Written method for addition

- **Line up digits from right to left**

Example 1: Add 4735 and 386

Th	H	T	U
4	7	3	5
	3	8	6	+
5	1	2	1
1	1	1	

This method should be familiar to you. It is important that the column values are written. Where column numbers exceed 10 for example in the units column, the additional ten or tens are 'carried' and placed in the column to the left. This method assumes understanding of place value. In the example on the left one 10, one 100 and one 1000 have been 'carried'.

Written Subtraction

Example 2476 - 637

Th	H	T	U
2^1	14 $\cancel{7}^6$	16	
	6	3	7	-
1	8	3	9

Please note that in children's books a line of squares is left above the number being subtracted from. In the example on the left the first calculation is 6 take away 7. This cannot be done so 10 is taken from the 7 tens leaving 6 and the ten taken is placed with the 6 units making 16-7 =9. Again, this method may be familiar to you. Continuing the calculations 6 tens take away 3 =3 . 4 100s take away 6 cannot be done so 1000 is taken from the 1000s and placed with the 4 hundreds making 14. 14-6 = 8. There are no thousands to take away leaving 1000

Multiply

Multiply by a single digit number

Example: 342 x 7

$$\begin{array}{r} \text{Th H T U} \\ 3\ 4\ 2 \\ 7\ \times \\ \hline 2\ 3\ 9\ 4 \\ 2\ 1 \end{array}$$

This method means that the child understands the value of numbers. The first calculation 7 x 2 =14 places the 4 in the units column and carries the ten. 7 x 4 tens = 28 plus the 1 carried =29. Place 9 in the tens column and carry the 200.

342 x 7 = 2394

$$\begin{array}{r} 300\ \text{x}\ 7 = 2100 \\ 40\ \text{x}\ 7 = \ \ 280 \\ 2\ \text{x}\ 7 = \ \ \ 14 \\ \hline 2394 \end{array}$$

Here on the left the numbers have been partitioned into their values and each calculation has been made with the answers set out as an addition. This method is invaluable for developing children's understanding of place value. Below is the same practise but put in a grid which some children prefer. Children should still set out the answers as a written addition unless the calculation is easy. **Children relying on adding mentally raises the risk of making a mistake**

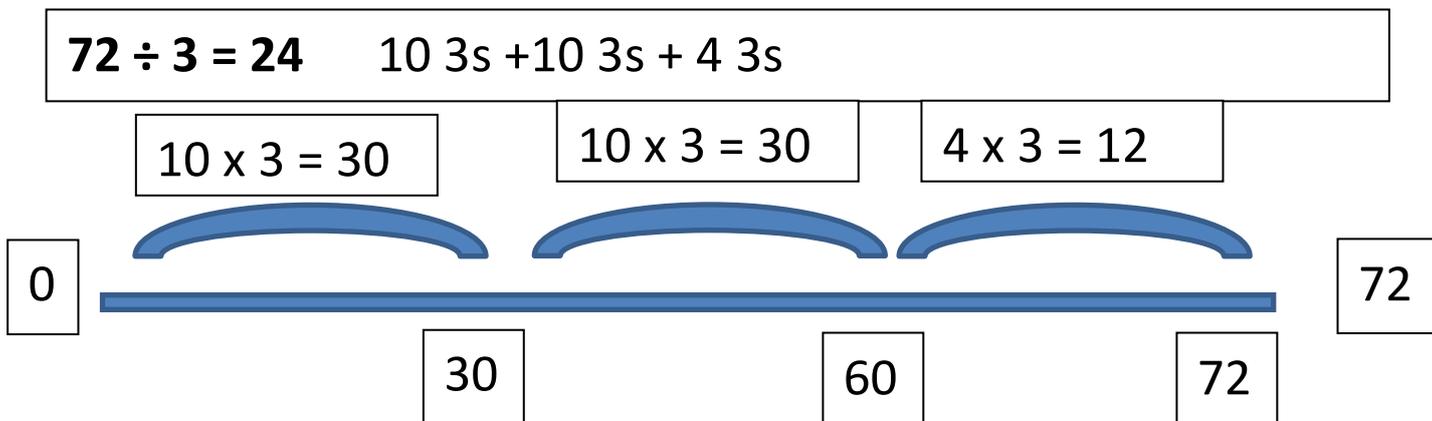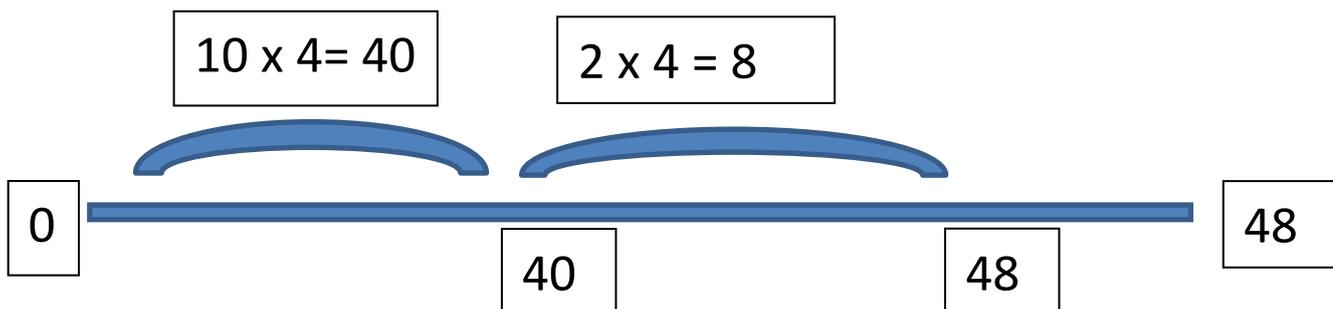| x	300	40	2
7	2100	280	14

Division

$48 \div 4$

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4)48
  40      10 x 4
  ──
   8
   8       2 x 4
  ──
   0
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$48 \div 4 = 12$

More able children will use chunking as shown on the left. It is necessary for children to use their times tables knowledge to repeatedly subtract.

Some children will need to use a number line before more complete understanding is attained. Repeated multiplication of the divisor is carried out with the multiplications added.

10 x 4= 40	2 x 4 = 8

0   40   48   48

$72 \div 3 = 24$ 10 3s +10 3s + 4 3s

10 x 3 = 30	10 x 3 = 30	4 x 3 = 12

0   30   60   72   72

*More confident children will write 20 x 3 = 60 then 4 x 3 = 12