Mathematics Curriculum

2021 Guidance

Long term planning guidance by year group.

Contents

Year N

Counting (LO1)

Autumn	Spring	Summer
Rote count to 3 Touch count objects up to 3 Count and copy up to 3 claps; 3 marching steps Sing 'Two Little Dickie Birds' and 'When Goldilocks went to the House of the Bears' counting with actions for one, two, three Say how many objects (1–3) when asked to 'count how many' Recognise the numerals 1, 2, 3, and say the number name	Rote count to 5 Touch count objects up to 5 Match number of objects to correct numeral at least to 3, then 5 (show finger numbers) Recognise the numerals 0 -5 and say the number name Sing songs using counting actions up to 5 eg 5 Little Men in a Flying Saucer Know that the last number reached when counting a small set of objects tells you how many there are in total (cardinal principle) Compare quantities using language: 'more than', 'fewer than'	Rote count to 10 and beyond Count 0-10 forwards and backwards in everyday contexts eg countdowns/ footsteps/pennies Match the number of objects (0–5) to the correct numeral Say how many objects (0-3) when asked 'How many?' without touch counting (subitise) Count and match arrangements of up to six items, eg dice/dominoes (subitise) Count objects (including cups) up to 5, moving them from the Resources Table to the Maths table Begin to use the counting action and count out loud when asked to, 'Look at the Maths Table and count' Use the denomination of the object being counted, for example, [number] cups/teddies etc when asked 'How much is there here?' (cardinal principle) Solve real world mathematical problems with numbers up to 5 Sing counting on and back songs to 10 (If taking away eg cakes, remove from the Maths Table, the Shop, back to the Resources Table, Home)
Additional 2021 EYFS Framework guidance:		
Nursery Learning Goals – Number Rote count to 10 Recognise the numerals from 0-5 and count the correct number of objects Develop fast recognition of up to 3 objects, without having to count them individually (subitising)	**Literacy** Count or clap syllables in a word Page sequencing	**Expressive Arts & Design** Clap or tap to the pulse of songs or music

Year N

Number (LO1)

Autumn	Spring	Summer
Recognise the numerals 1, 2, 3, and say the number name	Recognise numerals 0-5 Sequence numbers from 0 to 5 Order objects or pictures and say: first, second, third Explore the 'fiveness of 5' (subitise)	Say number name when shown number symbol to at least 5 Make staircases to show the 'fiveness of 5' (subitise) Sequence numbers from 0 to 10 Compare quantities using language: 'more than', 'fewer than'
Additional 2021 EYFS Framework guidance:		
Nursery Learning Goals- Number Recognise the numerals from 0-5 Develop fast recognition of up to 3 objects, without having to count them individually ('subitising') **Mathematics Number** Experiment with their own symbols and marks as well as numerals		

Writing (LO1)

Autumn	Spring	Summer
Experiment with their own symbols and marks as well as numerals	Write some letters (numerals) accurately	Copy the numerals 0, 1, 2, 3 with increasing accuracy using the large oval template
Additional 2021 EYFS Framework guidance:		
Mathematics Number Experiment with their own symbols and marks as well as numerals **Literacy** Write some letters (numerals) accurately **Physical Development Fine motor** Use a comfortable grip with good control when holding pens and pencils		

Year N

Calculating (LO2)

Autumn	Spring	Summer
	Experiment with their own symbols and marks as well as numerals to solve real world mathematical problems	Solve real world mathematical problems with numbers up to 5 Sing counting on and back songs. (If taking away eg cakes, remove from the Maths Table side, the Shop, back to the Resources Table side, Home.) When asked eg How many more? How many left? Children respond by working out the quantity (count fingers and/or objects) and/or saying one more/less Compare quantities using language: 'more than', 'fewer than'
Additional 2021 EYFS Framework guidance:		
Mathematics Number Solve real world mathematical problems with numbers up to 5 **Nursery Learning Goals- Number** Compare quantities using language: 'more than', 'fewer than'		

Shape (LO5)

Autumn	Spring	Summer
Explore & talk about shape using informal language to describe it Walk on lines – curved and straight Draw lines (freehand)	Talk about and recognise 2D shapes: rectangle, square, triangle, circle, oval Talk about and recognise 3D shapes: cube, cuboid (box); sphere (ball); cylinder (tube) Make and continue a pattern with, for example, repeated colours, shapes or sizes Walk and ride on lines and around shapes on the playground, talk about the shapes Create closed shapes with continuous lines	Match shapes by recognising similarities, eg same number of sides; straight/curved (bendy) sides Notice simple symmetry Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc Combine shapes to make new ones - an arch, a bigger triangle etc Begin to name 2D shapes in everyday contexts eg a drawing of a house with windows (square), door(rectangle) and a roof (triangle)
Additional 2021 EYFS Framework guidance:		
Mathematics - Shape & Space Talk about similarities and begin to use mathematical names for 2-D shapes (square, rectangle, triangle and circle) **Nursery Learning Goals- Number** Compare quantities using language: 'more than', 'fewer than'	**Expressive Arts and Design** Create closed shapes with continuous lines, and begin to use these shapes to represent objects	**Physical Development Fine & Gross motor** Use a comfortable grip with good control when holding pens and pencils Continue to develop their movement, balancing, riding

Year N

Position (LO5)

Autumn	Spring	Summer
Use positional language - behind/in front; up/down; inside/outside Notice patterns and arrange things in patterns	Use scales to weigh objects and ingredients: Use the vocabulary heavy, light, heavier, lighter, heaviest and lightest Use the vocabulary of height, eg tall, short, and weight, eg heavy, light Use the vocabulary of capacity – full/empty/half-full; more/less Use positional language to order three objects of different size. Extend and create ABAB patterns – stick, leaf, stick, leaf	Use positional language, eg left, right, top, middle (centre), bottom; next/beside/opposite/between Use positional language to describe walks and journeys Notice and correct an error in a repeating pattern
Additional 2021 EYFS Framework guidance:		
Nursery Learning Goal- Shape & Space Notice and correct an error in a repeating pattern **Mathematics - Shape & Space** Follow some simple instructions using positional language		

