

### As outcomes, Year 2 pupils should, for example:

Know by heart all **addition and subtraction facts for all numbers up to and including 10**. For example, recall rapidly all the pairs for 7:

$$\begin{array}{ll} 0 + 7 = 7 & 7 + 0 = 7 \\ 1 + 6 = 7 & 6 + 1 = 7 \\ 2 + 5 = 7 & 5 + 2 = 7 \\ 3 + 4 = 7 & 4 + 3 = 7 \end{array}$$

$$\begin{array}{ll} 7 - 0 = 7 & 7 - 7 = 0 \\ 7 - 1 = 6 & 7 - 6 = 1 \\ 7 - 2 = 5 & 7 - 5 = 2 \\ 7 - 3 = 4 & 7 - 4 = 3 \end{array}$$

Derive quickly these **addition doubles**:

- doubles of numbers from  $1 + 1$  to  $15 + 15$ , such as  $13 + 13 = 26$ ;
- doubles of multiples of 5 from  $5 + 5$  to  $50 + 50$ , such as  $45 + 45 = 90$ .

For more on doubles, see page 53.

Know by heart all **pairs of numbers that total 20**.

For example, rapidly:

- find pairs of cards with a total of 20;
- say how many more counters or cubes are needed to make 20 altogether;
- say how many steps must be taken to get from 13 to 20 on a number line, or from 20 back to 13;
- put numbers in the boxes to make 20:  
 $\square + 4 = 20$      $\square + \triangle = 20$

Know by heart all **pairs of multiples of 10 that total 100**. For example, rapidly:

- say how many steps must be taken to get from 40 to 100 on a number line, or from 100 back to 70;
- put numbers in the boxes to make 100:  
 $\square + 20 = 100$      $\triangle + \square = 100$

### As outcomes, Year 3 pupils should, for example:

Know by heart all **addition and subtraction facts for all numbers up to and including 20**. For example, recall rapidly all the pairs for 15:

$$\begin{array}{ll} \dots 11 + 4 = 15 & 4 + 11 = 15 \\ 10 + 5 = 15 & 5 + 10 = 15 \\ 9 + 6 = 15 & 6 + 9 = 15 \dots \end{array}$$

$$\begin{array}{ll} \dots 15 - 4 = 11 & 15 - 11 = 4 \\ 15 - 5 = 10 & 15 - 10 = 5 \\ 15 - 6 = 9 & 15 - 9 = 6 \dots \end{array}$$

Derive quickly these **addition doubles**:

- doubles of numbers from  $1 + 1$  to  $20 + 20$ , such as  $19 + 19 = 38$ ;
- doubles of multiples of 5 from  $5 + 5$  to  $100 + 100$ , such as  $95 + 95 = 190$ .

For more on doubles, see page 53.

Derive quickly all **pairs of multiples of 5 that total 100**.

For example, rapidly:

- find pairs of cards such as 65 and 35;
- say how many steps must be taken to get from 65 to 100 on a number line, or from 100 back to 45;
- put numbers in the boxes to make 100:  
 $\square + 15 = 100$      $\square + \triangle = 100$

Know by heart all **pairs of multiples of 100 that total 1000**. For example, rapidly:

- say how many steps must be taken to get from 400 to 1000 on a number line, or from 1000 back to 700;
- put numbers in the boxes to make 1000:  
 $\square + 200 = 1000$      $\triangle + \square = 1000$