using concrete and pictorial representations. Use a number line | Use a number line <br> Count reliably <br> Use and read a <br> thermometer <br> Read timetables <br> Read and interpret <br> graphs and charts <br> Multiply by 10,100 <br> and 1000 <br> Use symbols < > = |

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|  |  |  |  | Read a line graph, two way table and a timetable. <br> Create scales using knowledge of multiples Multiply one digit numbers (and related facts) | Use part whole methods |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vocabulary | Roman numeral place value represent value digit column count whole part comma greater less than placeholder power of 10 Gattegno chart pattern change vertically horizontally partition ten hundreds thousands ten thousands number line interval ascending descending multiple rounding previous next <br> Partition addition subtraction powers of 10 multiple add subtract number exchange digits line up calculation column method multiple round nearest greater less total inverse operation increase decrease | Multiple number divisible multiply in common factor square number cube number prime number odd even placeholder digit calculation <br> Fractions equivalent model numerator denominator statement common factors fraction wall divide multiply part whole mixed number improper fraction represent diagram size convert partition combine | Written method representation exchange multiply multiplication digit partition area model estimate calculate strategy divide remainder short division compare compared <br> Multiplication repeated addition represent bar model integer mixed number improper fraction numerator denominator multiply bar model partition simplest form equal groups efficient method | Represent place value chart same different tenth hundredth thousandth value digit column partition fractions decimals equivalent part whole equal to equivalent ascending descending integer round whole number percentage shaded <br> Measure perimeter ruler length sides efficient method properties square rectangle rectilinear regular irregular area calculate approximate estimate combine covered half covered | Turn quarter turn half turn three quarter turn full turn clockwise anticlockwise <br> Degrees ruler protractor acute obtuse reflex right angle greater than less than compare regular irregular polygon 3d shape faces edges vertices names of 2 d and 3d shapes (including triangles) perimeter area Read plot coordinates grid value translate translation translated symmetry symmetrical line of symmetry vertical horizontal diagonal reflection Addition subtraction exchange decimal decimal-point whole | Positive negative warmer colder Celsius freezing temperature represents sequence forwards backwards <br> Kilogram kilometre metre millimetre centimetre millilitre litre convert length weight distance compare multiply divide unit of measure approximately pounds inches pints imperial metric years months days weeks hours minutes seconds timetable blank 24 hour clock 12 hour clock difference Volume measure capacity cubic centimetre greater smaller estimate |

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|  |  |  |  | Line graph vertical <br> horizontal axis graph <br> represent <br> information solid <br> dashed multiples <br> summarise exact <br> estimate column row <br> heading table similar <br> different information <br> timetable blank space | number convert tenth <br> hundredth ones <br> method calculation <br> partition partitioning <br> represent position <br> place value method <br> writient mental <br> decreasing value <br> sequence |
| :--- | :--- | :--- | :--- | :--- | :--- |


| Year 6 | Advent I | Advent 2 | Lent I | Lent 2 | Pentecost I | Pentecost 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Topic | Place Value (2 weeks) Addition, subtraction, multiplication and division (5 weeks) | Fractions A(2 <br> weeks) <br> Fractions B (2 <br> weeks) <br> Measuring <br> converting units (1 <br> week) | Ratio (2 weeks) Algebra (2 Weeks) Decimals 2 Weeks | Fractions, decimals and percentages (2 Weeks) Area, Perimeter and Volume (2 Weeks) Statistics (2 Weeks) | Shape (3 Weeks) Position and direction (I Week) <br> Consolidation | Expected run over due to SATs and SATs preparation. |
| Core Knowledge <br> (National Curriculum) | Read, write, order and compare numbers up to $10,000,000$ and determine the value of each digit <br> Solve number and practical problems that involve the above | Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions > I | Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts Solve problems involving unequal | Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Associate a fraction with division and calculate decimal | Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles Draw given angles, and measure them in degrees $\left({ }^{\circ}\right)(Y 5)$ Know |  |