Measure (LO7)

Autumn	Spring	Summer
Compare sizes, weights etc using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy' Uses early vocabulary of time eg today, the day before/after this day	Make comparisons between objects relating to size, length, weight and capacity Compare quantities using language: 'more than', 'fewer than' Knows some names of days of the week	Arranges objects in order of size using a more mathematical vocabulary with comparatives & superlatives eg short, shorter/shortest Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...yesterday/today/tomorrow Refers to days of the week, begins to sequence Knows some months of the year and season names. Use vocabulary like 'morning', 'afternoon', 'evening' and 'night-time', 'earlier', 'later', 'too late', 'too soon', 'in a minute'
Additional 2021 EYFS Framework guidance:		
Nursery Learning Goals- Number Compare quantities using language: 'more than', 'fewer than' **Mathematics - Shape & Space** Make comparisons between objects relating to size, length, weight and capacity	**Mathematics Shape and Space** Begin to describe a sequence of events, real or fictional	**Physical Development - Gross Motor** Increasingly be able to use and remember sequences and patterns of movements which are related to music and rhythm **Understanding the World** Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal

Year N

Sorting and Data (LO8)

Autumn	Spring	Summer
	Sort objects and shapes according to own criteria eg animals; vehicles	Sort objects into groups of the same type, eg beads or pictures of frogs Sort and match objects according to size
Additional 2021 EYFS Framework guidance:		
Nursery Learning Goals- Number Compare quantities using language: 'more than', 'fewer than' **Mathematics - Shape & Space** Make comparisons between objects relating to size, length, weight and capacity	**Understanding the World** Explore collections of materials with similar and/or different properties	

Daily Practice

Autumn	Spring	Summer
Counting forwards from zero to 5 Recognise numerals 0-3 Match 1, 2 and 3 objects to numeral name Use positional language – in front, behind; before/after; inside/outside Sequence daily events First, Next, Then	Count forwards and backwards from 0 to 10 Touch count to 5 Subitise to 3 Talk about properties of 2D shapes (square, rectangle, circle and triangle) and 3D shapes (cube and cuboid) Positional Language – Beginning (Start), Middle, End; First, Next, Last Sequence real events - Yesterday; Today; Tomorrow	Count forwards and backwards from any single digit to 10 and back Touch count to 5 then 10 Subitise to 5 Number formation (0-5) Begin to name 2D shapes (circle, triangle, square, rectangle) Compare quantities using language: 'more than', 'fewer than' Positional Language Sequence events - Days of week, Seasons
Additional 2021 EYFS Framework guidance:		
Nursery Learning Goals Fast recognition of 3 items (subitising) Recognise the numerals from 0 to 5 and count up to 5 objects To rote count to 10 Compare quantities using language: 'more than', 'fewer than' Notice and correct an error in a repeating pattern	**Mathematics – Shape & Space** Talk about similarities and begin to use mathematical names for 2-D shapes (square, rectangle, triangle and circle) Follow some simple instructions using positional language Make comparisons between objects relating to size, length, weight and capacity	

Year R

Counting (LO1)

Autumn	Spring	Summer
Count objects at least up to 5 Say how many objects (1–5) when asked to 'count how many' Recognise the numerals 0, 1, 2, 3, 4, 5 and say the number Match the number of objects (0–5) to the correct numeral Develop fast recognition of up to 5 objects, without having to count them individually ('subitising') Count 0-10 forwards and backwards, count to 20 forwards inc everyday contexts eg footsteps/pennies Count and match arrangements of up to six items, eg dice/dominoes (subitise) Use counting action for objects to at least 10, when asked to, 'Look at the Maths Table & count'. For Real-life story count eg pennies. Say, □ cups/pennies when asked, How much is there here?	Count objects & match to numeral at least to 10, then 20 Use the counting action and count out loud when asked to, 'Look at the Maths Table and count' Use denomination In Real-Stories/Real-Life Stories, say, for example, [number] cups/children when asked 'How much is there here?' Count forwards/backwards from zero in ones to/from 20 and count up to 50 crossing 10's boundaries	Recognise and say a half when asked, How much is there here? and when shown the symbol ½ Say 'a half cup' when shown a half cup and asked How much is there here? Say a quarter cup when shown a quarter cup and asked, how much is there here? Count forwards/backwards 0 to 20 and beyond (up to 99)
Additional 2021 EYFS Framework guidance:		
ELG: Number Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5 Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts	**ELG: Numerical Patterns** Verbally count beyond 20, recognising the pattern of the counting system; Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	**Expressive Arts & Design** Invent, adapt and recount narratives (involving number or size) and stories with peers and their teacher Sing a range of well-known nursery rhymes and songs; (counting songs), and experiment with ways of changing them (What if not?) Explore and engage in music making and dance, performing solo or in groups and – when appropriate – try to move in time with music (counting a beat)

Year R

Number (LO1)

Autumn	Spring	Summer
Count objects (1–10) and match to the correct numeral	Sequence numbers from 0 to 10 then 0 to 20 Order objects or pictures and say: first, second, third, etc up to tenth Match *pairs* of numbers (0–20) to a variety of objects	Count and match pennies to objects costing up to 10p Say 'a half' when shown the symbol ½ or words 'a half' or 'one half' and asked 'What does this say?' Then for ¼
Additional 2021 EYFS Framework guidance:		
ELG: Number Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5	**ELG: Numerical Patterns** Verbally count beyond 20, recognising the pattern of the counting system Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	

Writing (LO1)

Autumn	Spring	Summer
Accurately, write numerals 0, 1, and 3 (which sit inside the oval 0 template) in a variety of contexts numbers 4, 6, & 8 (inside oval 0) numbers 2, 5, 7, & 9 (outside oval 0)	Copy addition and subtraction Maths Stories with 1-digit whole numbers Read and Write the numbers to 10 then to 20	Write the symbol ½ accurately and then ¼ Copy addition and subtraction Maths Stories with 1-digit whole numbers and half
Additional 2021 EYFS Framework guidance:		
Physical Development Fine Motor Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases Use a range of small tools, including scissors Begin to show accuracy and care when drawing. (Number formation, cutting on a line to cut out shapes, join dots)		

