# Mathematics Teaching Sequence – Year 1

Children should engage with appropriate number and practical problems **<u>throughout each</u> <u>topic</u>**.

Statements highlighted in yellow have been identified as 'ready to progress' objectives: key concepts which are essential building blocks for the next steps in learning. These objectives must be embedded across the year so that children are fluent.

Resources to support teaching of these specific objectives can be found here:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file /1017683/Maths\_guidance\_KS\_1\_and\_2.pdf

https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/

Year 1	
Autumn Term	Key vocab for topic
<ul> <li>Number and Place value</li> <li>Count within, to and across 100, forward and backwards, beginning with 0 or 1 or from any given number:</li> <li>Count sets of objects reliably to 20</li> <li>Read and write numerals from 1 to 20 in numerals and words</li> <li>Count forwards from any number within 20.</li> <li>Count backwards from any number within 20</li> <li>Sequence numbers on a number line within 20</li> <li>Reason about the location of numbers to 20 within the linear number system, including comparing using &lt; &gt; and =:</li> <li>Given a number, identify one more and one less within 20</li> <li>Compare sets of objects up to 20 using the language of more than less than, greater than and fewer than</li> <li>Compare numbers using the language of more than, less than, most, least and equal to</li> <li>Use the &lt;&gt; and = symbols to compare numbers up to 20</li> <li>Number and Place value review</li> </ul>	numerals digits counting forwards backwards more less sequence tens (column) ones (column) compare less than least more than most greater than equal to the same as same
<ul> <li>Addition and subtraction</li> <li>(To include appropriate reasoning using learnt facts/methods throughout e.g. missing numbers, greater than and less than, finding totals to solve problems)</li> <li>To use understand that a part whole model splits a number into parts and shows the whole (total)</li> </ul>	place value add addition plus more part whole model parts whole total

<ul> <li>Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.</li> <li>To show different combinations of numbers to make a given whole (total) using the part/whole model - numbers within 20</li> <li>To use the ten frame and part - whole model to understand number bonds to 10.</li> <li>To introduce addition, (and the symbols + and =) as combining parts and numbers, using the part whole model</li> <li>Develop fluency in addition and subtraction facts within 10</li> <li>Start to use the + and = sign to write and complete addition number sentences within 20.</li> <li>Review - addition and subtraction</li> </ul>	combinations ten frame combine equals altogether subtraction takeaway number stories number bonds fact families related facts
Spring Term	
<ul> <li>Subtraction - continued</li> <li>Understand the concept of subtraction as take away when objects are taken from a group</li> <li>Represent subtraction number stories as a number sentence using the - and = symbols</li> <li>To represent subtraction by breaking the whole into parts</li> <li>Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts.</li> <li>Use number bonds to show related facts and fact families (e.g. 5+3 = 8, 3+5 = 8, 8-5 = 3, 8-3=5) using a part whole model</li> </ul>	numerals digits counting number line forwards backwards one more one less sequence order compare less than least more than greater than equal to same multiples ones tens
Geometry - properties of Shape -	three- dimensional
<ul> <li>Recognise and name common 3-D shapes (e.g. cuboids including cubes, pyramids and</li> </ul>	two - dimensional height width

		al a with
	spheres) presented in different orientations	depth
	and sizes.	cuboid
•	Sort 3-D shapes by their properties e.g. shape,	cubes
	colour, size, surfaces (faces), stack or roll	pyramids
•	Recognise and name common 2-D shapes	spheres
	rectangles, squares, circles and triangles,	face
	beginning to use the language associated with	edge
	their properties (sides and corners)	2 dimensional (2d)
•	Sort 2-D shapes by properties e.g. shape, size,	height
	colour, number of sides, curved or flat sides	width
•	Within this, know that and recognise	rectangle
	rectangles, cuboids, triangle and pyramids are	square
	not always similar to one another (different	circle
	sizes and orientations)	triangle
•	Recognise 2-D and 3-D shapes within natterns	properties
-	to consolidate understanding (reinforce	sides
	recognition of 2-D and 3-D shapes)	corners
		flat
		curved
		roll
		stack
•	Count to and across 100, forward and	
	backwards, beginning with 0 or 1 or from any	
	<mark>given number</mark>	forwards
•	Count forwards from any number within 50.	backwards
•	Count backwards from any number within 50	one more
•	Sequence numbers on a number line within 50	one less
•	Given a number, identify one more and one	sequence
	less within 50	order
•	Count in multiples of tens up to 50	compare
•	To know that 2 digit numbers are made up of	less than
	ones and 10s	least
•	To represent numbers as ones and tens	more than
•	Compare numbers up to 50 using the language	greater than
	of more than less than, greater than and fewer	equal to
	than	same
-	Compare numbers using the language of more	multiples
	than, less than, most, least and equal to	ones
•	Use the <> and = symbols to compare numbers	tens
	up to 50	
•	Order numbers up to 50	
Reviev	v	