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|  | Perform mental calculations, including with mixed operations and large numbers Divide numbers up to four digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Use their knowledge of the order of operations to carry out calculations involving the four operations Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy | denominators and mixed numbers, using the concept of equivalent fractions Solve problems involving addition, subtraction, multiplication and division Associate a fraction with division and calculate decimal fraction equivalents <br> Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places | Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10,100 and 1,000 <br> giving answers up to 3 decimal places Solve problems which require answers to be rounded to specified degrees of accuracy Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Multiply I-digit numbers with up to 2 decimal places by whole numbers Use written division methods in cases where the answer has up to 2 decimal places Use written division methods in cases where the answer has up to 2 decimal places Solve problems involving addition, subtraction, multiplication and division | and extending to other units Interpret and construct pie charts and line graphs and use these to solve problems Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4) Calculate and interpret the mean as an average | coordinate plane, and reflect them in the axes |  |
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| Core Knowledge (White Rose) | Understand place value to one million Represent, Read, write and partition numbers to I million (standard and non-standard) Understand place value to ten million Represent, Read, write and partition numbers to 10 million (standard and non-standard) Multiply and divide by powers of 10 . <br> Label, identify points and count using number lines to 10 million. <br> Compare and order integers to 10 million. Round to the nearest million <br> Use negative numbers in real life contexts. <br> Add and subtract integers Identify factors and common factors Identify multiples and common multiples To recognise divisibility by looking at the digits To identify prime numbers to 100. <br> To recall prime numbers to 19 . | To simplify fractions to their simplest form To use a number line to count forwards and backwards in fractions to find equivalent fractions. <br> To compare and order fractions with the same denominator or numerator <br> To add and subtract fractions and mixed numbers <br> To solve multi step problems involving fractions <br> Multiply and divide fractions by integers Multiply and divide fractions by fractions Solve problems involving fractions using all four operations. <br> Calculate a fraction of an amount <br> Find the whole based on a fraction of an amount. <br> Recognise, read and write all metric measures for length, mass and capacity. | Explore the relationship between numbers (additive and multiplicative) <br> Use the language of ratio to describe two amounts <br> To use the ratio symbol to describe two values To explore the relationship between ration and fractions To use knowledge of ratio to draw scale diagrams <br> To calculate and solve problems using scale factors <br> To explore the relationship between similar shapes (scale factors) <br> To solve problems involving ratio <br> To solve one and two step proportion problems <br> Solve algebraic problems using function machines To form algebraic expressions To find values of expressions by substituting numbers | To find equivalent fractions and decimals To explore fractions as divisions To use bar models to calculate and represent percentages To find and calculate equivalent fractions and percentages To find and calculate equivalent fractions, decimals and percentages To order fractions, decimals and percentages <br> To calculate the percentage of an amount(one step) To calculate the percentage of an amount(multi-step) To use percentages to calculate missing values <br> Identify shapes with the same area by calculation Calculate area and perimeter of rectilinear shapes efficiently Calculate the area of triangles by counting squares | Measure and classify angles <br> Calculate angles Identify and calculate vertically opposite angles <br> Calculate angles in a triangle <br> Calculate missing angles in a triangle Calculate angles in a quadrilateral <br> Calculate angles in a polygon <br> To identify and calculate the circumference, diameter and radius of a circle <br> To draw shapes accurately <br> To recognise, create and solve problems involving the nets of 3d shapes. <br> Identify and draw coordinates in the first quadrant Read and plot points in four quadrants Solve problems with coordinates <br> Translate shapes in all four quadrants <br> Draw reflections in all four quadrants |  |
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|  | To identify square and cube numbers Multiply a 4 digit number by a 2 digit number. <br> Solve problems using multiplication (column method and alternative strategies) <br> To divide using (short)formal method <br> To divide a 2 digit number using knowledge of factors in multiplication <br> To divide using formal methods (long division) including calculations with and without remainders Solve problems using division strategies Solve multi step problems using appropriate calculations. <br> To learn the order of operations and use this to solve problems. <br> To use known facts and estimation to aid mental and written calculations. | Understand the differences and relationships between metric measures To convert metric measures <br> To solve problems by calculating with metric measures <br> To convert between and solve problems involving miles and kilometres To explore the relationship between imperial and metric measures. | To recognise the difference between formulae and expressions. <br> To calculate using formulae and expressions <br> To form equations from diagrams and descriptions <br> To solve one step equations <br> To solve two step equations <br> To find pairs of values To solve problems with two unknowns <br> To represent, identify and partition numbers with up to 3 decimal places. <br> To represent, identify and partition numbers with up to 3 decimal places (greater than I) To round decimals to the nearest integer or one decimal place To add and subtract decimals with up to 3 decimal places <br> To multiply numbers with up to 2 decimal places by 10,100 or 1000 | Calculate the area of right angled triangles Calculate the area of any triangle Calculate the area of a parallelogram Calculate volume by counting cubes Calculate the volume of cuboids <br> Draw, read and interpret line graphs. Draw, read and interpret dual bar char charts. <br> Draw, read and interpret pie charts. Read and interpret pie charts with percentages. Calculate and interpret the mean. |  |  |
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|  |  |  | To divide numbers with up to 3 decimal places by 10,100 or 1000 <br> To multiply and divide decimals by integers To multiply and divide decimals in context |  |  |  |
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| Skills | Using a number line Using a place value chart <br> Representing numbers pictorially and with concrete objects <br> Rounding <br> Reading thermometers/scales <br> Knowledge of multiplication facts to $12 \times 12$ <br> Using a place value chart <br> Representing numbers pictorially/with <br> concrete objects <br> Formal <br> multiplication/division methods <br> Identify factors and multiples | Identify fractions from pictorial representations Find factors and multiples of a number Identify patterns and relationships between numbers <br> Use a number line and identify missing intervals Identify the vocabulary of the four operations <br> To know the names of metric measures and what they relate to. To perform calculations using all four operations To represent numbers and calculations using pictorial | Using a number line Add, multiply, subtract and divide accurately <br> Use a bar model Measure with a ruler Measure with a protractor To partition numbers using a place value chart <br> To represent numbers using concrete objects | Use a bar model <br> Multiply and divide by <br> 10 and 100 <br> Separate numbers and shapes into equal <br> groups <br> Represent numbers using concrete and pictorial representations Use a place value chart <br> Partition numbers <br> Measure accurately <br> Identify 3d shapes <br> Identify fractions of shapes <br> Draw and measure using a ruler Calculate fractions and percentages | Use a ruler to measure and draw accurately Use a protractor to measure and draw accurately Draw and label axis Identify coordinates in one quadrant Count in positive and negative numbers Identify 2d shapes |  |