Year R

Calculating (LO2)

Autumn	Spring	Summer
Act the Real Story (cups) for **addition** Maths Stories with 1-digit whole numbers by following *verbal instructions*, ie Get ready to get some more; then for *written* 1-digit Maths stories, including 0 Act out a basic Real-Life Story (counters/ blocks/pennies following *verbal* instructions. Use vocabulary relating to addition Look at an **addition** Maths Story with 1-digit whole numbers, read what it says: 2 + 4 + 3 = 9; means: two cups, add four cups, add three cups, equals nine cups Say one more than and one less than a given number (0–10)	Act the Real Story, using cups/blocks/counters, for **addition, then subtraction,** Maths Stories with 1-digit whole numbers Look at the Maths Story and read what it says /means for **addition/subtraction** Maths Stories with 1-digit whole numbers Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) Use the words and actions for: **add, take away and equals** Say one more than or one less than for 1-digit whole numbers up to 20 Double up to 5 **+** 5 objects Share up to 15 objects equally	Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts Use 10-frames to add/subtract by subitising and using known bonds to 5 (and 10) Begin to use more efficient strategies to Act a Real Story for **an addition and subtraction** Maths Story with 1-digit whole numbers (cups/blocks/counters) and halves, using whole and half cups, then quarter cups Act out **addition and subtraction** Real-Life Stories for 1-digit whole numbers, eg two parcels, add three parcels, take away one parcel, equals four parcels Link one more than/ one less than to Maths Stories **(+1 or -1)** saying 'one more/less than □ is □ (up to 99)
Additional 2021 EYFS Framework guidance:		
ELG: Number Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5 Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts	**ELG: Numerical Patterns** Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	

Year R

Shape (LO5)

Autumn	Spring	Summer
Match shapes by recognising similarities, eg same number of sides Begin to use mathematical names for 2D shapes	Recognise and name 2D shapes: rectangle, square, triangle, circle, oval Find half of shapes (symmetry) Sort and match 2D shapes (rectangle, square, triangle, circle, oval) by counting the number of *straight* sides Recognise & name 3D shapes: cube, cuboid Make and continue a pattern with, for example, repeated colours, shapes or sizes	Identify and name 2D shapes Sort 2D shapes by type, ie tessellating and non-tessellating Identify and name 2D & 3D shapes in everyday contexts, eg a sphere-shaped ball; a tin of beans as a cylinder; ice-cream cornet as a cone
Additional 2021 EYFS Framework guidance:		
Mathematics: Shape & Space Select, rotate and manipulate shapes in order to develop spatial reasoning skills Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can		**Understanding the World** Draw information from a simple map. Recognise some environments that are different to the one in which they live Compare similarities and differences in relation to places, objects, materials and living things (shape/space, positional vocabulary, comparatives & superlatives) **Expressive Arts & Design-Creating with Materials** Use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function Share their creations, explaining the process they have used; make use of props and materials when role playing characters in narratives and stories. (Shape & Space)

Year R

Position (LO5)

Autumn	Spring	Summer
Use positional language, such as over/ under/through; behind/in front; up/down; over/under, straight /curved; inside/outside; after/before	Use scales to weigh objects and ingredients: Use the vocabulary heavy, light, heavier, lighter, heaviest and lightest Use the vocabulary of height, eg tall, short and use comparative/superlative, and weight, eg heavy, light Use the vocabulary of capacity – full/empty/half-full; more/less	Use positional language, eg left, right, top, middle (centre), bottom; next/beside/opposite/between Use positional language to describe walks and journeys Continue, copy and create repeating patterns
Additional 2021 EYFS Framework guidance:		
Mathematics: Shape & Space Continue, copy and create repeating patterns Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compare length (distance), weight (mass) & capacity.	**Physical Development Gross Motor** Revise and refine the fundamental movement skills they have already acquired eg walk forwards/backwards in a straight line	**Understanding the World** Draw information from a simple map. Recognise some environments that are different to the one in which they live - compare similarities and differences in relation to places, objects, materials and living things (shape/space, positional vocabulary, comparatives & superlatives)

Measure (LO7)

Autumn	Spring	Summer
Use vocabulary related to size, eg little, medium, big, huge	Compare heights using vocabulary of short and tall Order height as shorter than and taller than, shortest, tallest Use the vocabulary heavy, light, heavier, lighter, heaviest and lightest Compare capacity using vocabulary of empty/full	Weigh parcels/objects and say /order which is heavier/lighter or heaviest/lightest Say o'clock for time on the hour Measure one- or five-minutes using sand timers Count the number of actions done within a time limit, eg counting jumps or numbers with a sand timer Talk about time using the vocabulary of minutes, hours, o'clock, early and late Talk about speed using the vocabulary of fast and slow
Additional 2021 EYFS Framework guidance:		
	Understanding the World Explore the natural world around them Describe what they see, hear and feel whilst outside Compare similarities and differences in relation to places, objects, materials and living things (shape/space, positional vocabulary, comparatives & superlatives)	**Mathematics: Shape & Space** Compare length (distance), weight (mass) & capacity Use vocabulary of position and time to compare quantities and objects and to solve problems

Year R

Sorting and Data (LO8)

Autumn	Spring	Summer
Sort objects into groups of the same type, eg beads or pictures of frogs Sort and match objects according to size	Sort 2D and 3D shapes according to criteria	Collect information to make a block graph Find and talk about the information on a block graph
Additional 2021 EYFS Framework guidance:		
	Mathematics: Shape & Space Select, rotate and manipulate shapes in order to develop spatial reasoning skills	**ELG: Numerical Patterns** Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity **Mathematics: Shape & Space** Compare length (distance), weight (mass) & capacity. Use vocabulary of position and time to compare quantities and objects and to solve problems

