# Year 1 – Maths

## 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 = □ – 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:

- recognise and name common 2-D and 3-D shapes, including:
  - 2-D shapes [for example, rectangles (including squares), circles and triangles]
  - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].

## Geometry – Position and Direction

Pupils should be taught to:

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

**Note: Please see appendices for Year 1 Termly Instant Recall Facts**

# Year 1 Calculations

## Addition

## Key Instant Recall Facts

In preparation for secure methods of calculation, children will develop instant recall of the following facts during Year 1:

- Number bonds for each number to 10
- Doubles and halves for each number to 10

## + = Signs and missing numbers

Children need to understand the concept of equality before using the '=' sign. Calculations should be written either side of the equality sign so that the sign is not just interpreted as 'the answer'.

2=1+1

2+3=4+1

Missing numbers need to be placed in all possible places.

3 + 4= ☐ ☐=3 + 4

3 + ☐= 7 7 = ☐ + 4

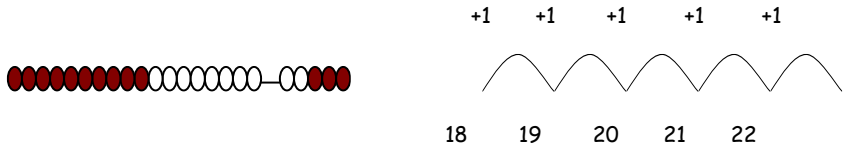
## Understanding of counting on with a number track

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|

## Understanding of counting on with a number line

**Number track / Number line ~** jumps of 1

(supported by models and images e.g. modelled using bead strings)




18 + 5 = 23

Children will be introduced to the + and = signs where appropriate

Children should be encouraged to begin with the bigger number, this links to putting the largest number in your head and counting on from there.

Remind the children that addition can be calculated with the numbers in any order. Give examples where first number is smaller and encourage children to rewrite it.

5 + 18 = 23

18 + 5 = 23

# Year 1 Calculations

## Subtraction

## Key Instant Recall Facts

In preparation for secure methods of calculation, children will develop instant recall of the following facts during Year 1:

- Number bonds for each number to 10
- Doubles and halves of each number to 10

Missing number problems e.g.

7 = ☐ - 9 20 - ☐ = 9 ☐ - ☐ = 11 16 – 0 = ☐

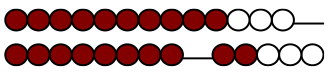
Use concrete objects and pictorial representations. If appropriate, progress from using number lines with every number shown to number lines with significant numbers shown.

Understand subtraction as take-away or counting back. Also understand subtraction as counting on or finding the difference.

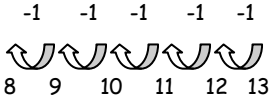
## Counting back

- Children can use counting back to subtract a 1-digit number from a 2-digit number.

e.g. 13 – 5 = 8 can be modelled using bead strings as:



and using a number line as:




- Subtract a multiple of 10 from a 2-digit number

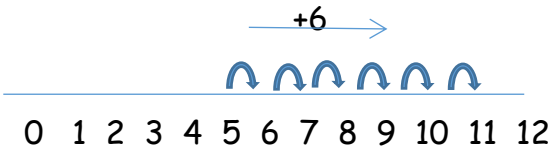
(Use knowledge of counting back in 10s- 53,43,33,23… )

# Counting on / finding the difference

11 – 5

What is the difference between 11 and 5?

How many more is 11 than 5?




The use of concrete apparatus and images is vital for modelling subtraction e.g. bundles of straws, diennes apparatus, multi link cubes, bead strings.

# Year 1 Calculations

## Multiplication

## Key Instant Recall Facts

In preparation for secure methods of calculation, children will develop instant recall of the following facts during Year 1:

- Doubling numbers to 10.

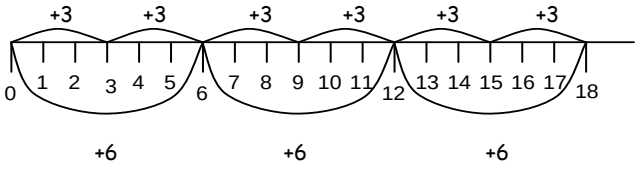
Developing an understanding of multiplication is related to doubling and combining groups of the same size (repeated addition). They use this understanding to help them work out multiplication facts they cannot recall quickly.

