



## Section 2 - Mental Calculation Methods

These methods are taught to help children perform calculations in their heads.

### Addition - Mental Strategies

Pupils need to learn to recall number bonds.

Year 1 - pupils learn by heart number bonds to 10.

Year 2 - pupils learn by heart number bonds to 20.

Pupils need to learn to recall double numbers to 20.

In Year 2, pupils should use their knowledge of double numbers to add near doubles.

$$8 + 9 = 17 \quad (8 + 8 + 1)$$

Pupils add using their knowledge of tens and units.

$$14 + 25 = 39 \quad \text{Add tens first } (10 + 20), \text{ then units } (4 + 5).$$

Pupils count forwards in their head.

$$6 + 23 = 29 \quad \text{Pupils put 23 in their head and count forwards 6.}$$

Pupils use nearby numbers to add 9 or 19 to a number.

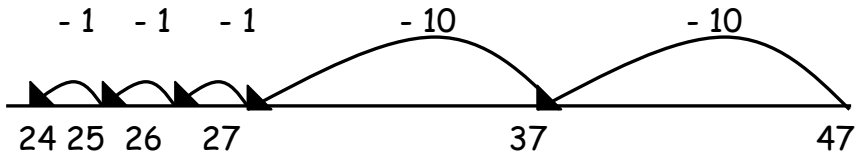
$$17 + 9 = 26 \quad (17 + 10 - 1)$$

$$17 + 19 = 36 \quad (17 + 20 - 1)$$

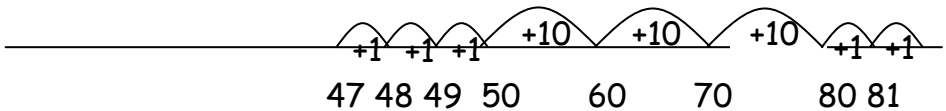


3. Pupils use an 'empty number line' to subtract. Start at the right hand side and count back in multiples of 10 and then take away the units.

$$47 - 23 = 24$$



4. **Counting on** - Count up from 47 to 82 in jumps of 10 and jumps of 1.  $82 - 47$



5. Use **column method** of subtraction where no exchange is required.

$$\begin{array}{r} 78 \\ -53 \\ \hline 25 \end{array}$$