Daily Practice

Autumn	Spring	Summer
Number formation 0-9; then 0-20 Counting forwards and backwards Recognise numerals 0-9; then 0-20 Subitise to 5 Days of the week; Months of the year Recognise and name 2D shapes (square, rectangle, circle and triangle)	Find one more and one less Count forwards and backwards Number formation (0-20) Subitise to 10 Recognise and name 2D shapes (square, rectangle, circle and triangle); 3D shapes cube and cuboid Months of the year	Find one more and one less Count forwards and backwards Subitise to state number bonds to 10 Number formation (0-20) Name 3D shapes cube and cuboid; then sphere, cone; cylinder, pyramid Double numbers up to 10 Dates
Additional 2021 EYFS Framework guidance:		
Expressive Arts & Design Sing a range of well-known nursery rhymes and songs; (counting songs), and experiment with ways of changing them (What if not?)	**ELG: Number** Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5 Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts	**ELG: Numerical Patterns** Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally

Year 1

Arithmetic

Autumn	Spring	Summer
Calculate and record addition and subtraction maths stories to 20 Add and subtract 1/2 and 1/4 Use facts to 10 to Create addition and subtraction maths stories about 0, 00 and 000	Copy and solve vertical addition and subtraction (up to 3-digit numbers)	Copy and solve vertical addition and subtraction (up to 4-digit numbers)
Additional National Curriculum guidance:		
Add and subtract one and two-digit numbers to 20 Use known facts to 10 to calculate to 20	Read and write numbers to 100	

Geometry

Autumn	Spring	Summer
Draw lines and shapes with a ruler Make 2D shapes using dm sticks and find the perimeter Measure the length of lines in cm	Make whole, half, quarter and three-quarter turns Name 2D shapes: square, rectangle, triangle and circle	Recognise and compare 1D, 2D and 3D shapes Name 3D shapes: cuboid, cube, pyramid and sphere Identify 2D faces on 3D shapes
Additional National Curriculum guidance:		
Use positional language: top/middle/bottom left/right	Use positional vocabulary: left/right, top/middle/bottom, close/far, inside/outside, between/above	Recognise shapes in different orientations and sizes

Year 1

Data and Measures

Autumn	Spring	Summer
Measure the length of shapes using dm Find the perimeter of shapes using dm Use actions: 1cm/1dm/1m and 1g/1kg	Measure and record length Say and write mass Compare weights and measure mass in kg and g Say and write volume in ml Select coins for different amounts (not mixing pounds and pence)	Calculate change (not mixing pounds and pence) Draw hands on a clock face in preparation for telling the time
Additional National Curriculum guidance:		
	Use a range of measuring tools Measure and record using dm/cm, g/kg and l Compare measurement using vocabulary: long/short, heavier/lighter, half full/quarter full, full/empty Recognise the value of coins and notes	Read times: o'clock and half past Use time vocabulary: before, after, today, tomorrow, yesterday, seconds, minutes, hours, morning, afternoon, quicker/slower, earlier/later

Arithmetic 2

Autumn	Spring	Summer
Calculate + and - maths stories Calculate x maths stories	Calculate ÷ maths stories Calculate maths stories involving all four operations Calculate addition and subtraction maths stories involving whole, 1/2 and 1/4	Understand embellished and basic real-life stories Solve addition and subtraction word problems
Additional National Curriculum guidance:		
+ and - using concrete objects and pictorial representation x using concrete objects, pictorial representations and arrays	÷ using concrete objects, pictorial representations and arrays	Solve problems using pictorial representations

Year 1

Reasoning

Autumn	Spring	Summer
Write numbers 0-9 and fractions Calculate + and - maths stories Use comparative language: bigger/smaller, equal to, difference between	Create and draw basic and embellished real-life addition and subtraction stories	Shade $^1/_2$, $^1/_4$ and $^3/_4$ of a shape Months of the year Create a bar chart
Additional National Curriculum guidance:		
Understand language involved: add, altogether, total, take away, more than, less than		Recognise and find 1/2 of an object, shape and quantity Recognise and find 1/4 of an object, shape and quantity

Daily Practice

Count in ones along a number line Use positional vocabulary: top, bottom, left and write Count days and dates on a calendar Identify shapes: triangles, quadrilaterals, pentagons and hexagons Draw straight lines between dots Read and write fractions: $^1/_2$ and $^1/_4$ Calculate totals of money up to 10p Recognise odd and even numbers Count movements on a number line	Number bonds to 10 Number bonds to 20 Find 10 more or less than a number Fill in missing numbers Match coins to the price of an item Estimate number of objects using groups of 2, 5 and 10 Complete a flow diagram: + - x Compare times of the day Compare prices of objects
Additional National Curriculum guidance:	
Count forwards and backwards to and across 100 Read and write numbers to 100 Count in 2s, 5s and 10s forwards and backwards Identify 1 more and 1 less than numbers to 100 Order: first, second, third Read and write numbers to 20 in numerals and words Order numbers Compare amounts: equal to, more than, less than, fewer than, most, least	Create repeating patterns with objects and shapes Double numbers to 10 Halve numbers to 20 Know and order days of the week Know and order months of the year Know number bonds to 20 and related subtraction facts Solve missing number and symbol maths stories

Year 2

Arithmetic

Autumn	Spring	Summer
Calculate vertical + and - maths stories Calculate + - x and ÷ maths stories involving $^1/_2$ and $^1/_4$ Calculate vertical addition with one tricky column	Complete vertical subtraction with one tricky column Solve addition and subtraction word problems	Solve word problems involving all four operations Write horizontal maths stories vertically and solve with one tricky column
Additional National Curriculum guidance:		
Recall addition and subtraction facts to 20 Use language: sum and difference Recognise place value of each digit	Partition in different ways (when teaching funny counting) eg 53=50+3 or 40+13 Use pictorial representations	

