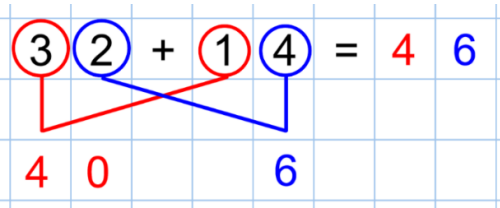# Year 2 – Calculation Strategies

Addition - without regrouping

With a good understanding of place value, children need to partition the tens and ones digits from each number and add them together.
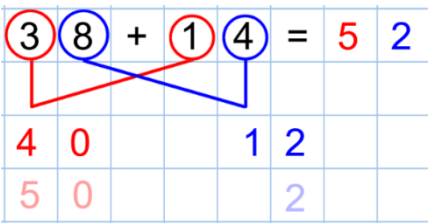
- Add the tens.   3tens + 1ten = 4tens (40)
- Add the ones.   2 ones + 4 ones = 6ones.
- Add the two numbers together.   46

Addition - with regrouping

- Add the tens.   3tens + 1ten = 4tens (40)
- Add the ones.   8ones + 4ones = 1ten and 2ones (12)
- Add the two numbers together.

          4tens + 1tens and 2 ones = 52

Addition on a number line – with and without regrouping

32 + 14 = 46
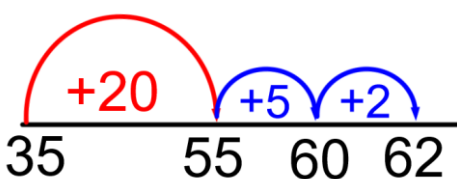
- Start with the largest number on the left
- Add the tens.   32 + 10 = 42
- Add the ones.   42 + 4 = 46.
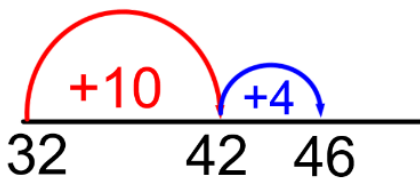
When confident children should add all of their tens in 1 big jump. They will also think about adding ones to the nearest 10 using partitioning. Here 7 has been partitioned into 5 and 2.

35 + 27 = 62

- Add the tens   35 + 20 = 55
- Add the ones   55 + 5 + 2 = 62

<u>Year 2 – Calculation Strategies</u>

<u>Subtraction</u> - without crossing ten

With a good understanding of place value, the children should be isolating the digits into tens and ones to solve subtraction. Taking away all tens as one big jump where possible.
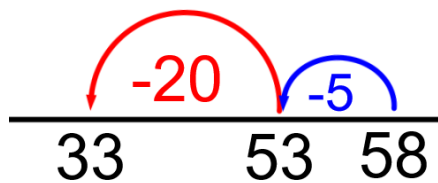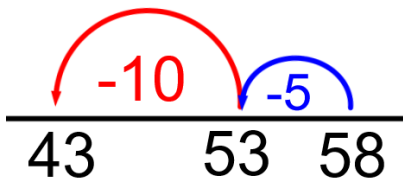
- Write the whole number on the right (as we are counting backwards)

- Subtract the ones.   *8ones – 5ones = 3ones*   *58 – 5 = 53*

- Subtract the tens.   *5tens – 2tens = 3tens*   *53 – 20 = 33*

58 - 15 = 43   58 - 25 = 33
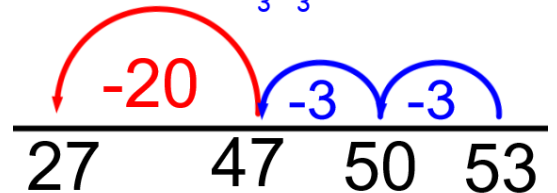
<u>Subtraction</u> - crossing ten

The process of subtracting when crossing ten is the same as above, but when subtracting the ones we encourage the children to partition the ones in order to count back to the nearest ten, before subtracting the remaining ones, and then the tens.
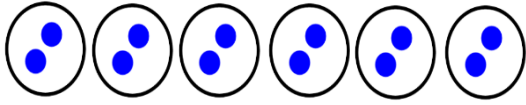
53 - 26 = 27
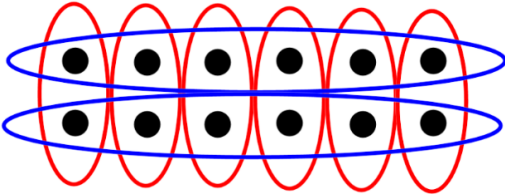
53 – 3 = 50 then 50 – 3 = 47.
47 – 20 = 27

Year 2 – Calculation Strategies

Multiplication

6 x 2 = groups of/lots of

There are 6 groups and there are 2 in each group.

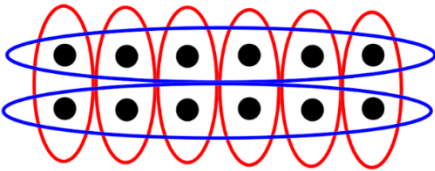Representing this as an array, we are able to see the fact family relationship more clearly.

6 x 2 = 12   2 x 6 = 12

12 ÷ 2 = 6   12 ÷ 6 = 2

Division

<u>Division as 'shared between'.</u>

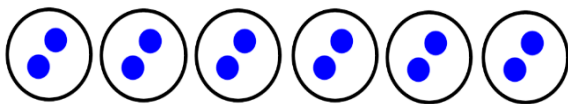*How many are in each group?*

12 ÷ 2 = 6   12 ÷ 6 = 2
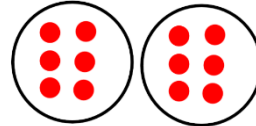
<u>Division as 'grouped into'.</u>   *How many equal groups have been made?*

   12 ÷ 2 = 6   12 ÷ 6 = 2

Children are also encouraged to use their knowledge of multiples and counting in 2s, 5s and 10s to solve multiplication and division. For example;

90 ÷ 10 = 9

10 20 30 40 50 60 70 80 90. *How many multiples of 10 did you count?*

1   2   3   4   5   6   7   8   9

45 ÷ 5 = 9

5 10 15 20 25 30 35 40 45. *How many multiples of 5 did you count?*

1   2   3   4   5   6   7   8   9

18 ÷ 3 = 6

3 6 9 12 15 18   *How many multiples of 3 did you count?*

1   2   3   4   5   6