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| **Mathematics Topic Overview**  **Mixed Age Teaching using WRM Mixed Age (NEW for 24/25)**  *Overview has been split into separate year groups* | | | | | | |
| **Year group** | **Autumn** | | **Spring** | | **Summer** | |
| **Reception** | **Number:**  **Match and Sort**   * To be able to match a range of objects in different areas * To be able to sort objects based on their colour, size or shape   **Compare Amounts**   * To know that a set can have more items, fewer items or the same amount of items as another set   **Measure, Shape and Spatial Thinking: Compare size, mass and capacity**   * To know that objects can be compared and ordered according to their size. * To use language such as big and little, large and small to describe a range of objects * To be able to use scales   **Exploring pattern**   * To be able to copy, continue and create simple repeating patterns * To explore patterns in a range of contexts including shapes, colours, sizes, actions and sounds * To build patterns both horizontally and vertically   **Number: Representing 1, 2 and 3**   * To identify representations of 1, 2 and 3 * To subitise or count to make collections of 1,2 and 3 objects * To be able to match number names to numerals and quantities | **Number:**  **Comparing 1, 2 and 3**   * To know that when we count, each number is one more than the previous number * To know that when we count back, each number is one less than the previous number   **Composition of 1, 2 and 3**   * To know that all numbers are made up of smaller numbers * To explore different compositions of 2 and 3   **Measure, Shape and Spatial Thinking: Circles and triangles**  **Positional language**   * To know that circles have one curved side and triangles have 3 straight sides * To recognise circles and squares on everyday objects * To build circles and triangles * To use positional language to describe how items are positioned in relation to other items   **Number: Representing numbers to 5**   * To count on and back to 4 * To count or subitise sets of up to 4 objects * To match number names to numerals and quantities * To subitise up to 5 items * To count forwards and backwards to 5 * To represent 5 objects on a 5 frame   **One more and one less**   * To explore one more and one less * To predict hoe many there will be if they add one more or take one away   **Measure, Shape and Spatial Thinking: Shapes with 4 sides**   * To learn that squares and rectangles have 4 straight sides and 4 corners * To recognise squares and rectangles on everyday objects * To find other shapes with 4 sides   **Time**   * To order key events in the daily routine * To use language to describe when things happen *e.g. day, night, morning, afternoon, evening, before, after, today, tomorrow* * To begin to measure time in simple ways | **Number: Introducing zero**  **Comparing numbers to 5**  **Composition of 4 and 5**   * To know that the number name zero and numeral 0 means ‘nothing there’ or ‘all gone’ * To understand that 0 is one less than one * To understand that when comparing numbers to five, one quantity can be more than, the same as or fewer than another quantity * To compare quantities to five using a variety of objects and representations * To know that all numbers are made up of smaller numbers * To explore different compositions of 4 and 5 * To be able to subitise numbers up to 5 * To notice how numbers can be composed of 2 parts or more than 2 parts   **Measure, Shape and Spatial Thinking:**  **Compare mass**   * To compare the mass of different items * To use the language of *heavy, heavier than, light, lighter than* and *lightest* to compare items   **Compare capacity**   * To explore capacity using different materials * To use the language of *tall, thin, narrow,* *wide* and *shallow* to describe containers * To make direct comparisons by pouring from one container to another   **Number: Numbers 6, 7 and 8**   * To apply counting principles when counting to 6, 7 and 8 * To represent 6, 7 and 8 in different ways * To arrange 6, 7 and 8 in different groups to subitise * To order and compare representations * To count on and back to 8   **Making pairs**   * To find and make pairs * To arrange small quantities into pairs * To recognise that some quantities have an odd one left over * To play games which involve matching pairs   **Combining two groups**   * To combine two groups to find out how many altogether * To be able to subitise where possible to find the total   **Measure, Shape and Spatial Thinking:**  **Length and height**   * To use language to describe length and height * To make direct comparisons between two lengths * To be able to make indirect comparisons using blocks | **Measure, Shape and Spatial Thinking:**  **Time**   * To order and sequence important times in the day * To recognise that regular events happen on the same day each week * To describe significant event in their lives and talk about event they are looking forward to   **Number: Numbers 9 and 10**   * To apply counting principles when counting 9 and 10 * To represent 9 and 10 in different ways * To arrange 9 or 10 items into small groups support subitising * To notice that a ten frame is full when there are 10 * To use 10 frames, fingers and beadstrings to subitise groups of 9 and 10   **Comparing numbers to 10**   * To make comparisons by lining items up using 1:1 correspondence * To know that sets can have more items, fewer items or the same number of items as another set * To compare 2 quantities * To order 3 or more quantities   **Number bonds to 10**   * To explore number bonds to 10 using real objects in different contexts   **Measure, Shape and Spatial Thinking:**  **3D shape**   * To explore and manipulate 3-D shapes * To know which shapes stack and which shapes roll and why * To construct 3-D shapes in different ways * To know the names of some 3-D shapes * To explore the similarities and differences between 3-D shapes * To sort 3-D shapes in different ways   **Pattern**   * To explore patters which use items more than once * To be able to say the pattern out loud * To create patterns around the edge of shapes   **Consolidation** | **Number: Building numbers beyond 10**   * To build and identify numbers to 20 and beyond using a range of resources * To see that larger number are composed of full 10s and the next 10 * To recognise that the numbers 1-9 repeat after every full 10   **Counting patterns beyond 10**   * To count on and back beyond 10 * To count on or back from different starting points * To say what comes before or after a given number * To place sequences of number in order * To find larger numbers on number tracks and 100 squares   **Spatial Reasoning: Match, rotate, manipulate**   * To select and rotate shapes to fill a given space * To complete jigsaws and shape puzzles * To explain their choices for where to place shapes * To use positional language to explain where shapes are in relation to one another   **Number: Adding more**   * To use real objects to see that the quantity of a group can be changes by adding more * To use ‘First’, ‘Then’ and ‘Now’ to explore mathematical stories * To count how many altogether by counting on * To represent addition number stories using 10 frames, number track and fingers   **Taking away**   * To use real objects to see that the quantity of a group can be changed by