Geometry

Autumn	Spring	Summer
Make and name 2D shapes using dm and find the perimeter Identify lines of symmetry in 2D shapes Identify right angles	Describe the properties of 3D shapes: number of faces, vertices, edges and shape of faces Identify lines of symmetry in 2D shapes Identify angles Recognise squares, rectangles & triangles in *different orientations* (moved from MMS2 Ge B6 for SATs)	Name 2D shapes: polygons, quadrilaterals, hexagon, pentagon, octagon Name special 2D shapes: isosceles triangle, equilateral triangle, right-angled triangle, rectangle, square Recognise 3D shapes: name prisms and pyramids Use nets for 3D shapes
Additional National Curriculum guidance:		
2D shape properties: corner, sides, diagonal, vertical, horizontal, symmetry Rotation as a turn or in terms of right angles for 1/4, 1/2 and 3/4 turns Rotate clockwise and anti-clockwise	Name 3D shapes: cuboid, prism, cylinder, cone, pyramid Sort 3D shape Sort 2D shapes Patterns/sequences of shape in different orientations	Name 2D and 3D shapes in different orientations

Year 2

Data and Measures

Autumn	Spring	Summer
Read times: o'clock, quarter past, half past, quarter to Draw the hands on a clock face Read and write digital times Select and use measuring tools	Identify explicit and implicit information in grids and bar charts Measure length using cm, mm, dm, m Calculate change	Interpret bar charts and pictograms Measure length in mm Read and write digital times
Additional National Curriculum guidance:		
Know the number of minutes in an hour and hours in a day Read and write time to 5 minutes Estimate and measure in mm, cm, m, g, kg, ml, l, °C Compare measurements using <>= and 'twice as high' 'half as wide'	Use symbol £ and p separately Find combinations of coins to make totals Money word problems	Pictograms and bar charts in units of 2, 5 and 10 Interpret tally charts and tables Construct simple pictograms, tally charts, block diagrams and tables Compare and sequence intervals of time

Arithmetic 2

Autumn	Spring	Summer
Identify maths stories and basic real-life story in embellished stories Identify implicit and explicit information	Partition numbers *note Language: Tens (ty) Units (cups) also as Ones interchangeably from this point onwards through KS2* Write mixed numbers Difference between Number sequences Number puzzles: totals of money, missing numbers, find ways to make a total	Number puzzles: order numbers, create numbers, money puzzles, missing numbers and symbols Find $^1/_2$ and $^1/_4$ of numbers and objects Write numbers shown on an abacus Sort numbers using Carroll and Venn diagrams
Additional National Curriculum guidance:		
		Find, name, write fractions of a length, shape, quantity: $^1/_2$, $^1/_4$, $^3/_4$, $^2/_4$, $^1/_3$ Recognise the equivalence of $^2/_4$ and $^1/_2$

Year 2

Reasoning

Autumn	Spring	Summer
Inverse of addition Commutative law Inverse of multiplication Grid method x and ÷ as a picture of the Maths Story	Solve word problems involving all four operations Type 1 and Type 2 division	Select and use measuring tools Solve measuring word problems Type 1 and Type 2 multiplication Create x and ÷ maths stories about 0, 00 and 000
Additional National Curriculum guidance:		
Solve missing number problems Use related facts eg 3+4=70 therefore 30+40=70 Use arrays	Use pictorial representations	Recall multiplication and division facts for 2-, 5- and 10-times tables

Daily Practice

Find 10 more or less than a number	Repeated addition and multiplication SVDA
Find 20 more or less than a number	Repeated subtraction and division SVDA
Recall multiplication facts for 2-, 5- and 10-times tables	Missing number maths stories
Know months of the year and number of days in each month	Compare numbers to 100 using <>=
Recall addition facts and corresponding subtraction facts	Find missing tens or unit number
Number bonds to 50	Add, subtract and multiply cumulatively
Use number line to add	Round numbers to the nearest 10
Number pairs with 2-digit totals	Estimate answers to calculations
Money SVDA	Estimate number of objects
Identify totals of money	Compare time durations
Read information from calendars	Create and describe number patterns
Use calculator for all four operations	Identify symmetrical patterns
Put events in chronological order	
Additional National Curriculum guidance:	
Count in 2s, 3s, 5s and 10s forwards and backwards	Recognise odd and even numbers
Read and write 0-100 in numerals and words	Doubling and halving amounts to 100
Order numbers to 100	Recognise doubling as x 2 and halving as ÷ 2
Add and subtract mentally a 2-digit number and ones/tens	Count in fractions to 10 (eg 0 $^1/_4$ $^1/_2$ $^3/_4$ 1)
Add and subtract mentally two 2-digit numbers	Recognise odd and even numbers

Year 3

Arithmetic

Autumn	Spring	Summer
Calculate + and - maths stories involving mixed numbers Vertical + and - with tricky columns (TU) Calculate + - x and ÷ maths stories involving fifths	Calculate + - x and ÷ maths stories involving fifths and sevenths Vertical + and - with tricky columns (TU) Calculate + - x and ÷ maths stories involving negative numbers	Calculate + - x and ÷ maths stories involving negative numbers Calculate + - x and ÷ maths stories involving fifths and sevenths Vertical + and - with tricky columns (HTU)
Additional National Curriculum guidance:		
Recognise place value of each digit Partition in different ways eg 153=100+50+3 or 140+13	Solve problems involving fractions	

Geometry

Autumn	Spring	Summer
Investigate properties of lines Draw and measure lines Name polygons Distinguish between clockwise and anti-clockwise Plot co-ordinates	Identify degrees in $^1/_4$, $^1/_2$, $^3/_4$ turns Draw angles multiples of 10° Use set squares to identify and draw right angles Recognise parallel and perpendicular lines Plot and draw lines	Use a compass and ruler to draw triangles Compare and draw triangles specified by co-ordinates Identify pyramids and prisms from its net Recognise 3D shapes from 2D drawings Identify and draw types of triangles
Additional National Curriculum guidance:		
Recognise symmetrical and non-symmetrical polygons and polyhedra	Identify whether angles are right angles, acute or obtuse Identify horizontal and vertical lines	Make 3D shapes using modelling material Recognise 3D shapes in different orientations

