Foundation 2

Using numbers to 20

COUNTING

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

COMPARING AND ORDERING NUMBERS

the same number as, as many as
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
last, last but one
before, after
next
between
above, below

REASONING ABOUT NUMBERS OR SHAPES

pattern
puzzle
answer
right, wrong
what could we try next?
how did you work it out?
count, sort
group, set
match
same, different
list

ADDITION AND SUBTRACTION

add, more, and
make, sum, total
altogether
score
double
one more, two more, ten more…
how many more to make… ?
how many more is… than…?
take (away), leave
how many are left/left over?
how many have gone?
one less, two less… ten less…
how many fewer is… than…?
difference between
is the same as

'REAL LIFE' PROBLEMS / MONEY

compare
double
half, halve
pair
count out, share out
left, left over
money, coins
penny, pence, pound
price, cost
buy / sell
spend, spent,
pay / change
dear, costs more
cheap, costs less, cheaper
costs the same as
how much…? how many…?
total

General

same number/s
different number/s
missing number/s
number facts
number line, number track
number square
number cards
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

EYFS - Programme of Study

Numbers

Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Children estimate a number of objects and check quantities by counting up to 20. They solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.

Shape, space and measures

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Children estimate, measure, weigh and compare and order objects and talk about properties, position and time.

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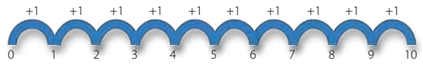
In order to encourage children to work mentally, calculations should always be presented horizontally so children can make decisions about how to tackle them.

Addition to be taught alongside each other Subtraction

Teachers should model addition using a range of practical resources.

When using fingers to model counting always begin with open palms, 1 = left thumb through to 10 = right thumb.

When counting on, the link with calculating must be explicit:



0 add 1 equals 1, 1 add 1 equals 2, 2 add 1 equals 3…

Children should also experience counting in tens, five and twos. Starting and finishing at different numbers is important as this will help them with addition calculations as they progress.

First, children should 'count all' to combine two groups of objects. When this is secure, they will begin to count on. For example, when one group of objects is hidden. Then they will move on to full number sentences. Children should understand the = symbol as 'the same as'.

STEP 1 ★ ★ ★ "Add" ★ ★ ★ "equals" 6

STEP 2 3 "Add" ★ ★ ★ "equals" 6

STEP 3 3 + 3 = 6 which the teacher models writing

Begin to relate the addition of doubles to counting on as well as showing the inverse e.g. 6 – 3 = 3

Bead strings or bead bars should be used to model addition.

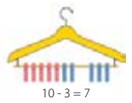
8 + 2 = 10

As well as practical objects, children should use number tracks, progressing to number lines when understanding is secure.

Children are encouraged to develop a mental picture of the number system in their heads to use for calculation.

They develop ways of recording calculations using pictorial representations.

Teachers should model subtraction using a range of practical resources. Begin to relate subtraction to taking away and counting how many are left. When using fingers to model counting back always use open palms; 10 represented by right thumb, to 1 on left thumb.



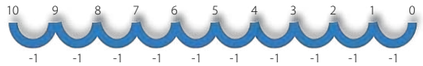
Understand the concept of subtraction by comparing two objects to find difference, how many more or less e.g. by right thumb, to 1 on left thumb.

There are eight biscuits on this plate. Take three of the biscuits to eat. How many biscuits are left on the plate?

What is the difference between the number of grey rabbits and the number of white rabbits?

I have 6 toy cars but I wanted to have seven. How many more cars do I need to make seven?

When counting back, the link with calculating must be explicit:



Bead strings or bead bars can be used to illustrate subtraction:

6 - 2 = 4

10 subtract 1 equals 9/ 1 less than 10 / 10 take away 1 equals 9

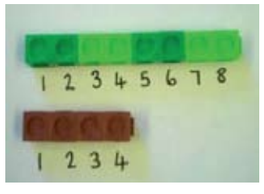
Children should also experience counting in tens, five and twos. Starting and finishing at different numbers is important as this will help them with subtraction calculations as they progress.

As well as practical objects, children should use number tracks, progressing to number lines when understanding is secure.

Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictorial representations.

"This is 4 more than 4"

"This is 4 less than 8"



Children should begin to experience the language of 'the difference' using daily routines as a context for learning. For example, comparing the blocks to see how many packed lunches/school dinners there are on a given day.

Multiplication to be taught alongside each other Division

Children will experience equal groups of objects.

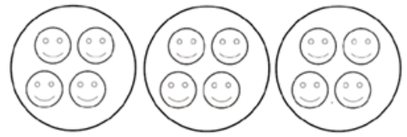
They will count in 2s and 10s and begin to count in 5s. They should be provided with practical opportunities and visual images eg: counting pairs of socks or counting in tens to find out how many fingers five children would have.

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

5 10 15 20

"Four hands of 5 fingers is the same as 20 fingers"

Children will understand equal groups and share items out in play and problem solving. They will count in 2s and 10s and later in 5s.



Children should experience halving in context e.g. halving apples, sandwiches etc.

Children should have opportunities to practice finding halves of numbers to 10 in practical activities.

Children should have opportunities to explore division by sharing objects out equally "One for you, one for me…"

Equipment:
Numicon
Counters
Beadstrings
Cubes
Numberlines
Number tracks
Number tiles
Coat hangers & pegs
Practical Counting equipment
Dishes/hoops
Socks/Gloves

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