taking items away * To use ‘First’, ‘Then’ and ‘Now’ to explore mathematical stories * To subitise or re-count to see how many are left * To represent subtraction number stories using 10 frames, number track and fingers   **Spatial Reasoning: Compare and decompose**   * To understand that shapes can be combined and separated to make new shapes * To fit shapes together, break shapes apart and notice the new shapes they have created * To investigate how many different ways a given shape can be built using smaller shapes * To explore different shapes that can be made by combining a set of given shapes in different ways | **Number: Doubling**   * To learn that doubling means ‘twice as many’ * To build doubles using real objects and mathematical equipment * To build numbers on 10 frames to see doubles * To be able to say doubles * To be able to sort doubles and non-doubles   **Sharing and grouping**   * To be able to identify when items have not been shared fairly * To be able to check that items are shared fairly and that everyone has the same * To recognise and make equal groups * To recognise there are sometimes items left over when items are grouped or shared   **Even and odd**   * To understand that some quantities will share equally into two groups but some will not * To notice that some quantities can be grouped into pairs and some will have one left over * To begin to notice the odd and even structure by using 10 frames   **Spatial Reasoning: Visualise and build**   * To be able to replicate simple constructions and models * To use positional language to describe where objects are * To be able to give verbal instructions for a partner to follow   **Number: Deepening understanding**  **Patterns and relationships**   * To be able to solve a range of problems * To be able to review and discuss strategies from problem solving activities * To explore and investigate relationships between numbers and shapes * To be able to copy, continue and create a widening range of repeating patterns and symmetrical constructions   **Spatial Reasoning: Mapping**   * To know that maps can be used to help us to see where things are in relation to other things * To create maps to represent models, familiar places and places in stories |
| **Year 1** | **Number: Place Value (within 10)**   * To be able to sort up to 10 objects * To count objects to 10 * To count objects from a group of 10 * To represent up to 10 objects * To represent numbers to 10 * To count forwards to 10 * To count backwards from 10 * To count one more for numbers within 10 * To count one less for numbers within 10 * To count using one-to-one correspondence * To compare up to 10 objects * To use <, > and = for numbers within 10 * To compare numbers within 10 * To order up to 10 objects * To order numbers up to 10 * To recognise ordinal numbers * To be able to use a numberline from 0-10   **Number: Addition and Subtraction (within 10)**   * To recognise parts and wholes in single objects * To recognise parts and wholes in groups of objects * To use the part-whole model * To use the addition symbol * To recognise fact families for addition facts * To find number bonds for numbers within 10 * To find number bonds to 10 * To compare number bonds * To be able to add amounts together * To be able to add ‘more’ * To be able to add using number bonds facts * To be able to find a ‘part’ | **Number: Addition and Subtraction (within 10) continued**   * To be able to subtract by crossing out * To be able to use the subtraction symbol * To be able to subtract to find a ‘part’ * To be able to make fact families for addition and subtraction * To be able to subtract by counting back * To be able to find the difference * To be able to compare addition and subtraction statements a + b > c * To compare addition and subtraction statements a + b => c + d   **Geometry: Shape**   * To recognise and name 3-D shapes * To sort 3-D shapes * To recognise and name 2-D shapes * To make patterns with 2-D and 3-D shapes   **Number: Place Value (within 20)**   * To be able to count forwards and backwards and write numbers to 20 * To recognise numbers from 11 to 20 * To partition numbers into tens and ones * To find one more and one less * To be able to compare groups of objects * To be able to compare numbers * To be able to order groups of objects * To be able to order numbers   **Consolidation** | **Number: Addition and Subtraction (within 20)**   * To explore addition by counting on from a given number * To work systematically to find number bonds to 20 * To add numbers within 20 using knowledge of number bonds * To recognise and use the subtraction symbol within 20 * To be able to partition to make 10 * To be able to subtract within 20 crossing the 10 * To explore addition and subtraction families for numbers within 20 * To compare number sentences within 20 using inequality symbols   **Number: Place Value (within 50)**  **(multiples of 2, 5 and 10 included)**   * To count forwards and backwards within 50 * To know that ten ones can be grouped into one ten * To represent numbers to 50 using a variety of concrete materials * To find one more and one less than given numbers to 50 * To compare two sets of objects using ‘more than’, ‘less than’ or ‘equal to’ * To compare numbers within 50 using inequality symbols | **Number: Place Value (within 50)**  **(multiples of 2, 5 and 10 included) continued**   * To be able to order numbers * To count in multiples of 2 beyond 20 and up to 50 * To count in multiples of 5 beyond 20 and up to 50   **Measurement: Length and Height**   * To understand that height is a type of length * To compare lengths * To use non-standard units to measure length and height * To measure length using a ruler   **Measurement: Weight and Volume**   * To compare two objects using ‘heavier’ and ‘lighter’ * To use non-standard objects to measure the mass of an object * To compare the mass of two objects using <, > and = * To compare the volume in a container by describing whether it is full, nearly full or nearly empty * To measure the capacity of different containers using non-standard units of measure * To use ‘more’, ‘less’ and ‘equal to’ to compare the capacity as well as <, > and =   **Consolidation** | **Number: Multiplication and Division (Reinforce multiples of 2, 5, and 10 to be included)**   * To be able to count in 2s * To be able to count in 5s * To be able to count in 10s * To be able to make equal groups using manipulatives * To be able to add equal groups * To be able to make arrays * To be able to make doubles * To be able to make groups of an equal amount * To explore sharing as a model of division   **Number: Fractions**   * To be able to find a half using shapes and sets of objects * To be able to find half of a small quantity * To know that when a shape is split into four equal parts, each part is called a quarter * To be able to find a quarter of a small quantity through equal sharing | **Geometry: Position and Direction**   * To use the language ‘full’, ‘half’, ‘quarter’ and ‘three quarter’ to describe turns made by shapes and objects * To use ‘left’, ‘right’, ‘forwards’ and ‘backwards’ to describe position and direction * To explore the position of objects and shapes from different starting points   **Number: Place Value (within 100)**   * To be able to count forwards and backwards within 100 * To be able to partition numbers in different ways * To compare numbers within 100 using ‘more than’, ‘less than’ and ‘equal to’ * To compare numbers and amounts using <, > and = * To order sets of objects and numbers from smallest to largest and largest to smallest * To find one more and one less than given numbers or amounts to 100   **Measurement: Money**   * To recognise and know the value of different denominations of coins * To be able to recognise the value of different notes * To count money efficiently using knowledge of counting in 2s, 5s and 10s   **Measurement: Time**   * To use before and after to describe, sort and order events * To know that there are 7 days in a week * To be able to tell the time to the hour using an analogue clock * To be able to tell the time to the half hour * To explore the difference between seconds, minutes and hours * To compare amounts of time using the language faster, slower, earlier and later   **Consolidation** |
