

## Addition: Orange (Y1)

### Mental Work

Derive and recall

- number pairs with a total of 10, e.g.  $3 + 7$
- what to add to a single-digit number to make 10, e.g.  $3 + \Delta = 10$
- addition facts for totals to at least 5, e.g.  $2 + 3$ ,  $4 + 3$
- addition doubles for all numbers to at least 10, e.g.  $8 + 8$

Work mentally (with jottings if needed)

- add a pair of single-digit numbers, e.g.  $2 + 6$  (reorder if appropriate),  $8 + 3$  (partition, e.g.  $8 + 3 = 8 + 2 + 1$ )
- add a single-digit number to a teens number, e.g.  $13 + 5$  (count on in ones or partition and combine tens and ones)
- add a single-digit to 10, e.g.  $10 + 7$
- add a multiple of 10 to a single-digit number, e.g.  $7 + 30$
- add near doubles. e.g.  $6 + 7$  (partition: double and adjust.  $6 + 7 = 6 + 6 + 1$ )

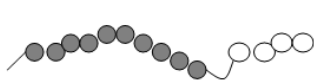
### Vocabulary

$+$  add, plus, total, sum, altogether  
 $=$  is the same as more than

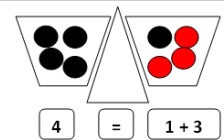
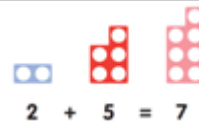
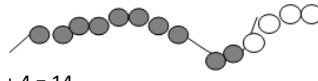
### Practical work

Use objects to confirm that numbers can be added in any order (leading to reordering numbers, e.g. putting larger number first). Use bead strings to illustrate bridging through 10.

$$8 + 6 = 14$$



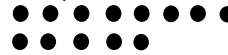
$$8 + 2 + 4 = 14$$



The = sign needs a lot of work on equivalences/balances. Make sets the same as each other in a pan balance and record the calculation below.

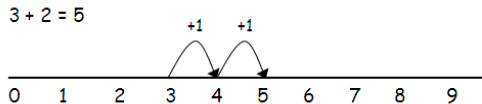
### To support the understanding of one more/one less

- Children move on to compare two sets of objects to understand the concept of more and less. Identify which set has more or less using physical objects.



### Number lines

Start with numbered number lines to support calculation, and then move on to children constructing their own lines. Teachers should regularly demonstrate the use of the number line. Children need to be secure that addition means going up the number line (towards bigger numbers). At this stage, children count on in jumps of one.



This is a tool for working out addition and not a formal method of recording the addition calculation. The children find a starting number then use the number line to count on - and understand that they are working out 'more than'.

Introduce number lines to 20 when children are ready. Make sure you bridge the ten regularly and emphasise the 'teen' numbers (often confused with the 'ty' numbers).

$12 + 3 =$     $3 + 12 =$    Which is easiest/quickest? Why? It is often easier to start with the BIGGEST number in addition.

### Recording

Children are introduced to the symbols associated with ADDITION, the + sign and the = sign.

The = sign means THE SAME AS, it is NOT 'the total' or 'the answer'.

This is vital when children are faced with the calculation for any operation written in a different order, e.g.  $8 = 4 + 4$ .

**Stage 1:** use concrete objects and work on single digit numbers only, e.g.  $3 + 4 = 7$ .

**Stage 2:** move onto writing a number sentence without using objects, e.g.  $3 + 4 = 7$ .

**Stage 3:** extend to using 3 one-digit numbers to 10.

**Stage 4:** once confident with complements to 10, start using bridging calculations, e.g.  $9 + 3 = 12$ .

### Missing number calculations

Promote the covering up of numbers

$$\begin{aligned} 3 + 4 &= \square \\ 3 + \square &= 7 \\ 7 &= \square + 4 \\ \Delta + \square &= 7 \end{aligned}$$

**CHILDREN SHOULD NOT MOVE ON TO THE NEXT STAGE IF:**

- 1) they are not ready
- 2) they are not confident