The use of models and images and practical resources is vital in developing this understanding in young children: washing line; number line; bundles of straws; bead strings; counters/cubes.

2+2+2+2+2= 10
2x5=10
2 multiplied by 5
5 pairs
5 hops of 2

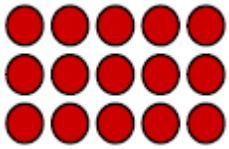
- Problem solving with concrete apparatus (including money and measures).
- Use the vocabulary relating to multiplication: "pick up five, 4 times."
- Use arrays to understand multiplication can be done in any order (commutative law).

**repeated addition**




The top line shows 6 jumps of 3.
The bottom line shows 3 jumps of 6.

**array** 3 x 5 = 15 or 5 x 3 = 15



# Year 1 Calculations

## Division

## Key Instant Recall Facts

In preparation for secure methods of calculation, children will develop instant recall of the following facts during Year 1:

- Halves of numbers to 10

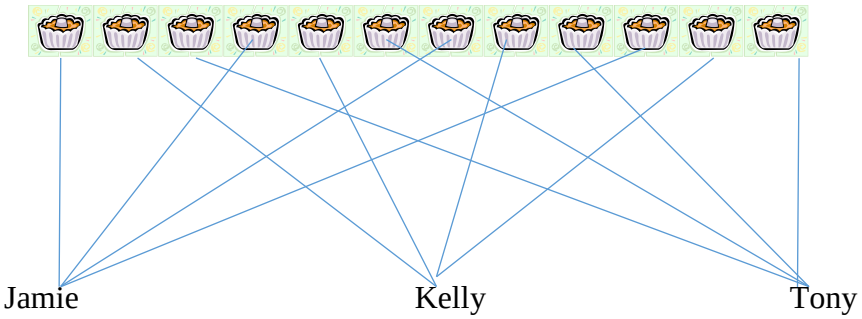
Children must have secure counting skills ~ being able to confidently count in 2s, 5s and 10s.

Children should be given opportunities to reason about what they notice in number patterns.

Children should be introduced to the division sign ÷ and that it can mean sharing or grouping. Children should be given opportunities to group and share small quantities ~ understanding the difference between the two concepts. Early division begins with sharing in practical activities.

**Sharing**

The tray had 9 cakes in and they were shared out between Jamie, Kelly and Tony. Each child had the same number of cakes. How many did they have each?




1 for Jamie, 1 for Kelly, 1 for Tony
1 for Jamie, 1 for Kelly, 1 for Tony
1 for Jamie, 1 for Kelly, 1 for Tony
1 for Jamie, 1 for Kelly, 1 for Tony

**So**, 12 ÷ 3 = 4

(12 buns shared between 3 children gives each child 4 buns)

The **sharing** concept of division readily leads into finding fractions of amounts on a practical basis.
$\frac{1}{2}$ of 12 = 12 ÷ 2 = 6 (i.e. share 12 into 2 groups)
$\frac{1}{4}$ of 12 = 12 ÷ 4 =3 (i.e. share 12 into 4 groups)

## Grouping

Children should apply their counting skills to develop some understanding of grouping.

The apples need putting into bags with 5 apples in each bag. Julie has 15 apples. How many bags will she need?

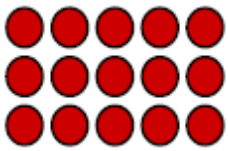
So, 15 apples divided into groups of 5 = 3 bags

15 ÷ 5 =3

In the early stages of division there should be a greater focus on the **grouping** concept as this shows how division is the inverse of multiplication.

e.g. I know that 3 x 5 = 15 (3 groups of 5 equals 15)
**so** 15 ÷ 5 = 3 (15 divided into groups of 5 equals 3)

Division can also be shown with an array (pictorial representation for division),



15 ÷ 3 = 5 There are 5 groups of 3
15 ÷5 = 3 There are 3 groups of 5