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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
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| **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** |