Year 3

Data and Measures

Autumn	Spring	Summer
Write digital times Calculate time differences and durations Use compass to draw and measure circles and hexagons	Interpret data in grid, pie charts and bar charts Measure length and mass Calculate area, volume, length and perimeter of shapes	Create and interpret tally charts and bar charts Calculate totals and difference between prices Estimate and measure mass and capacity Calculate are a and volume Solve area word problems
Additional National Curriculum guidance:		
Read digital 12-hour clocks Tell the time using Roman numerals Use vocabulary: o'clock, am, pm, morning, afternoon, noon and midnight	Units of 2, 5 and 10 Interpret pictograms Solve one- and two-step problems, eg how many more/fewer? Use mm/cm/m, g/kg and mixed units eg 1kg and 200g Compare measurements Add and subtract measurements	Add and subtract money (mixed units) and record £ and p separately Calculate change

Arithmetic 2

Autumn	Spring	Summer
Calculate fractions of quantities Solve word problems involving fractions of quantities	Multiply TU X U using grid method Solve division word problems Express remainders as a fraction	Use all four operations including tenths Calculate vertical + and - including decimals Write squares and square roots Identify the operation required to solve a word problem
Additional National Curriculum guidance:		
Compare and order fractions Equivalent fractions		Identify number of tenths eg 34.2 2 tenths Count up and down in tenths

Year 3

Reasoning

Autumn	Spring	Summer
Use vertical + and - to solve word problems Order numbers Solve x and ÷ word problems	Multiply TU x U by partitioning Multiply TU x U using grid method Use inverse for division with remainders Write a ratio as a fraction	Use known facts to calculate maths stories Identify fractions that add to 1 Calculate difference between fractions Partition numbers to solve maths stories involving all four operations1 Solve division word problems Odd and even numbers Calculate total cost and difference between prices Number puzzles
Additional National Curriculum guidance:		
Solve problems involving four times as high, eight times as long		

Daily Practice

Recall multiplication facts from 2-, 5- and 10-times tables Recall multiplication facts from 3- and 4-times tables Recognise equivalences eg 2m=200cm Convert between g/kg, cm/dm/mm Multiply a 2-, 3- and 4-digit multiple of 10 by a 1-digit number	Convert between ml/l, mm/cm/dm/m Convert times between analogue and digital form Add and subtract money mentally Round numbers to the nearest 10 or 100
Additional National Curriculum guidance:	
Count in 2s, 3s, 4s, 5s, 8s, 10s, 50s and 100s forwards and backwards Count forwards and backwards in tenths Recall division facts from 3-, 4- and 8-times tables Find 10 more or less than a number Find 100 more or less than a number Read and write numbers to 1000 in numerals and words Compare and order numbers to 1000	Recognise acute, obtuse and right angles Identify horizontal, vertical, parallel and perpendicular lines Know number of seconds in a minute Know number of days in each month Know number of days in a year and leap year Read analogue times to 5 minutes Read and write times to the nearest minute Add and subtract mentally a 3-digit number and ones/tens/hundreds

Year 4

Arithmetic

Autumn	Spring	Summer
Calculate maths stories for all four operations involving mixed numbers, halves and quarters Calculate maths stories for all four operations with vulgar fractions and negative numbers Calculate multiplication terms in an expression combining addition and subtraction Read, write and convert between fractions and decimals Calculate maths stories for all four operations involving decimal fractions	Calculate maths stories for all four operations involving fractions, mixed numbers and negative numbers Place value (4-digit numbers) Vertical + and - involving decimals Multiply TU x TU using grid method Divide HTU/TU by U using grid method	Calculate percentages of whole number quantity Calculate decimal number percentages using a calculator Round decimal fractions Calculate + and - using negative numbers Multiply TU x TU using grid method Divide HTU/TU by U using grid method
Additional National Curriculum guidance:		
Compare and order decimals (up to 2dp) Identify number of hundredths eg 34.12 12 hundredths	Multiply HTU x U using grid method Use distributive law eg 39x7=30x7+9x7	

Geometry

Autumn	Spring	Summer
Draw objects in a mirror line Use a protractor to draw angles Identify angles	Use vocabulary for circles accurately Draw shapes using a compass Label axes (positive and negative) Draw shapes on axes Name lines of symmetry	Draw triangles using a compass Measure angles using a protractor Draw acute and obtuse angles
Additional National Curriculum guidance:		
Compare and order angles	Describe position on a grid as co-ordinates Describe movements as translations Identify regular and irregular polygons Identify lines of symmetry in different orientations Complete a simple symmetric figure	

Year 4

Data and Measures

Autumn	Spring	Summer
Read metric prefixes for length, mass and volume Compare metric units Read metric equivalences using decimal point Calculate area and volume	Calculate the circumference of circle Calculate the area of a rectangle by counting squares Calculate the volume of a cuboid by counting cubes Find the mean	Calculate equivalent fractions Calculate fractions of quantities using equivalent fractions Use ratio to convert measurements
Additional National Curriculum guidance:		
Measure using a range of units Convert between units of measure Measure and calculate perimeter		Recognise equivalent fractions eg $^{6}/_{9} = {}^{2}/_{3}$
Not explicitly covered in maths lessons, but needs to be taught perhaps in thematic or science: * Read and write analogue and digital time (12 and 24 hour) * Solve time problems using converting: hours to minutes, minutes to seconds, years to months and weeks to days * Present discrete and continuous data using graphical methods including bar charts and time graphs * Use a range of scales when presenting and interpreting data * Answer comparison, sum and difference between problems about data presented in bar charts, pictograms, tables and graphs		

Arithmetic 2

Autumn	Spring	Summer
Multiply TU x TU using grid method Calculate one step word problems involving all four operations Use a calculator to solve one step measure word problems involving decimals	Group & rearrange calculations to solve maths stories (associative law) Solve measure word problems Solve word problems involving decimal quantities	Solve percentage word problems Solve fraction and percentage word problems involving all four operations Round decimals
Additional National Curriculum guidance:		
		Solve two step addition and subtraction word problems

Year 4

Reasoning

Autumn	Spring	Summer
Read and write numbers up to billions Read and write powers of 10 Use known facts to calculate x and ÷ maths stories Recognise factor pairs	Mentally x three 1-digit numbers Use index notation for powers of 10 Multiply three numbers with a decimal fraction using a calculator	Identify terms Use algebraic expressions
Additional National Curriculum guidance:		
Recognise the place value of each digit Derive fact eg 600÷3=200 can be derived from 2x3=6		