| **Year 2** | **Number: Place Value**   * To be able to count forwards and backwards within 20 * To recognise tens and ones within 20 * To be able to count forwards and backwards within 50 * To recognise tens and ones within 50 * To compare To compare numbers within 50 * To be able to count objects to 100 * To be able to read and write numbers to 100 in numerals and words * To be able to represent numbers to 100 in different ways * To partition numbers into tens and ones using the part-whole model * To explore how tens and ones can be partitioned and recombines to make a total * To use a place value chart * To be able to compare objects using <, > or = * To be able to compare numbers using <, > or = * To be able to order objects and numbers * To be able to count in 2s * To be able to count in 5s * To be able to count in 10s * To be able to count in 3s   **Number: Addition and Subtraction**   * To recognise fact families for addition and subtraction bonds to 20 * To be able to check calculations * To compare number sentences * To know number bonds * To know related facts * To know number bonds to 100 for multiples of 10 * To be able to add and subtract ones * To find 10 more and 10 less * To add and subtract tens * To be able to add by making 10 * To be able to add a 2-digit and a 1-digit number (crossing 10) * To be able to subtract a 1-digit number from a 2-digit number (crossing 10) * To be able to add two 2-digit numbers (crossing 10) * To be able to subtract a 2-digit number from a 2-digit number (not crossing 10) * To be able to subtract a 1-digit number from 2-digits (crossing 10) * To be able to subtract a 1-digit number from a 3-digit number (crossing 10) * To be able to add and subtract 3-digit and 2-digit numbers (not crossing 100) * To be able to add and subtract 3-digit and 2-digit numbers (crossing 100) * To be able to subtract a 2-digit number from a 3-digit number (crossing 100) | **Number: Addition and Subtraction continued**   * To add and subtract 100s * To be able to find patterns between calculations * To be able to add two 2-digit numbers (crossing 10 - add ones and add tens) * To be able to subtract a 2-digti number from a 2-digit number (crossing 10 – subtract tens and subtract ones) * To solve mixed addition and subtraction problems * To be able to add and subtract 2-digit and 3-digit numbers not crossing 10 or 100 * To be able to add 2-digit and 3-digit numbers (crossing 10 or 100) * To be able to subtract a 2-digit number from a 2-digit number (crossing 10) * To be able to solve addition and subtraction problems * To find and make number bonds to 100 (tens and ones) * To add three 1-digit numbers   **Measurement: Money**   * To recognise coins and notes * To be able to count pence * To be able to count pounds (notes and coins) * To be able to count money (notes and coins) * To be able to select money * To be able to make the same amount in different ways * To be able to compare money * To be able to find the total * To be able to find the difference * To be able to find change * To be able to solve two-step problems * To be able to make equal groups * To be able to redistribute from unequal to equal groups * To add equal groups   To make arrays  **Number: Multiplication and Division**   * To recognise equal groups * To be able to make equal groups * To be able to add equal groups * To be able to write multiplication sentences using the ‘x’ symbol * To be able to write multiplication sentences from pictures * To be able to use arrays * To make doubles * To understand the 2 times table * To understand the 5 times table * To understand the 10 times table * To be able to make equal groups by sharing * To be able to make equal groups by grouping * To be able to divide by 2 * To recognise odd and even numbers * To be able to divide by 5 * To be able to divide by 10 | **Number:** **multiplication and Division**   * To describe equal groups using stem sentences * To be able to make equal groups to demonstrate understanding of the word ‘equal’ * To begin to connect equal groups to repeated addition * To be able to link repeated addition and multiplication together * To be able to use the multiplication symbol and work out the total from pictures * To use arrays to calculate multiplication statements * To know that ‘double’ is two groups of s number or an amount * To use a variety of resources and images to explore the 2 times-table * To use a variety of resources and images to explore the 5 times-table * To use a variety of resources and images to explore the 10 times-table * To use 1:1 correspondence to share concrete objects into equal groups * To begin to see the link between multiplication and division * To start with a given total and make groups of an equal amount * To be able to divide by making equal groups * To be able to use knowledge of grouping and sharing to divide by 2 * To be able to recognise odd and even numbers * To be able to choose an efficient strategy for grouping or sharing depending on the context of the question * To know that grouping and counting in 10s is more efficient than sharing into 10 equal groups   **Statistics**   * To know that tally charts are a systematic way of recording data * To be able to use tally charts to produce pictograms * To interpret and answer questions about the data presented in pictograms * To be able to draw pictograms where the symbols represent 2, 5 or 10 items * To be able to interpret pictograms represented vertically or horizontally * To be able to draw and interpret block diagrams | **Geometry: Properties of Shapes**   * To be able to recognise and name both 2-D and 3-D shapes * To be able to count the number of sides accurately * To know that a vertex is where two lines meet * To know that corners are also known as vertices * To be able to accurately create 2-D shapes * To be able to identify vertical lines of symmetry * To be able to recognise and sort 2-D shapes in more than one way * To use knowledge of the properties of 2-D shapes to create patterns * To use knowledge of 2-D shapes to identify the shapes of faces on 3-D shapes * To use knowledge of faces and curved surfaces to identify edges on 3-D shapes * To use knowledge of edges to identify vertices on 3-D shapes * To be able to sort 3-D shapes in different ways * To use knowledge of the properties of 3-D shapes to create patterns   **Number: Fractions**   * To know that a whole is one object or one quantity * To know that halving is splitting a whole into two equal parts * To be able to find half of a set of objects or quantity * To be able to recognise quarters of shapes, objects and quantities * To be able to find quarters of shapes, objects and quantities * To be able to recognise thirds of shapes, objects and quantities * To be able to find a third of shapes, objects and quantities * To know that the denominator represents the number of parts that a shape or quantity is split into * To be able to write a fraction where the whole is shaded * To explore the equivalence of two quarters and one half of the same whole * To be able to find three quarters of a quantity * To use knowledge of halves, quarters and thirds to count in fractions from any number up to 10 | **Measurement: Length and Height**   * To be able to use the language of length such as long, longer, short, shorter, tall, taller * To use non-standard units to measure length and height * To be able to measure using a ruler * To measure to the nearest centimetre using a ruler or a tape measure * To measure larger objects using metres * To compare lengths of objects using comparison language and symbols * To order more than two lengths from shortest to longest and vice versa * To solve one-step and two-step problems relating to time   **Geometry: Position** **and Direction**   * To use ‘left’, ‘right’, ‘forwards’ and ‘backwards’ to describe position and direction * To explore the position of objects and shapes from different starting points * To use the language ‘forwards’, ‘backwards’, ‘up’, ‘down’, ‘left’ and ‘right’ to describe movement in a straight line * To describe turns using the language ‘full turn’, ‘half turn’, ‘quarter turn’, ‘three-quarter turn’, ‘clockwise’ and ‘anticlockwise’ * To describe and record directions * To describe and create patterns that involve direction and turns   **Problem solving and efficient methods**  **Consolidation** | **Measurement: Time**   * To be able to tell the time to the hour using an analogue clock * To be able to tell the time to the half hour * To read and draw the times ‘quarter to’ and ‘quarter past’ * To read and show analogue time to 5-minute intervals * To explore the difference between seconds, minutes and hours * To know that there are 24 hours in a day and 60 minutes in an hour * To identify the start and end time of an event * To compare times using ‘longer’ and ‘shorter’   **Measurement: Mass, Capacity and Temperature**   * To describe objects as heavy, light, heavier than, lighter than * To use non-standard units to measure the mass of an object * To compare the mass of different objects * To be able to read scales accurately * To measure mass in kilograms * To explore the concepts of volume and capacity in a practical way * To use measure capacity using non-standard units * To compare the volume of containers using <, > and = * To be able to measure in millilitres * To recognise the difference between measuring in millilitres and litres * To know that temperature is higher when it is warmer   **Investigations** |
| **Year 3** | **Number: Place Value**   * To be able to represent numbers to 100 * To be able to partition and recombine tens and ones to make a total * To recognise hundreds and count objects and numbers in multiples of 100 * To become familiar with numbers up to 1000 * To understand the place value of numbers to 1000 * To understand that a 3-digit number is made up of 100s, 10s and 1s * To be able to estimate, work out and write numbers on a numberline up to 1000 * To be able to find 1, 10 or 100 more or less * To be able to compare objects up to 1000 * To be able to compare numbers up to 1000 * To be able to order numbers up to 1000 * To be able to count in 50s   **Number: Addition and Subtraction**   * To be able to add and subtract multiples of 100 * To add and subtract 1s * To add and subtract 3-digit and 1-digit numbers (not crossing 10) * To be able to add a 2-digit and a 1-digit number (crossing 10) * To be able to add a 3-digit number and a 1-digit number (crossing 10) | * To be able to subtract a 2-digit number from a 3-digit number (crossing 10 or 100) * To be able to add two 3-digit numbers (not crossing 10 or 100) * To be able to add two 3-digit numbers (crossing 10 or 100) * To be able to subtract a 3-digit number from a 3-digit number (no exchange) * To be able to subtract a 3-digit number from a 3-digit number (with exchange) * To estimate answer to calculations * To be able to check answers   **Number: Multiplication and Division**   * To recognise, make and add equal groups * To understand the relationship between repeated addition and multiplication * To use arrays to see the commutativity of multiplication facts * To solve problems involving the 2 times-table * To solve problems involving the 5 times-table * To divide by sharing objects into equal groups * To divide by making equal groups * To use grouping and sharing to divide by 2 * To use grouping or sharing to divide by 5 * To use grouping or sharing to divide by 10 * To be able to solve problems involving multiplying by 3 * To be able to divide by 3 using grouping or sharing * To apply knowledge of the 3 times table to different contexts * To use knowledge of the 2 times table to multiply by 4 * To be able to divide by 4 using grouping or sharing * To use knowledge of known multiplication tables to develop knowledge of the 4 times-table * To use knowledge of the 4 times table to multiply by 8 * To be able to divide by 8 using grouping or sharing * To use knowledge of known multiplication facts to calculate unknown multiplication facts | **Number: Multiplication and Division**   * To be able to solve problems involving the 2 times-table * To be able to solve problems involving the 4 times-table * To be able to solve problems involving the 8 times-table * To use knowledge of multiplication and division to compare statements using inequality symbols * To use known multiplication facts to solve other multiplication problems * To multiply a 2-digit number by a 1-digit number using manipulatives * To multiply a 2-digit number by a 1-digit number with exchange * To divide a 2-digit number by a 1-digit number * To divide a 2-digit number by a 1-digit number with a remainder * To be able to use scaling * To be able to work systematically to find all possibilities   **Measurement: Length, Perimeter and Area**   * To be able to use rulers, tape measures, meter sticks and trundle wheels to measure * To be able to measure in centimetres and millimetres * To be able to measure in meters * To know that 100 centimetres is equivalent to 1 meter * To know that 10 millimetres is equivalent to 1 centimetre * To compare the lengths of objects using comparison language and symbols * To compare and order lengths based on measurements in mm, cm and m * To be able to convert measurements to the same unit of length to add more efficiently * To be able to subtract lengths * To be able to measure the perimeter of simple 2-D shapes * To calculate the perimeter of simple 2-D shapes   **Number: Fractions**   * To be able to make equal parts * To be able to recognise a half * To be able to recognise a quarter * To be able to find a quarter * To be able to recognise a third | **Number: Fractions continued**   * To know that the denominator represents the number of parts that a shape or quantity is split into * To identify unit fractions that have been shaded * To explore the equivalence of two quarters