

Year 1 programme of study:

Numbers and the Number System

- 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.
- Fractions and Decimals
- 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.

Addition and Subtraction

- 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 $7 = ? - 9$.

Multiplication and Division

- 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.

Geometry

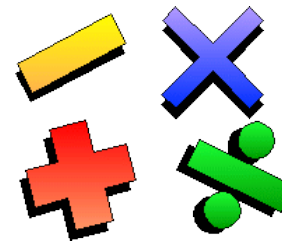
- recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].
- describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Measurement

- 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.



Woodfall Primary School



Year 1

Mathematics

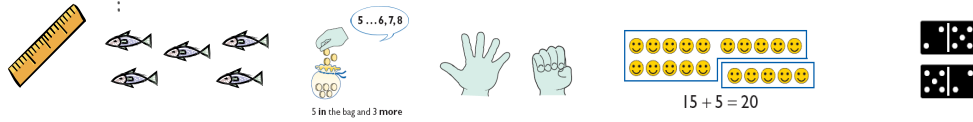
Calculation Strategies



This leaflet aims to inform you of some calculation strategies that your children will be using in school. This will hopefully aid the completion of homework. However, the strategies used will be dependant on what is needed by your child and not all strategies will be necessarily be used.

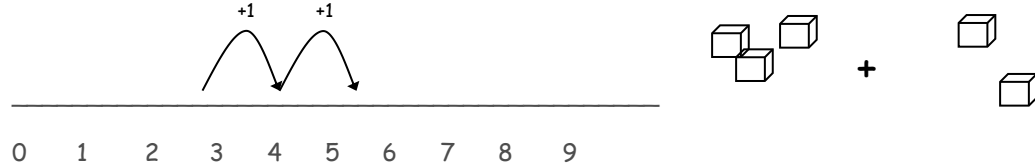
ADDITION

Pictorial and practical addition—children may use objects and or pictures to aid the addition of numbers. This will include counting on (Children should always start with the largest number first):



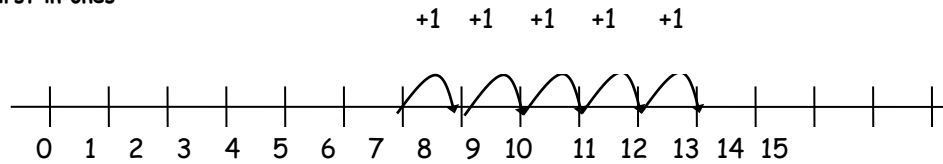
Number Lines - Number lines and practical resources (e.g. bead strings and Dienes) support calculation. Number lines should be annotated and may be accompanied by informal jottings. Count on from the largest number irrespective of the order of the calculation.

$$3 + 2 = 5$$



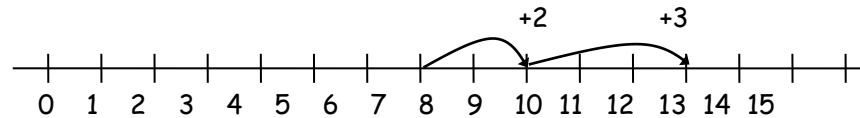
Counting on first in ones

$$8 + 5 = 13$$



Bridging through 10

$$8 + 5 = 13$$



MENTAL CALCULATION FOR ADDITION

Mental recall of number bonds

Addition pairs to 9+9

$$5 + 7 = 12$$

Addition complements to 10 and then 100

$$6 + 4 = 10 \quad \square + 3 = 10$$

$$25 + 75 = 100$$

Add a series of single digit numbers

$$4 + 8 + 5$$

Reorder sets of single digit numbers, looking for complements

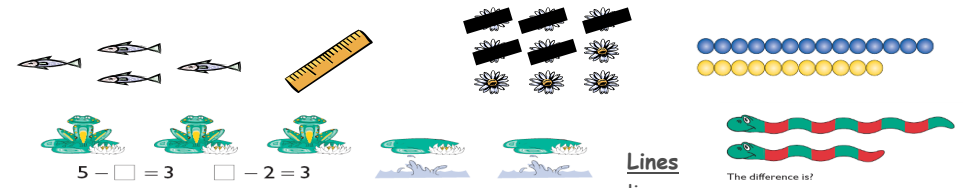
$$3 + 6 + 7 + 4 = 3+7 + 6+4 = 10+10 = 20$$

Use near doubles

$$5 + 6 = \text{double } 5 + 1 = 11$$

SUBTRACTION

Pictorial and practical subtraction—children may use objects and or pictures to aid the subtraction of numbers.