Summer Term	numerals
	digits
Addition and subtraction	counting
<ul> <li>Use knowledge of tens and ones to add and</li> </ul>	number line
subtract numbers with tens and ones up to 20.	forwards
using concrete and nictorial representations	backwards
Bepresent addition and subtraction	one more
calculations to 20 in number sentences	one less
	sequence
	order
	compare
	less than
	least
	more than
	areater than
	equal to
	same
	multiples
	ones
Measures (lengths)	
Compare lengths and heights using the	compare
language of longer than, shorter than and	height
taller than using non-standard units	height
(e.g.cubes, steps)	longer than
<ul> <li>Order lengths and heights using the language</li> </ul>	snorter than
of first, second and third.	taller than
<ul> <li>Measure lengths using non-standard units</li> </ul>	
Use a centimetre ruler to measure lengths of	
objects	
<ul> <li>Solve problems involving length</li> </ul>	
Measures - weight and capacity	
	compare
Use balance scales to measure and compare	measure
the mass/weight of objects using non-	mass
standard units (e.g. cubes)	weight
Describe capacity in terms of full/empty/half	lighter
full	heavier
Compare capacity using the language of more	canacity
than/less than by sight	full
<ul> <li>Measure capacity using non-standard units</li> </ul>	empty
such as spoons/glasses/bottles and compare	half full
the capacity of different containers by	compare
measuring	more than
	loss than
Review	1000 11011
Multiplication and division	

<ul> <li>Count in multiples of 2 and 5</li> <li>Use number frames, mathematical equipment objects and pictures to find double of a number up to 10</li> <li>Use concrete objects and pictures to make equal groups</li> <li>Add together equal groups that are represented as arrays</li> <li>Know that we can divide sets of objects into groups with equal numbers</li> <li>Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher</li> </ul>	multiples number frame double equal equal numbers equal groups add together arrays divide multiplication division
<ul> <li>Fractions</li> <li>Recognise and find and name a half as one of two equal parts of an object or shape</li> <li>Recognise and find and name a half as one of two equal parts of a quantity</li> <li>Recognise and find and name a quarter as one of four equal parts of an object or shape</li> <li>Recognise and find and name a quarter as one of four equal parts of a quantity</li> </ul>	whole half equal parts quarter quantity
<ul> <li>Review</li> <li>Geometry - Position and Direction <ul> <li>Describe position using the language of next to, in front of, behind, to the left of, to the right of</li> <li>Describe and understand half, quarter and 3 quarter turns</li> <li>Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</li> </ul> </li> </ul>	above behind next to in front of to the left of to the right of half turn quarter turn three quarter turn full turn
<ul> <li>Time</li> <li>Sequence events in chronological order using language of before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</li> <li>Recognise and use language relating to dates. , including days of the s, months and years</li> <li>Tell the time to the hour and half past the hour and draw the hands on a clock to show these times.</li> </ul>	before after next first today yesterday morning afternoon tomorrow

•	Use the language of quicker, earlier, later Begin to measure and record time in hours, minutes and seconds and know whether the events are likely to last seconds, minutes, hours, days, s or months Solve practical problems for time (including	evening months years hour half past quicker
Money	those which require addition and subtraction of numbers to 20)	earlier later hours minutes seconds value
•	Recognise and know the value of different denominations of coins and notes.	coins penny pound notes
• • • • •	Count to and across 100, forward and backwards, beginning with 0 or 1 or from any given number: Count sets of objects reliably to 100 Count forwards from any number within 100. Count backwards from any number within 100 Sequence numbers on a number line within 100 Given a number, identify one more and one less within 100 Count in multiples of 10 up to 100 Compare numbers using the language of more than, less than, most, least and equal to Use the <> and = symbols to compare numbers up to 20	place value tens ones add addition plus more total combine equals altogether subtraction takeaway number stories number bonds
Yearly I	review and assess	