and one half of the same whole * To be able to count in fractions from any number up to 10   **Number: Fractions**   * To be able to make a whole * To know that a tenth is when one whole is split into 10 equal parts * To count up and down in tenths * To represent tenths as a decimal * To use a numberline to represent fractions beyond one whole * To find a unit fraction of an amount * To solve problems involving fractions * To use manipulatives to explore equivalent fractions * To use numberlines to explore equivalent fractions * To look for patterns with equivalent fractions * To compare unit fractions or fractions with the same denominator * To order unit fractions and fractions with the same denominator * To add two or more fractions with the same denominator * To subtract fractions with the same denominator   **Measurement: Mass and Capacity**   * To be able to compare the mass of different objects * To be able to read a range of scales including scales with missing intervals * To measure the mass of objects and record them as a mixed measurement in kilograms and grams * To use ‘heavier’ and ‘lighter’ to compare mass * To be able to add and subtract mass using a range of mental and written methods * To compare volume using <, > and = * To use litres, millilitres and standard scales to explore capacity * To use ‘full’ and ‘empty’ to compare capacity * To be able to add and subtract volumes and capacities * To learn that temperature is higher when it is warmer   **Consolidation** | **Measurement: Money**   * To count in 1p, 2p, 5p and 10p coins * To be able to count in £1, £2, £5, £10 and £20 * To know the value of each coin and note * To be able to convert between pounds and pence * To be able to add two amounts of money * To be able to use different methods to subtract money * To be able to find change   **Measurement: Time**   * To be able to tell the time to the nearest hour and half hour * To read and draw the times ‘quarter to’ and ‘quarter past’ * To explore years using calendars and investigate the number of days in each month * To know that there are 24 hours in a day * To be able to tell the time to the nearest 5 minutes on an analogue clock * To tell the time to the nearest minute using an analogue clock * To use ‘morning’, ‘afternoon’, ‘a.m.’ and ‘p.m.’ to describe the time of day * To compare analogue and digital clocks * To find the duration of events using both analogue and digital clocks * To compare the durations of time using analogue and digital clocks * To find start and end times to the nearest minute using both analogue and digital times * To measure and compare durations of time in seconds | **Statistics**   * To know that tally charts can be used as a systematic method of recording data * To draw pictograms where symbols represent 2, 5 or 10 items * To be able to interpret pictograms represented both horizontally and vertically * To be able to read and interpret pictograms including those with half a symbol * To interpret information in pictograms and tally charts in order to construct bar charts * To interpret information from tables to answer one and two-step problems   **Geometry: Properties of Shape**   * To recognise angles as a measurement of a turn * To recognise that a right angle is a quarter turn * To identify whether an angle is greater than or less than a right angle in shapes and turns * To measure and draw straight lines accurately in centimetres and millimetres * To identify and find horizontal and vertical lines in a range of contexts * To identify and find parallel and perpendicular lines in a range of practical contexts * To recognise, describe and draw 2-D shapes accurately * To recognise and describe 3-D shapes in different orientations * To be able to make 3-D shapes using construction materials   **Consolidation** |
| **Year 4** | **Number: Place Value**   * To be familiar with numbers up to 1000 * To know that a 3-digit number is made up of 100s, 10s and 1s * To estimate, work out and write numbers on a numberline to 1000 * To be able to round numbers to the nearest 10 * To be able to round numbers to the nearest 100 * To be able to count in 1000s * To represent numbers to 1000 in different ways * To understand that 4-digit numbers are made up of 1000s, 100s, 10s and 1s * To explore how numbers to 1000 can be partitioned * To be able to estimate, label and draw numbers on a numberline to 10,000 * To find 1, 10 or 100 more or less than a given number * To find 1000 more or less than a given number * To be able to compare 4-digit numbers using <, > or = * To be able to order numbers in ascending and descending order * To be able to round numbers to the nearest 1000 * To be able to count in 25s * To develop an understanding of negative numbers on a numberline * To explore Roman Numerals to 100   **Number: Addition and Subtraction**   * To be able to add and subtract 1s, 10s and 100s and 1000s * To be able to add two 3-digit numbers (not crossing 10 or 100) * To be able to add two 4-digit numbers (no exchange) * To be able to add two 3-digit numbers (crossing 10 or 100) * To be able to add two 4-digit numbers (one exchange) * To be able to add two 4-digit numbers (more than one exchange) | **Number: Addition and Subtraction continued**   * To be able to subtract a 3-digit number from a 3-digit number (no exchange) * To be able to subtract two 4-digit numbers (no exchange) * To be able to subtract a 3-digit number from a 3-digit number (with exchange) * To be able to subtract two 4-digit numbers (one exchange) * To be able to subtract two 4-digit numbers (more than one exchange) * To be able to choose an efficient method of subtraction * To be able to estimate answers to calculations * To be able to check strategies   **Number: Multiplication and Division**   * To be able to multiply by 10 * To be able to multiply by 100 * To be able to divide by 10 * To be able to divide by 100 * To be able to multiply by 1 and 0 * To be able to divide by 1 * To be able to solve problems involving multiplying by 3 * To be able to divide by 3 by sharing or grouping * To be able to solve problems by multiplying and dividing by 6 * To be able to solve problems by multiplying and dividing by 9 * To be able to solve problems by multiplying and dividing by 7 | **Number: Multiplication and Division**   * To be able to multiply by 11 and 12 * To be able to multiply three one-digit numbers * To be able to multiply numbers mentally * To use informal methods to multiply a two-digit number and a one-digit number * To multiply a two-digit number by a one-digit number using manipulatives * To multiply a two-digit number by a one-digit number using short multiplication * To multiply a three-digit number by a one-digit number * To be able to divide a two-digit number by a one-digit number * To be able to solve division problems with a remainder * To be able to solve problems involving division * To be able to divide a three-digit number by a one-digit number * To work systematically to find all combinations   **Measurement: Length, Perimeter and Area**   * To recognise that 100cm is equivalent to 1 metre * To recognise that 10mm is equivalent to 1cm * To be able to multiply and divide by 1000 to covert between kilometres and metres * To be able to add lengths given in different units of measurement * To use take-away and finding the difference to subtract lengths * To measure the perimeter of