

# Year 1

## COUNTING, PROPERTIES OF NUMBERS AND NUMBER SEQUENCES

number  
zero, one, two, three... to twenty and beyond  
zero, ten, twenty... one hundred  
none  
how many...?  
count, count (up) to  
count on (from, to)  
count back (from, to)  
count in ones, twos... tens...  
more, less, many, few  
odd, even  
every other  
how many times?  
pattern, pair

## PLACE VALUE AND ORDERING

units, ones, tens  
exchange  
digit  
'teens' number  
the same number as, as many as  
equal to  
Of two objects/amounts:  
greater, more, larger, bigger  
less, fewer, smaller  
Of three or more objects/amounts:  
greatest, most, biggest, largest  
least, fewest, smallest  
one more, ten more  
one less, ten less  
compare, order, size  
first, second, third... tenth, eleventh... twentieth  
last, last but one  
before, after, next  
between, half-way between  
above, below

## ESTIMATING

guess how many, estimate  
nearly, roughly, close to  
about the same as  
just over, just under  
too many, too few,  
enough, not enough

## ADDITION AND SUBTRACTION

+, add, more, plus  
make, sum, total  
altogether  
score  
double, near double  
one more, two more... ten more  
how many more to make...?  
how many more is... than...?  
how much more is...?  
- subtract, take (away), minus  
leave  
how many are left/left over?  
how many have gone?  
one less, two less, ten less...  
how many fewer is... than...?  
how much less is...?  
difference between  
half, halve  
= equals, sign, is the same as

## MAKING DECISIONS AND REASONING

pattern  
puzzle  
answer  
right, wrong  
what could we try next?  
how did you work it out?  
count out, share out, left, left over  
number sentence  
sign, operation

## General

same number/s  
different number/s  
missing number/s  
number facts  
number line, number track  
number square  
number cards  
abacus  
counters, cubes, blocks, rods  
die, dice  
dominoes  
pegs, peg board  
same way, different way  
best way, another way  
in order, in a different order  
not  
all, every, each

# Year 1 Programme of Study

## Number - number and place value

### Pupils should be taught to:

- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
- count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
- given a number, identify one more and one less
- identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least
- read and write numbers from 1 to 20 in numerals and words.

## Number - addition and subtraction

### Pupils should be taught to:

- read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
- represent and use number bonds and related subtraction facts within 20
- add and subtract one-digit and two-digit numbers to 20, including zero
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as  $7 = \square - 9$ .

## Number - multiplication and division

### Pupils should be taught to:

- 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.

## Number - fractions

### Pupils should be taught to:

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

## Measurement

### Pupils should be taught to:

- compare, describe and solve practical problems for:
  - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
  - mass/weight [for example, heavy/light, heavier than, lighter than]
  - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
  - time [for example, quicker, slower, earlier, later]
- measure and begin to record the following:
  - lengths and heights
  - mass/weight
  - capacity and volume
  - time (hours, minutes, seconds)
- recognise and know the value of different denominations of coins and notes
- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
- recognise and use language relating to dates, including days of the week, weeks, months and years
- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

## Geometry - properties of shapes

### Pupils should be taught to:

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- identify acute and obtuse angles and compare and order angles up to two right angles by size
- identify lines of symmetry in 2-D shapes presented in different orientations
- complete a simple symmetric figure with respect to a specific line of symmetry.

## Geometry - position and direction

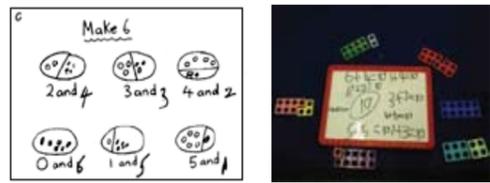
### Pupils should be taught to:

- describe position, direction and movement, including whole, half, quarter and three-quarter turns.

## Addition

to be taught alongside each other

## Subtraction



Children should be encouraged to show pictorial recordings of their calculations including number sentences.

Bead strings or bead bars should be used to illustrate addition including bridging through ten by counting on 2 then counting on 3. e.g.  $8 + 5 = 8 + 2 + 3$ .

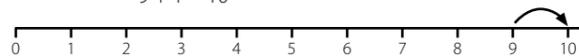


The children should use number tracks and number lines marked out in jumps of one and practical resources to support calculation. They may begin to use number lines marked out in jumps of five and ten.

Teachers will need to model the use of the number line. Children will then begin to use number lines, counting on in ones, to support their own calculations. **The link between the bead bar and number line must be made explicit.** Use to begin to illustrate that addition can be done in any order and to recognise that more than two numbers can be added.



9 and 1 more is 10  
9 add 1 equals 10  
 $9 + 1 = 10$

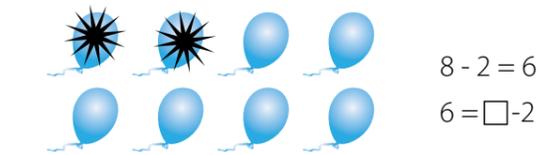


Numicon should also be used to model bridging through ten by counting on 2 then counting on 3.



Numicon software should also be used during teacher led whole class and guided groups. Children should also have access to this independently both on the interactive whiteboard and on class computers and laptops.