Daily Practice

Round to the nearest 10 and 100 Recall multiplication and division facts up to 100 Convert m to cm, kg to g and ml to l Find 1 more or less than any number (positive and negative) Convert between decimal and vulgar fractions Convert pence to pound Convert time analogue and digital Recall multiples of 8, 9 and 10 Give factors of 4, 10, 12 and 15 Convert mm to m and pounds to pence	Recall multiples of 3, 4, 5, 6, 7, 9 and 10 Give factors of 1, 5, 7, 9 Give factors of 12, 15, 16 and 18 Find common equivalent fractions Give multiples of 5, 7, 8 and 10 Give factors of 10, 15, 18, 20, 24 and 25 Convert between decimals and fractions for tenths, hundredths and thousandths Convert between miles and km
Additional National Curriculum guidance:	
Count in multiples of 6, 7, 9, 25 and 1000 Find 1000 more or less than a given number Count forwards and backwards (negative numbers) Order and compare numbers beyond 1000 Round numbers to the nearest 10, 100 or 1000 Read Roman numerals to 100 Recall multiplication and division facts up to 12x12 Compare amounts of money in pounds and pence (using decimal notation)	Recognise and use factor pairs up to 144 Count up and down in hundredths Recognise and write decimal equivalents to Compare and order decimals (up to 2dp) Classify triangles: equilateral, isosceles, scalene Classify quadrilaterals: parallelogram, rhombus, trapezium

Year 5

Arithmetic

Autumn	Spring	Summer
Vertical + and - with more than one tricky column Calculate + - x ÷ maths stories involving vulgar fractions and mixed numbers Vertical + and—decimals with more than one tricky column Multiply vulgar fractions	Use fractions as divisions a /b and a ÷ b interchangeably Convert vulgar fractions to finite decimal Use equivalent fractions in addition and subtraction calculations (bring forward from MMS6 A1 B3) Use four operations with positive and negative numbers Multiply TU x TU using grid method Multiply HTU x TU with decimals using grid method	Divide HTU÷U using grid method Multiply and divide decimals (up to 3dp) by multiples of powers of 10 Use derived products to calculate x and ÷
Additional National Curriculum guidance:		
Identify the value of each digit Order and compare fractions and decimals Recognise and use thousandths	Multiply THTU x TU/U Multiply by 10, 100 and 1000	Divide THTU÷U using grid method Divide by 10, 100 and 1000 Interpret remainders as fractions, decimals or rounding

Geometry

Autumn	Spring	Summer
Investigate properties of shape and symmetry Name and draw angles: acute, obtuse, reflex and right Name and calculate vertically opposite and supplementary angles Draw angles using a protractor	Calculate the circumference and area of a circle Explore the properties of angles	Investigate angles of polygons Recognise, name and sketch polygons Identify properties of polygons
Additional National Curriculum guidance:		
Estimate and compare angles Use markings for parallel lines and right angles (Y3 Spring 2)		Use properties of rectangles to find missing lengths and angles Distinguish between regular and irregular shapes

Year 5

Data and Measures

Autumn	Spring	Summer
Solve measure word problems involving all four operations and percentage increase/decrease Investigate 3D shapes Convert metric and imperial units Read scales	Interpret a calendar and timetable Use time durations in calculations and word problems Construct a bar chart Find the mode Draw and interpret distance-time graphs Round measures	Use ratio to convert between units of measure Estimate area of regular and irregular shapes (cm^2) Calculate the perimeter and the area of compound shapes (From MMS6 DM B5 for earlier SATs experience) Calculate time durations Solve time word problems
Additional National Curriculum guidance:		
Explain operations and methods when solving problems Convert between fractions, decimals and percentages	Solve comparison, sum and difference problems about a line graph	Calculate perimeter in cm and m Compare area of shapes using cm^2 and m^2 Estimate volume and capacity Express missing measures algebraically

Arithmetic 2

Autumn	Spring	Summer
Complete missing number grids and sentences Complete number sequences involving square numbers Solve one and two step word problems Use <<≤>≥ Investigate factors and proper factors	Use divisibility tests Investigate factors and proper factors Identify prime numbers (0-100) Write numbers as a product of their prime factors Investigate factors	Evaluate terms and products in expressions including brackets
Additional National Curriculum guidance:		
Find common factors of two numbers Understand term: factor, multiple, square and cube number Use notation (^{2}) and (^{3})	Use vocabulary: prime number, prime factors, composite (non-prime) number	

Year 5

Reasoning

Autumn	Spring	Summer
Write and convert times using 24-hour notation Calculate time duration (24 hour) Solve algebraic equations	Solve measure and fraction problems by exploring relationships Solve one, two and three step money problems Solve puzzles by calculating quantities	Carry out investigations involving shape, number and real-life situations Use timetables Calculate durations: difference between, total and mean Calculate equivalences and fractions of periods of time
Additional National Curriculum guidance:		
Solve problems involving decimals		

Daily Practice

Add and subtract money Recall multiplication and division facts (up to 12x12) Give multiples of all times tables Give factors Identify value of digits (including decimals) Convert times 12 hour to 24 hour Convert measures g to kg, l to ml, cm to m, km to m Convert fractions to decimals	Calculate time durations Find equivalent fractions Order decimal fractions using a number line Convert between fractions, decimals and percentages Round to the nearest 100 Find the mode and median of a data sample Multiply and divide by 15 and 20
Additional National Curriculum guidance:	
Read and write numbers to 1 000 000 Order numbers to 1 000 000 Compare numbers to 1 000 000 Count forwards or backwards in steps of 100, 1000 and 10000 Count forwards and backwards (negative numbers) Round numbers to the nearest 10, 100, 1000, 10000, 100000 Count forwards and backwards in decimals and fractions Mentally add and subtract large numbers eg 12462-2300=10162 Recall prime numbers to 19 Recognise years written in Roman numerals	Round decimals to the nearest whole number Order and compare fractions Order and compare decimals Mentally add and subtract tenths Add and subtract decimals finding complements of 1 eg 0.83+0.17 Recognise and use square roots and square numbers Read Roman numerals to 1000