simple 2-D shapes * To calculate the perimeter of a rectilinear shape by counting squares on a grid * To calculate the perimeter of rectangles that are not on a square grid * To calculate the perimeter of rectilinear shapes * To understand that area is the amount of space taken up by a 2-D shape or surface * To understand that area is measured in squares * To be able to make rectilinear shapes using a given number of squares * To compare the area of rectilinear shapes   **Number: Fractions**   * To explain the difference between unit and non-unit fractions * To explore fractions of shapes, quantities and fractions on a numberline * To know that a tenth is when one whole is divided into 10 equal parts * To be able to count up and down in tenths * To investigate and record equivalent fractions * To solve problems involving equivalent fractions | **Number: Fractions**  **Continued**   * To learn about fractions greater than 1 * To be able to count in fractions greater than one * To add two or more fractions with the same denominator * To subtract fractions with the same denominator * To subtract fractions from a whole amount * To find a unit fraction of an amount by dividing an amount into equal groups * To find non-unit fractions of amounts * To solve problems for fractions of a quantity   **Number: Decimals**   * To recognise tenths and hundredths * To recognise tenths as decimals * To represent tenths on a place value grid * To read and represent tenths on a numberline * To divide a 1-digit number by 10 * To divide a 2-digit number by 10 * To understand that hundredths arise from dividing one whole into 100 equal parts * To recognise hundredths as decimals * To represent hundredths on a place value grid * To be able to divide 1 or 2-digits by 100 | **Number (decimals including money)**   * To recognise tens bonds to 100 * To find number bonds to 100 with tens and ones * To make a whole from any number of tenths and hundredths * To make numbers with up to two decimal places * To compare numbers with decimals with up to two decimal places * To be able to order numbers with decimals with up to two decimal places * To be able to round numbers with one decimal place to the nearest whole number * To be able to write halves and quarters as decimals   **Measurement (Money)**   * To develop an understanding of pounds and pence * To compare and order amounts * To be able to round amounts of money written in decimal notation to the nearest pound * To be able to convert between pounds and pence * To be able to add two amounts of money * To be able to subtract amounts of money using different methods * To use a numberline and a part-whole model to subtract to find change * To solve simple problems with money involving all four operations   **Measurement (Time)**   * To be able to tell the time to the nearest 5 minutes on an analogue clock * To be able to tell the time to the nearest minute using an analogue clock * To use ‘morning’, ‘afternoon’, ‘a.m.’ and ‘p.m.’ to describe the time of day * To compare analogue and digital clocks * To be able to convert between hours, minutes and seconds * To know the duration of years, months, weeks and days * To be able to convert between analogue and digital times using a format up to 12 hours * To convert between analogue and digital times using a 24 hour clock | **Statistics**   * To know how to use bar charts, pictograms and tables to interpret and present discrete data * To solve comparison, sum and difference problems using discrete data with a range of scales * To read and draw graphs showing continuous data * To solve comparison, sum and difference problems using continuous data with a range of scales   **Geometry Properties of shape**   * To recognise angles as a measure of a turn * To recognise that a right angle is a quarter turn * To identify whether an angle is greater than or less than a right angle in shapes and turns * To develop an understanding of obtuse and acute angles by comparing with right angles * To compare and order angles in ascending and descending order * To recognise, describe and draw 2-D shapes accurately * To classify triangles using the names ‘isosceles’, ‘scalene’ and ‘equilateral’ * To name quadrilaterals including a square, rectangle, rhombus, parallelogram and trapezium * To identify horizontal and vertical lines in a range of contexts * To find and identify lines of symmetry within 2-D shapes * To use knowledge of symmetry to complete 2-D shapes and patterns   **Geometry:**  **Position and direction**   * To read, write and use pairs of coordinates in the first quadrant * To develop an understanding of coordinates by plotting given points on a 2-D grid * To be able to move shapes and points on a coordinate grid * To describe the movement of shapes and points on a coordinate grid |
| **Year 5** | **Number: Place Value**   * To know that 1 4-digit number is made up of 1000s, 100s, 10s and 1s * To represent numbers up to 10,000 in different ways * To be able to round numbers to the nearest 10 * To be able to round numbers to the nearest 100 * To be able to round to the nearest 10, 100 and 1000 * To represent numbers to 100,000 on a place value grid and a numberline * To compare and order numbers to 100,000 * To be able to round numbers up to 100,000To be able to read, write and represent numbers to 1,000,000 * To be able to count forwards and backwards in powers of 10 * To be able to compare and order numbers up to 1,000,000 * To be able to round numbers within 1,000,000 * To explore negative numbers and their position on a numberline * To explore Roman Numerals to 1000   **Number: Addition and Subtraction**   * To be able to add two 4-digit numbers (one exchange) * To be able to add two 4-digit numbers (more than one exchange) * To be able to add whole numbers with more than 4-digits * To be able to subtract two 4-digit numbers (one exchange) * To be able to subtract two 4-digit numbers (more than one exchange) * To be able to subtract whole numbers with more than 4-digits * To be able to round to estimate and approximate * To be able to use inverse operations for addition and subtraction * To be able to solve multi-step addition and subtraction problems   **Statistics**   * To be able to interpret data from a range of different charts * To solve comparison, sum and difference problems using discreet data with a range of scales * To understand that line graphs are used for continuous data * To be able to read and interpret line graphs * To be able to draw line graphs * To be able to use line graphs to solve problems * To be able to read and interpret tables * To be able to read a range of two-way tables * To be able to interpret timetables | **Number: Multiplication and Division**   * To know that the multiple of a number is the product of the number and another whole number * To know that factors are the whole numbers you multiply together to get another whole number * To find common factors of two numbers * To establish whether a number is prime up to 100 * To know what square numbers are and use the correct notation * To know what cubed numbers are and use the correct notation * To be able to multiply numbers by 10 * To be able to multiply numbers by 100 * To be able to multiply numbers by 10, 100 and 1000 * To be able to divide by 10 * To be able to divide by 100 * To be able to divide by 10, 100 and 1000 * To solve problems with multiples