## Mathematics Teaching Sequence - Year 1

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

- Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.
- To show different combinations of numbers to make a given whole (total) using the part/whole model - numbers within 20
- To use the ten frame and part - whole model to understand number bonds to 10.
- To introduce addition, (and the symbols + and =) as combining parts and numbers, using the part whole model
- Develop fluency in addition and subtraction facts within 10
- Start to use the + and = sign to write and complete addition number sentences within 20.

Review - addition and subtraction

## Autumn term review

## Spring Term

## Subtraction - continued

- Understand the concept of subtraction as take away when objects are taken from a group
- Represent subtraction number stories as a number sentence using the - and = symbols
- To represent subtraction by breaking the whole into parts
- Read, write and interpret equations containing addition ( ), subtraction ( ) and equals () symbols, and relate additive expressions and equations to real-life contexts.
- 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 -

- Recognise and name common 3-D shapes (e.g. cuboids including cubes, pyramids and
combinations
ten frame
combine
equals
altogether
subtraction
takeaway
number stories
number bonds
fact families
related facts
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
three- dimensional
two-dimensional
height
width
spheres) presented in different orientations and sizes.
- Sort 3-D shapes by their properties e.g. shape, colour, size, surfaces (faces), stack or roll
- Recognise and name common 2-D shapes rectangles, squares, circles and triangles, beginning to use the language associated with their properties (sides and corners)
- Sort 2-D shapes by properties e.g. shape, size, colour, number of sides, curved or flat sides
- 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).
- 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
- Sequence numbers on a number line within 50
- Given a number, identify one more and one less within 50
- Count in multiples of tens up to 50
- To know that 2 digit numbers are made up of ones and 10s
- To represent numbers as ones and tens
- Compare numbers up to 50 using the language of more than less than, greater than and fewer than
- Compare numbers using the language of more than, less than, most, least and equal to
- Use the <> and = symbols to compare numbers up to 50
- Order numbers up to 50
depth
cuboid
cubes
pyramids
spheres
face
edge
2 dimensional (2d)
height
width
rectangle
square
circle
triangle
properties
sides
corners
flat
curved
roll
stack
forwards
backwards
one more
one less
sequence
order
compare
less than
least
more than
greater than
equal to
same
multiples
ones
tens


## Summer Term

## Addition and subtraction

- Use knowledge of tens and ones to add and subtract numbers with tens and ones up to 20, using concrete and pictorial representations
- Represent addition and subtraction calculations to 20 in number sentences


## Measures (lengths)

- Compare lengths and heights using the language of longer than, shorter than and taller than using non-standard units (e.g.cubes, steps)
- Order lengths and heights using the language of first, second and third.
- Measure lengths using non-standard units
- Use a centimetre ruler to measure lengths of objects
- Solve problems involving length


## Measures - weight and capacity

- Use balance scales to measure and compare the mass/weight of objects using nonstandard units (e.g. cubes)
- Describe capacity in terms of full/empty/half full
- Compare capacity using the language of more than/less than by sight
- Measure capacity using non-standard units such as spoons/glasses/bottles and compare the capacity of different containers by measuring


## Review

Multiplication and division
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
compare
length
height
longer than
shorter than
taller than
compare
measure
mass
weight
lighter
heavier
capacity
full
empty
half full
compare
more than
less than

- Count in multiples of 2 and 5
- Use number frames, mathematical equipment objects and pictures to find double of a number up to 10
- Use concrete objects and pictures to make equal groups
- Add together equal groups that are represented as arrays
- Know that we can divide sets of objects into groups with equal numbers
- 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


## Fractions

- Recognise and find and name a half as one of two equal parts of an object or shape
- Recognise and find and name a half as one of two equal parts of a quantity
- Recognise and find and name a quarter as one of four equal parts of an object or shape
- Recognise and find and name a quarter as one of four equal parts of a quantity


## Review

## Geometry - Position and Direction

- Describe position using the language of next to, in front of, behind, to the left of, to the right of
- Describe and understand half, quarter and 3 quarter turns
- Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.


## Time

- Sequence events in chronological order using language of before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening
- Recognise and use language relating to dates., including days of the $s$, months and years
- Tell the time to the hour and half past the hour and draw the hands on a clock to show these times.
multiples
number frame double
equal
equal numbers
equal groups
add together
arrays
divide
multiplication
division
whole
half
equal parts
quarter
quantity
above
behind
next to
in front of
to the left of
to the right of
half turn
quarter turn
three quarter turn
full turn


## before

after
next
first
today
yesterday
morning
afternoon
tomorrow

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


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

## 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

- $\quad$ Sort 3-D shapes by their properties e.g. shape, colour, size, surfaces (faces), stack or roll
- $\quad$ 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

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

- Know that multiples of 2 and 5 are groups of 2 and 5.
- Know that we can divide sets of objects into groups with equal numbers
- Know that equal groups can be represented as arrays.


## Fractions

- Recognise and name a half as one of two equal parts of an object or shape
- Recognise and name a half as one of two equal parts of a quantity
- Recognise and name a quarter as one of four equal parts of an object or shape
- Recognise and name a quarter as one of four equal parts of a quantity


## Geometry - Position and Direction

- Describe position using the language of next to, in front of, behind, to the left of, to the right of
- Describe half, quarter and 3 quarter turns


## Time

- Know that events can be sequenced in chronological order.
- Know that time is shown on a clock with hands.
- Know that time can be measured and recorded in hours, minutes and seconds.


## Multiplication and division

- Count in multiples of 2 and 5
- Use number frames, mathematical equipment objects and pictures to find double of a number up to 10
- Use concrete objects and pictures to make equal groups
- Add together equal groups that are represented as arrays

Using concrete objects, pictorial representations and arrays, solve one-step problems involving multiplication and division.

## Fractions

- Find a half as one of two equal parts of an object or shape
- Find a half as one of two equal parts of a quantity
- Find a quarter as one of four equal parts of an object or shape
- Find a quarter as one of four equal parts of a quantity


## Geometry - Position and Direction

- Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Time

- Sequence events in chronological order using language of before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.
- Tell the time to the hour and half past the hour and draw the hands on a clock to show these times.
- Begin to measure and record time in hours, minutes and seconds and know whether the events are likely to last
$\left.\begin{array}{|l|l|}\hline \text { (including those which require addition }\end{array} \left\lvert\, \begin{array}{l}\text { seconds, minutes, hours, days, s or } \\ \text { months } \\ \text { and subtraction of numbers to 20) }\end{array}\right.\right]$