Number

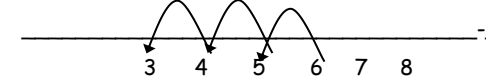
Number

$$5 - \square = 3 \quad \square - 2 = 3$$

practical resources (e.g. bead strings and Dienes) support calculation. Number lines should be annotated and may be accompanied by informal jottings.

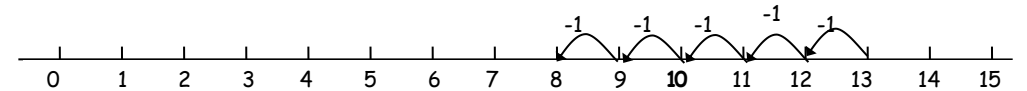
COUNTING BACK -3

$$6 - 3 = 3$$



Children then begin to use numbered lines to support their own calculations - using a numbered line to count back in ones, leading to bridging through a multiple of 10.

$$13 - 5 = 8$$



MENTAL CALCULATION FOR SUBTRACTION

Mental recall of addition and subtraction facts

Addition and subtraction complements to 10 and 20

Addition and subtraction facts to 20

Addition and subtraction complements of multiples of 10 to 100

$$10 - 6 = 4$$

$$17 - \square = 11$$

$$100 - 30 = 70$$

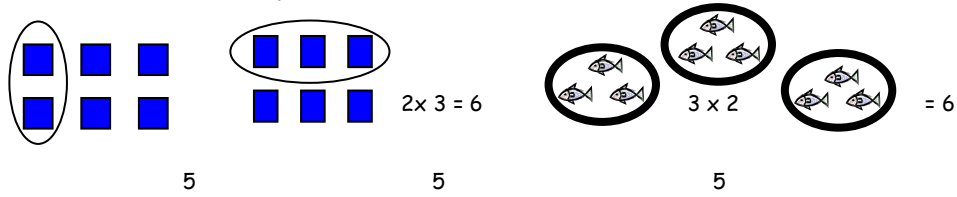
$$20 - 17 = 3$$

$$10 - \square = 2$$

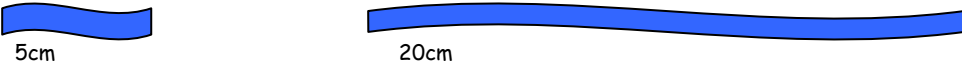
$$100 - \square = 60$$

MULTIPLICATION

Pictorial and practical Multiplication—Children will experience equal groups of objects and will count in 2s and 10s and begin to count in 5s. They will work on practical problem solving activities involving equal sets or groups. They will visualise sets of objects in arrays.



Scaling— e.g. Find a ribbon that is 4 times as long as the blue ribbon



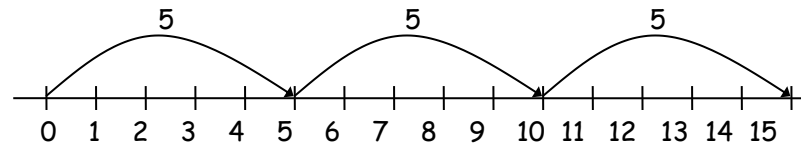
Number Lines - Repeated Addition

3 times 5 is $5 + 5 + 5 = 15$

or 3 lots of 5

or 5×3 (record as 5×3 so the association is "3 lots of 5")

$5 \times 3 = 5 + 5 + 5$



Commutativity—Children should know that 3×5 has the same answer as 5×3 . This can also be shown on the number line.

MENTAL CALCULATION FOR MULTIPLICATION

Counting in equal steps

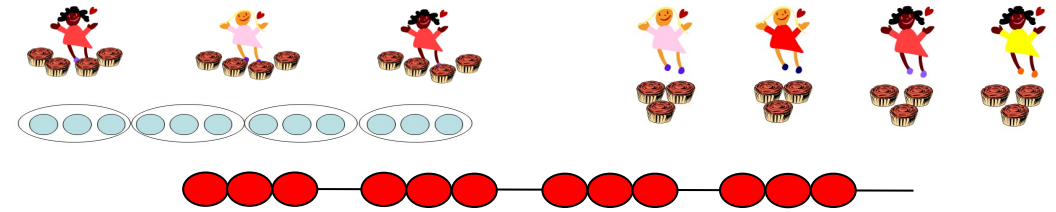
Doubling and halving

Applying the knowledge of doubles and halves to known facts.

e.g. 8×4 is double 4×4

DIVISION

Pictorial and practical division—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 will develop their understanding of division and use jottings to support calculation.



MENTAL CALCULATION FOR DIVISION

Doubling and halving

Knowing that halving is dividing by 2