of 10, 100 and 1000   **Measurement: Perimeter and Area**   * To be able to measure the perimeter of rectilinear shapes * To calculate the perimeter of rectangles * To calculate the perimeter of rectilinear shapes * To use knowledge of perimeter to calculate unknown side lengths * To calculate the area by counting squares * To be able to find the area of rectangles using a formula * To be able to find the area of compound shapes * To be able to find the area of irregular shapes   **Consolidation** | **Number: Multiplication and Division**   * To multiply a 2-digit number by a 1-digit number * To multiply a 3-digit number by a 1-digit number * To multiply a 4-digit umber by a 1-digit number * To multiply a 2-digit number by a 2-digit number using the area model * To multiply a 2-digit number by a 2-digit number using a formal method * To multiply a 3-digit number by a 2-digit number * To multiply a 4-digit number by a 2-digit number * To divide a 2-digit number by a 1-digit number by sharing into equal groups * To divide 2-digit numbers by 1-digit numbers involving remainders * To divide 3-digit numbers by 1-digit numbers * To divide 4-digit numbers by 1-digit numbers * To be able to solve division questions with remainders in context   **Number: Fractions**   * To explore fractions in different representations * To investigate and record equivalent fractions * To use multiplication and division to find equivalent fractions * To know that a fraction can be split into wholes and parts * To be able to convert improper fractions into mixed numbers * To be able to convert mixed numbers into improper fractions * To be able to count up or down in a given fraction * To compare and order fractions less than 1 * To compare and order fractions greater than 1 * To be able to add and subtract fractions with the same denominator * To be able to add fractions with different denominators | **Number: Fractions**  **Continued**   * To be able to add more than 2 fractions where two denominators are a multiple of the other * To add two or more fractions where the total is greater than 1 * To be able to add two fractions where one or both are mixed numbers or improper fractions * To be able to subtract fractions with different denominators * To be able to subtract proper fractions from mixed numbers * To be able to subtract two fractions where one is a mixed number * To use different strategies to subtract two mixed numbers * To be able to multiply unit fractions by a whole number * To be able to multiply non-unit fractions by a whole number * To be able to multiply a mixed number by a whole number * To be able to find non-unit fractions of a quantity * To be able to find unit and non-unit fractions of amounts, quantities and measures * To be able to use fractions as operators   **Number: Decimals and Percentages**   * To make numbers with up to two decimal places * To explore the relationship between decimals and fractions * To represent numbers greater than 1 as decimals and fractions * To recognise thousandths * To explore the link between tenths, hundredths and thousandths * To be able to round to the nearest whole number and the nearest tenth * To be able to order and compare numbers with up to three decimal places * To know that per cent relates to the number of parts per hundred * To represent percentages as fractions * To recognise simple equivalent fractions and represent them as decimals and percentages   **Consolidation** | **Number: Decimals**   * To be able to add decimals within one whole * To subtract decimals using a variety of different methods * To find complements which sum to make 1 * To be able to add decimals that cross the whole by bridging * To be able to add numbers greater than one with the same number of decimal places * To be able to subtract numbers with the same number of decimal places * To be able to add numbers with different numbers of decimal places * To be able to subtract decimals with different numbers of decimal places * To be able to add and subtract numbers with decimals from whole numbers * To look at decimal sequences and create simple rules * To multiply numbers with decimals by 10, 100 and 1000 * To divide numbers with decimals by 10, 100 and 1000   **Geometry:**  **Properties of Shape**   * To develop an understanding of obtuse and acute angles by comparing with a right angle * To compare and order angles in ascending and descending order * To recognise full, half and quarter turns in terms of degrees * To use a protractor to measure angles less than 90o * To use a protractor to measure obtuse angles * To draw lines to the nearest millimetre and draw angles of a given size * To recognise that two right angles are equivalent to a straight line and that a straight line is half of a turn * To know that there are 36oo in a full turn | **Geometry:**  **Properties of Shape continued**   * To classify triangles using ‘isosceles’, ‘scalene’ and ‘equilateral’ * To name quadrilateral and describe their properties * To reason about the size of lines and angles in shapes drawn on grids * To be able to distinguish between regular and irregular polygons * To be able to reason about 3-D shapes   **Geometry: Position and Direction**   * To be able to use coordinates to describe positions in the first quadrant * To plot given points on a 2-D grid * To be able to plot coordinates in the first quadrant * To be able to translate shapes on a grid * To translate coordinates and describe translations of coordinates * To find and identify lines of symmetry within 2-D shapes * To use knowledge of symmetry to complete 2-D shapes and patterns * To reflect objects using lines that are parallel to the axes * To explore what happens to points when they are reflected in lines parallel to the axes   **Measurement: Volume**   * To understand that volume is the amount of solid space something takes up * To compare and order different solids that are made of cubes * To estimate the volume and capacity of different solids and objects * To estimate capacity using practical equipment   **Consolidation** |
| **Year 6** | **Number: Place Value**   * To represent numbers to 10,000 in different ways * To represent numbers to 100,000 on place value charts and numberlines * To be able to read, write and represent numbers to 1,000,000 * To be able to read, write and represent numbers to ten million in different ways * To be able to compare and order whole numbers up to ten million * To be able to round numbers to the nearest 10, 100 and 1000 * To be able to round numbers within ten million * To be able to count backwards and forwards through zero   **Number: Addition and Subtraction, Multiplication and Division**   * To be able to add whole numbers with more than 4-digits * To be able to subtract numbers with more than 4-digits * To use the inverse operation for addition and subtraction * To solve multi-step addition and subtraction problems * To be able to add and subtract integers * To be able to multiply a 4-digit number by a 1-digit number * To be able to multiply 2-digits using the ‘area model’ * To be able to multiply a 2-digit number by a 2-digit number * To be able to multiply a 3-digit number by a 2-digit number * To be able to multiply up to a 4-digit number by a 2-digit number * To be able to divide a 4-digit number by a 1-digit number * To be able to divide with remainders * To be able to use the short division