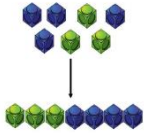


## Progression in written addition methods

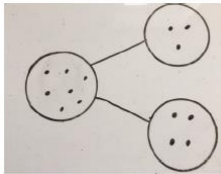
### KS1

#### Reception

Children will use concrete objects (cars, blocks etc) to combine two parts to make a whole.

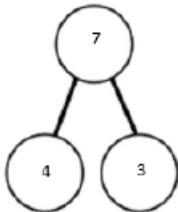


Children progressing to making their own jottings to represent the objects.



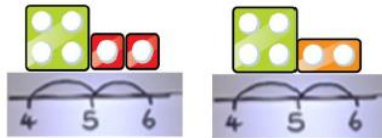
Finally, children will represent the objects as numbers in a part whole model with a number sentence.

$$4 + 3 = 7.$$



#### Year 1

Children will use cubes or numicon to count on using number lines.



Children will progress to abstract number lines.

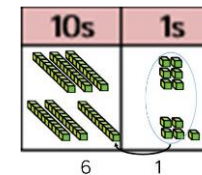
The abstract number line:  
 What is 2 more than 4?  
 What is the sum of 2 and 4?  
 What is the total of 4 and 2?  
 $4 + 2$



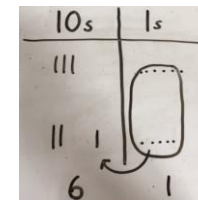
#### Year 2

Children will use Base 10 and PV counters to develop understanding of partitioning and place value of two digit numbers.

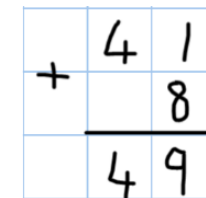
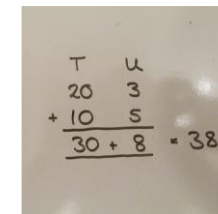
$$36 + 25$$



Children will then use jottings of tens and ones to support their understanding.



Children will progress to using partitioning methods, progressing to the columnar method.

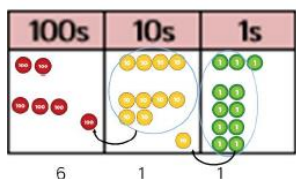


## Progression in written addition methods

### KS2

#### Year 3

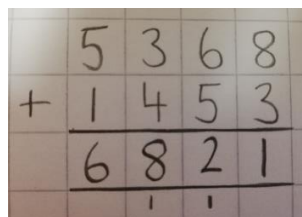
Children will begin by using place value counters to represent calculations of 3 digit numbers. When there are 10 ones in the 1s column – we exchange for a ten, when there are 10 tens, we exchange for 1 hundred.



Then progressing to expanded calculations, clearly partitioning 3 digit numbers.

#### Year 4

Children will refine the columnar method and progress to 4 digit numbers, this method will continue the rest of the way through the school.



This would be solved as follows;

Starting with adding **ones**

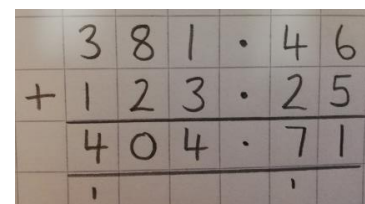
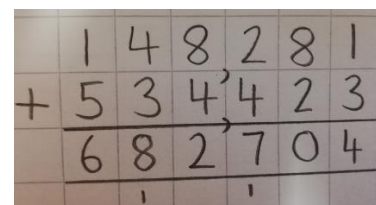
**column:**

$$5+8=13$$

*3 would be placed in the ones column and the 1 (ten) underneath the calculation in the tens column.*

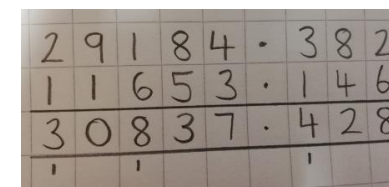
#### Year 5

Children will use the columnar method for numbers with more than 4 digits and up to two decimal places.



#### Year 6

Children will continue to use the columnar method extended up to numbers with 3 decimal places.



$$\begin{array}{r}
 245 \\
 +168 \\
 \hline
 13 \text{ (5+8)} \\
 100 \text{ (40+60)} \\
 300 \text{ (200+100)} \\
 \hline
 413
 \end{array}$$

Finally, children will use the formal columnar method.

$$\begin{array}{r}
 243 \\
 +368 \\
 \hline
 611 \\
 \hline
 11
 \end{array}$$

**Adding the tens column:**

$6+2=8$  (then add then other 1) = 9

*Rehearsed to children as 6 tens add 2 tens etc...to re-inforce the place value of each digit.*

**Adding the hundreds column:**

4 (hundred) + 3 (hundred) = 7 (hundred)

**Adding the thousands column:**

1 (thousand) + 3 (thousand) = 4 (thousand)

Children will also use this method to add money, up to two decimal places.

$$\begin{array}{r}
 \pounds 3.48 \\
 + \pounds 0.78 \\
 \hline
 \pounds 4.26 \\
 \hline
 11
 \end{array}$$