Year 6

Arithmetic

Autumn	Spring	Summer
Multiply HTU x TU using grid method Estimate the value of products by rounding including decimals Divide THTU÷U using grid method Estimate the value of quotients, including decimals, by rounding	Calculate with vulgar fractions using the four operations (using equivalent fractions and improper fractions with tricky examples) From MMS6 A1 B6 Write a vulgar fraction as a decimal fraction to three decimal places, using a calculator for division, eg 7/11 = .636 From MMS6 A1 B6 Convert decimal fractions to vulgar fractions using tenths, hundredths and thousandths, eg .625 = 625/1000	Use the formulae for diameter, circumference and area (not needed for SATs) of a circle Use the formulae for area and volume of cuboid & cylinder; area of a triangle Convert between decimal fractions and vulgar fractions Write recurring infinite decimals in abbreviated forms Calculate all four operations using negative numbers (moved from MMS6 A1 B4 - not needed for SATs)
Additional National Curriculum guidance:		
Multiply one digit number with 2dp by whole numbers Divide decimal numbers by U Interpret remainders as whole numbers, fractions or by rounding Identify the value of each digit	Compare and order fractions When calculating with fractions write answers in its simplest form Divide proper fractions by whole numbers	Illustrate and name parts of a circle: radius, diameter and circumference Associate a fraction with division

Geometry

Autumn	Spring	Summer
Find the sum of interior and exterior angles of a polygon *include triangles which leads to NC6 objective 'Find missing angles' for SATs also in MMS6 Ge B3 & B5* Recognise reflection, translation, enlargement and rotation Name transformations of shapes	Measure angles Measure length Draw images and complete shapes using lines of reflection Calculate angles in isosceles triangle *(include missing angles for SATs)* Sort quadrilaterals Complete coordinates of shapes Identify and write the order of rotational symmetry	Calculate the interior, exterior and missing angles Calculate the third angle in a triangle. Draw the perpendicular lines Draw the bisector of an angle Draw the circum-circle of a triangle Draw the in-circle of a triangle
Additional National Curriculum guidance:		
Draw and translate simple shapes and reflect them in axes	Draw 2D shapes using given dimensions and angles Recognise, describe and build 3D shapes including making nets Compare and classify geometric shapes Draw and label a pair of axes in all four quadrants Describe positions on the full co-ordinate grid	Find unknown angles: triangles, quadrilaterals and regular polygons

Year 6

Data and Measures

Autumn	Spring	Summer
Solve measuring word problem using km, ml, l, g and kg Draw a pie chart	Solve problems involving ratio and proportion Read scales (mass) Compare weighing scales Construct and interpret frequency tables, bar charts and pie charts Plan and carry out a survey using discrete and grouped data	Convert between yards and metres Calculate perimeter and area of compound shapes Calculate surface area and volume of cuboids Solve problems with cuboids Understand the golden ratio Calculate ratios and use ratios to construct shapes Collect, organise, select and present information
Additional National Curriculum guidance:		
Solve problems involving conversion between units Solve money problems Link percentages of 360° to calculating angles of pie charts	Compare quantities using the notation a:b Solve problems involving the relative sizes of two quantities Convert measurements using decimal notation up to 3dp Construct line graphs	Convert between miles and km Know approximate conversions Recognise shapes can have same area but different perimeter and vice versa Calculate the area of parallelograms and triangles Estimate and compare volumes: cm^3, m^3, mm^3, km^3

Arithmetic 2

Autumn	Spring	Summer
Multiply HTU x TU using short method Divide HTU x TU using short method with remainders Convert between fractions, decimals and percentages	Ratio of quantities Write a quantity as a fraction or percentage of the total quantity Solve word problems by involving percentage increase/decrease Solve money problems using all four operations Add and subtract squares and cubes of numbers Calculate products	Use algebraic notation for the sum, difference, product, and quotient of two numbers Find the greatest or smallest sums, difference, products and quotients of two numbers within a possible range Calculate products Solve number puzzles involving algebraic terms Identify and divide numbers by their factors
Additional National Curriculum guidance:		
Interpret remainders as whole numbers, fractions or by rounding		Express missing number problems algebraically

Year 6

Reasoning

Autumn	Spring	Summer
Calculate mean, median, mode and range Express vulgar fractions as percentages *Moved from B6 to B2, needed earlier for SATs; aligns with MMS6 A2 B2 perfectly*	Interpret a distance-time graph Interpret a temperature-time graph Identify terms and products in expressions Evaluate expressions with and without brackets	Solve linear equations that involve one operation with whole and decimal numbers Measure probability, eg of events- the probability of rolling a 3 on a fair dice numbered 1–6 is 1/6. *Moved from B2 to B6 after SATs, not needed to meet NC Y6*
Additional National Curriculum guidance:		
	Construct line graphs Explore the order of operations using brackets	Enumerate possibilities of combinations of two variables

Daily Practice

Recall multiplication and division facts (up to 12x12) Multiply by 15 Round numbers to 1dp Write factors and multiples of given numbers Convert between m and km, cm and m, cm and mm, ml and l and g and kg Find a fraction or percentage of whole number Calculate time duration Calculate angles in a triangle	Convert between fractions, decimals and percentages Multiply by 25 Multiply and divide pairs of multiples of 10 and 100 Find equivalent fractions Round numbers to 2dp Write a number as product of its prime factor Round numbers to 3dp
Additional National Curriculum guidance:	
Read and write numbers to 10 000 000 Order numbers to 10 000 000 Compare numbers to 10 000 000 Round numbers with accuracy (nearest 10, 20, 50 etc) Count forwards and backwards (negative numbers)	Use the four operations mentally Identify common factors, common multiples and prime numbers Partition decimals to 3dp Mentally add and subtract negative numbers Compare and order fractions including fractions >1