method * To be able to divide using knowledge of factors * To divide a 3-digit number by a 2-digit number (without remainders) using long division * To divide a 4-digit number by a 2-digit number (without remainders) using long division * To use long division where answers have remainders * To know that factors of a number multiply together to give that number * To be able to find common factors of two numbers * To be able to find common multiples of numbers * To work out whether or not numbers up to 100 are prime | **Number: Addition and Subtraction, Multiplication and Division continued**   * To explore the relationship between square and cube numbers * To understand that the order of operations within a calculation affects the answer * To be able to use efficient mental calculations and sensible estimations * To be able to use reasoning and apply understanding of commutativity and inverse operations   **Number: Fractions**   * To explore equivalent fractions using models and concrete representations * To use understanding of the highest common factor to simplify fractions * To be able to convers improper fractions to mixed numbers * To be able to convert mixed numbers to improper fractions * To be able to identify where fractions belong on a numberline * To be able to compare fractions where denominators are not multiples of the same number * To be able to compare fractions by finding a common numerator * To be able to add and subtract fractions where the denominators are multiples of the same number * To be able to add and subtract fractions where the denominators are not multiples of the same number * To be able to add two fractions where one or both are mixed numbers or improper fractions * To be able to add mixed numbers * To be able to subtract proper fractions from mixed numbers * To be able to subtract mixed numbers * To be able to solve problems that involve adding and subtracting fractions and mixed numbers * To be able to fractions and mixed numbers by integers * To use concrete and pictorial representations to multiply fractions * To be able to divide fractions by integers * To be able to divide fractions where the numerator is not a multiple of the integer * To be able to use the four operations when calculating with fractions * To be able to calculate a fraction of an amount * To be able to find the whole amount from the known value of a fraction   **Geometry: Position and Direction**   * To be able to read and plot coordinates in the first quadrant * To be able to read and plot coordinates in all four quadrants * To use knowledge of coordinates and positional language to translate shapes in all four quadrants * To be able to reflect shapes in all four quadrants   **Consolidation** | **Number: Decimals**   * To be able to read and write decimal numbers with up to two decimal places and know the value of each digit * To develop an understanding of thousandths * To understand numbers with up to three decimal places * To be able to multiply numbers with up to three decimal places by 10, 100 and 1000 * To be able to divide decimals by 10, 100 and 1000 * To be able to multiply decimals in the context of money and measures * To be able to divide decimals using knowledge of sharing and grouping * To solve division problems where the answer has up to 2 decimal places * To convert decimals into fractions * To investigate efficient methods to convert fractions to decimals   **Number:**  **Percentages**   * To know that per cent relates to the number of parts per hundred * To convert fractions into percentages * To understand the difference between tenths and hundredths and their equivalent percentages * To convert between fractions, decimals and percentages to order and compare them * To be able to find percentages of amounts * To explore different methods for finding percentages of amounts * To missing whole or missing percentage when the other values are given   Number: Algebra   * To explore simple one-step function machines * To explore simple two-step function machines * To be able to form expressions based on function machines * To be able to substitute into a simple expression to find a particular value * To be able to substitute into familiar formulae for area and volume * To use algebraic notation to form one-step equations * To solve simple one-step equations involving the four operations * To solve simple two-step equations involving the four operations * To consider what values a pair of variables can take * To find possible solutions to equations which involve multiples of one or more unknown | **Measurement: Converting Units**   * To read, write and recall all metric measurements for length, mass and capacity * To use skills of multiplying and dividing by 10, 100 and 1000 to convert between units of length, mass and capacity * To use and apply conversion skills to solve measurement problems in context * To be able to find approximate conversions from miles to km and from km to miles * To be able to convert between metric and imperial measurements   Measurement: Perimeter, Area and Volume   * To find and draw rectilinear shapes that have the same area * To calculate the area and perimeter of rectilinear shapes * To work out the area of triangles by counting * To calculate the area of right-angled triangles * To find the area of any triangle using a formula * To calculate the area of parallelograms * To know that volume is the amount of solid space something takes up * To know that volume is the space occupied by a 3-D object * To use the formula *(l x w x h)* to calculate the volume of cuboids   **Number: Ratio**   * To know that ratio shows the relationship between two values * To use objects and diagrams to compare ratios and fractions * To use a colon to express ratios * To be able to calculate ratios * To be able to draw 2-D shapes to a given scale factor * To find scale factors when given similar shapes * To solve problems involving ratio and proportion | **Statistics**   * To be able to read and interpret * To be able to draw line graphs * To be able to read and interpret line graphs to solve problems * To illustrate and name parts of circles using the words radius, centre and circumference confidently * To be able to interpret pie charts * To interpret pie charts with percentages * To be able to draw a pie chart using a protractor * To apply addition and division skills to calculate the mean average in a variety of contexts   **Geometry: Properties of Shape**   * To be able to measure angles in different orientations * To draw lines to the nearest millimetre and draw angles of a given size * To know that there are two right-angles on a straight line and four right angles around a point * To calculate missing angles on straight lines * To know that there are 360o in a full turn * To be able to calculate missing angles * To recognise that vertically opposite angles share a vertex and that they are equal * To know that the interior angles of a triangle add up to 180o * To use knowledge of properties of triangles to reason about angles * To be able to solve missing angle problems involving triangles * To know that angles in any quadrilateral add up to 360o * To explore interior angles in polygons * To be able to draw shapes accurately on different grids * To use knowledge of 2-D and 3-D shapes to identify three-dimensional shapes from their nets | **Consolidation and themed projects** |