Declarative knowledge (facts)	Processes (methods
Number and Place value	Number and Place value
<ul> <li>Know that counting forward and backwards means that the number will get larger/smaller respectively.</li> <li>Know that sequencing numbers is ordering them.</li> <li>Know that &gt;, &lt; and = mean greater than, less than and equal to.</li> </ul>	<ul> <li>Count within, to and across 100, forward and backwards, beginning with 0 or 1 or from any given number:</li> <li>Count sets of objects reliably to 20</li> <li>Read and write numerals from 1 to 20 in numerals and words</li> <li>Count forwards from any number within 20.</li> <li>Count backwards from any number within 20</li> <li>Sequence numbers on a number line within 20</li> <li>Reason about the location of numbers to 20 within the linear number system, including comparing using &lt; &gt; and =:</li> <li>Given a number, identify one more and one less within 20</li> <li>Compare sets of objects up to 20 using the language of more than less than, greater than and fewer than</li> <li>Compare numbers using the language of more than, less than, most, least and equal to</li> <li>Use the &lt;&gt; and = symbols to compare numbers up to 20</li> </ul>
<ul> <li>Addition and subtraction <ul> <li>To know that a part whole model splits a number into parts and shows the whole (total)</li> <li>To know that different combinations of numbers to make a given whole (total).</li> <li>To know that the ten frame represents numbers up to 10.</li> <li>To know that addition is the combining of parts/ numbers.</li> <li>To know that symbols + and = mean add and equal to.</li> </ul> </li> </ul>	<ul> <li>Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers (using part whole model).</li> <li>To show different combinations of numbers to make a given whole (total) using the part/whole model - numbers within 20</li> <li>To use the ten frame and part - whole model to understand number bonds to 10.</li> <li>Use part whole model to add.</li> <li>Use number bonds to develop fluency in addition and subtraction facts within 10.</li> <li>Start to use the + and = sign to write and complete addition number so.</li> </ul>

## Spring Term

## **Subtraction - continued**

- Know that concept of subtraction is taking away e.g. when objects are taken from a group
- Know that subtraction is shown by symbol. Know that = means equal to.
- Know that number bonds show related facts and fact families (e.g. 5+3 = 8, 3+5 = 8, 8-5 = 3, 8-3=5).

## Geometry - properties of shape

- Recognise and name common 3-D shapes (e.g. cuboids including cubes, pyramids and spheres) presented in different orientations and sizes.
- Recognise and name common 2-D shapes rectangles, squares, circles and triangles, beginning to use the language associated with their properties (sides and corners)
- Within this, know that and recognise rectangles, cuboids, triangle and pyramids are not always similar to one another (different sizes and orientations).
- Recognise 2-D and 3-D shapes within patterns to consolidate understanding (reinforce recognition of 2-D and 3-D shapes).
- Given a number, identify one more and one less within 50
- To know that 2 digit numbers are made up of ones and 10s

- Represent subtraction number stories as a number sentence using the - and = symbols
- Read, write and interpret equations containing addition (), subtraction () and equals () symbols, and relate additive expressions and equations to real-life contexts.
- Subtract by breaking the whole into parts
- Use number bonds to show related facts and fact families (e.g. 5+3 = 8, 3+5 = 8, 8-5 = 3, 8-3=5) using a part whole model

## Geometry - properties of shape

- Sort 3-D shapes by their properties e.g. shape, colour, size, surfaces (faces), stack or roll
- Sort 2-D shapes by properties e.g. shape, size, colour, number of sides, curved or flat sides
- Spot patterns reinforce recognition of 2-D and 3-D shapes.

- Count to and across 100, forward and backwards, beginning with 0 or 1 or from any given number
- Count forwards from any number within 50.
- Count backwards from any number within 50