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|  |  | representations and models. |  |  |  |  |
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| Vocabulary | Whole part partition comma value digit column add subtract placeholder represent words numerals power of 10 Gattegno chart place value chart tenth times midpoint interval equal difference ascending descending greater less than compare multiples rounded appropriate negative temperature <br> Place value digit column addition subtraction multiplication division exchange calculation Represents factor factor pair multiple product in common systematically divisible prime number square number cube number composite long division short division remainder partitioning represent mentally operation rounding inverse | Common factors numerator denominator simplified simplest form simple fraction mixed number integer number line bar model divide compare proper fraction improper fraction equivalent greater than less than partition diagram method problem <br> Addition Subtraction Multiplying Division fractions integers numerator denominator partition mixed number improper fraction convert calculation diagram greater than smaller than represent equal parts equal groups equivalent unit fraction bar model <br> Length mass capacity measure unit estimate metric imperial kilometre kilogram metre gram millilitre litre mile kilometre | Relationship addition multiplication additive multiplicative sequence size relate ratio rearrange common factor simpler simplest form fraction similar different parts altogether scale scale factor diagram represent enlargement dimensions shape angles corresponding orientation recipe amount ingredient <br> Function machine input output difference inverse rule order represent expression substitute value formulae equation represent pairs possibilities <br> Decimal represent tenths hundredths thousandths digit value greater less round integer multiple exchange counters | Whole equal part fraction decimal convert numerator denominator equivalent percentage recurring shaded relationship simplified convert <br> Area perimeter polygon rectilinear shape factor pairs length right angled triangle perpendicular base height measurement units volume cubic centimetre equal layers efficiently <br> Line graph pie chart bar chart dual information axis represent data intervals direction sets vertical horizontal section popular value part equal percentage half quarter angle scale mean calculate share equally | Angle angles acute obtuse reflex right angle protractor measure degrees straight line vertically opposite missing angle around a point interior exterior triangle isosceles equilateral scalene parallelogram radius circumference diameter 2d and 3d shape names nets faces Coordinate axis $x$-axis $y$-axis grid quadrant perimeter vertices 2 d shape translate translated translation reflect reflection |  |

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|  |  | inch foot pounds stone <br> gallon pint convert <br> conversion multiply <br> divide add subtract <br> operation bar model <br> approximately equal to |  |  |  |
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