Children must have access to a range of counters and resources such as to solve addition calculations. It is important that children are able to explore a range of resources and consider, **verbalise & reason** which is most appropriate for a given calculation.



There were 8 balloons, 2 popped. How many were left?

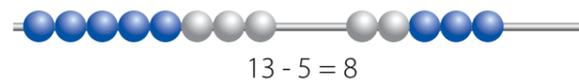
Children need practical activities of 'taking away', that is finding how many are left from a collection of objects when some are removed.

Children also need practical activities of 'finding the difference', which involves making a comparison between the numbers in two groups of objects.



The bead bar and the number line should also be used to show that  $8 - 5$  means the 'difference between 8 and 5' or 'the difference between 5 and 8' and how many jumps they are apart.

Bead strings or bead bars can be used to illustrate subtraction including bridging through ten by counting back 3, then counting back 2.

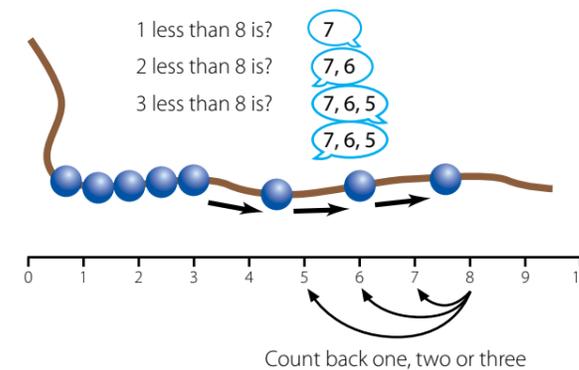


Use the language of 'more than', 'less than' and 'difference between', together.

Begin to use and show how to add or subtract 9 by adding or subtracting 10 and adjusting by 1. Refer to as 'over jumping 10'.

Visualising  $10 = 9 + 1$   $9 = 10 - 1$

Children should then begin to use number lines to support their own calculations, counting back in ones.



Count back one, two or three

## Multiplication

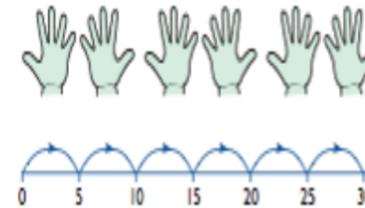
to be taught alongside each other

## Division

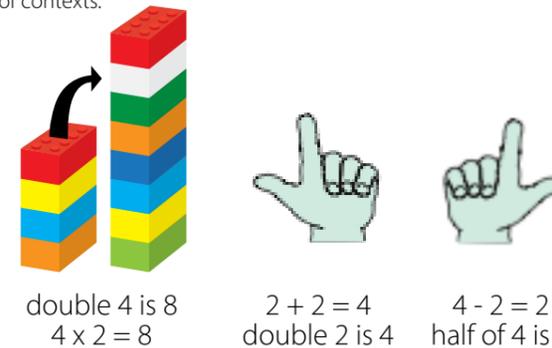
Children will experience equal groups of objects.

They will count in 2s and 10s and 5s.

They will work on practical problem solving activities involving equal sets or groups.



Children should experience doubling numbers in a range of contexts.



They should begin to understand multiplication as repeated addition and as an array in context e.g. eggs in a box and cakes in a tin.

Connective model: context, image and language and don't forget the symbols!

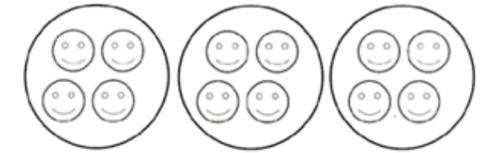
e.g.  $5 \times 2 = 5$  multiplied by 2 = '2 times' =  $5 + 5$

**Make connections between arrays, number patterns and counting in 2's, 5's, 10's.**

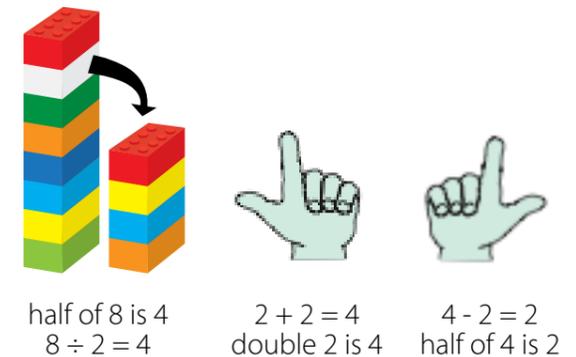
Children will need to be taught the language of 'rows' and 'columns'. The **multiplication ITP** is a good visual image. They should explore them in the environment.



Children will understand equal groups and share items out in play and problem solving.



Children should experience halving numbers in a range of contexts. (Object, shape & quantity)



half of 8 is 4  $8 \div 2 = 4$   $2 + 2 = 4$   $4 - 2 = 2$   
double 2 is 4 half of 4 is 2

Children should experience finding, recognising & naming one half as one of two equal parts and one quarter as one of four equal parts.



Make arrays to find division facts for  $\frac{1}{2}$  &  $\frac{1}{4}$