Summer term	<ul> <li>Sequence numbers on a number line within 50</li> <li>Count in multiples of tens up to 50</li> <li>To represent numbers as ones and tens</li> <li>Compare numbers up to 50 using the language of more than less than, greater than and fewer than</li> <li>Compare numbers using the language of more than, less than, most, least and equal to</li> <li>Use the &lt;&gt; and = symbols to compare numbers up to 50</li> <li>Order numbers up to 50</li> </ul>
Addition and subtraction Know that place value knowledge of tens and ones can be used to add and subtract numbers with tens and ones up to 20, using concrete and pictorial representations	<ul> <li>Addition and subtraction</li> <li>Represent addition and subtraction calculations to 20 in number sentences</li> </ul>
<ul> <li>Measures (lengths)</li> <li>Know that a length is how long something is.</li> <li>Know that height is how tall something is.</li> <li>Know that lengths and heights can be ordered.</li> <li>Know that lengths can be measured in non-standard units.</li> <li>Know that a ruler can be used to measure lengths.</li> </ul>	<ul> <li>Measures (lengths)</li> <li>Compare lengths and heights using the language of longer than, shorter than and taller than using non-standard units (e.g.cubes, steps)</li> <li>Order lengths and heights using the language of first, second and third.</li> <li>Measure lengths using non-standard units</li> </ul>
Measures - weight and capacity	<ul> <li>Use a centimetre ruler to measure lengths of objects</li> </ul>
<ul> <li>Know that balance scales are used to measure and compare the mass/weight of objects.</li> <li>Know that 'capacity' can be described as full/empty/half full.</li> <li>Know that capacity can be measured using non-standard units such as spoons/glasses/bottles and compare the capacity of different containers by measuring .</li> <li>Multiplication and division</li> </ul>	<ul> <li>Measures - weight and capacity</li> <li>Use balance scales to measure and compare the mass/weight of objects using non-standard units (e.g. cubes)</li> <li>Compare capacity using the language of more than/less than by sight</li> <li>Measure capacity using non-standard units such as spoons/glasses/bottles and compare the capacity of different containers by measuring</li> </ul>

<ul> <li>Know that multiples of 2 and 5 are groups of 2 and 5.</li> <li>Know that we can divide sets of objects into groups with equal numbers</li> <li>Know that equal groups can be represented as arrays.</li> </ul>	<ul> <li>Multiplication and division         <ul> <li>Count in multiples of 2 and 5</li> <li>Use number frames, mathematical equipment objects and pictures to find double of a number up to 10</li> <li>Use concrete objects and pictures to make equal groups</li> <li>Add together equal groups that are represented as arrays</li> </ul> </li> <li>Using concrete objects, pictorial representations and arrays, solve one-step problems involving multiplication and division.</li> </ul>
<ul> <li>Fractions</li> <li>Recognise and name a half as one of two equal parts of an object or shape</li> <li>Recognise and name a half as one of two equal parts of a quantity</li> <li>Recognise and name a quarter as one of four equal parts of an object or shape</li> <li>Recognise and name a quarter as one of four equal parts of a quantity</li> </ul>	<ul> <li>Fractions</li> <li>Find a half as one of two equal parts of an object or shape</li> <li>Find a half as one of two equal parts of a quantity</li> <li>Find a quarter as one of four equal parts of an object or shape</li> <li>Find a quarter as one of four equal parts of a quantity</li> </ul>
<ul> <li>Geometry - Position and Direction</li> <li>Describe position using the language of next to, in front of, behind, to the left of, to the right of</li> <li>Describe half, quarter and 3 quarter turns</li> </ul>	<ul> <li>Geometry - Position and Direction</li> <li>Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</li> </ul>
<ul> <li>Time</li> <li>Know that events can be sequenced in chronological order.</li> <li>Know that time is shown on a clock with hands.</li> <li>Know that time can be measured and recorded in hours, minutes and seconds.</li> </ul>	<ul> <li>Sequence events in chronological order using language of before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.</li> <li>Tell the time to the hour and half past the hour and draw the hands on a clock to show these times.</li> <li>Begin to measure and record time in hours, minutes and seconds and know whether the events are likely to last</li> </ul>

Money	<ul> <li>seconds, minutes, hours, days, s or months</li> <li>Solve practical problems for time (including those which require addition and subtraction of numbers to 20)</li> </ul>
<ul> <li>Recognise and know the value of different denominations of coins and notes.</li> </ul>	
<ul> <li>Count to and across 100, forward and backwards, beginning with 0 or 1 or from any given number:</li> <li>Know that counting forwards reaches a larger number and counting backwards reaches a smaller number.</li> <li>Know that numbers that are sequenced are put in order.</li> <li>Know that numbers that are 'more than' are larger, and numbers that are 'less than' are smaller.</li> </ul>	<ul> <li>Count to and across 100, forward and backwards, beginning with 0 or 1 or from any given number:</li> <li>Count sets of objects reliably to 100</li> <li>Count forwards from any number within 100.</li> <li>Count backwards from any number within 100</li> <li>Sequence numbers on a number line within 100</li> <li>Given a number, identify one more and one less within 100</li> <li>Count in multiples of 10 up to 100</li> <li>Compare numbers using the language of more than, less than, most, least and equal to</li> <li>Use the &lt;&gt; and = symbols to compare numbers up to 20</li> </ul>