Addition

Y4

Children will begin to use informal and formal (column) methods and jottings to support, record and explain partial mental methods building on existing mental strategies.

Formal written method of column addition

Continue to develop an efficient standard method that can be applied generally. For example:

Using 'carrying'-

$$\begin{array}{r} 587 \\ +\ 475 \\ \hline 1062 \\ \hline \end{array}$$

(1 1)

789 + 642 becomes

$$\begin{array}{rrr} & 7 & 8 & 9 \\ + & 6 & 4 & 2 \\ \hline 1 & 4 & 3 & 1 \\ \hline & 1 & 1 & \end{array}$$

Answer: 1431

Extend method to numbers with at least four digits.

Subtraction

Y4

✓ Calculations as described and demonstrated in Y3. Extending to include four digits.

754 – 286 = 486

$$\begin{array}{rrrrrrrrr} & \overset{600}{\cancel{7}}00 & + & \overset{140}{\cancel{5}0} & + & {}^{1}4 \\ - & 200 & + & 80 & + & 6 \\ \hline & 400 & + & 60 & + & 8 & = & 468 \end{array}$$

Formal written method of column subtraction

874 – 523 becomes

$$\begin{array}{rrr} & 8 & 7 & 4 \\ - & 5 & 2 & 3 \\ \hline & 3 & 5 & 1 \\ \hline \end{array}$$

Answer: 351

932 – 457 becomes

$$\begin{array}{rrr} & \overset{8}{\cancel{9}} & \overset{12}{\cancel{3}} & \overset{1}{2} \\ - & 4 & 5 & 7 \\ \hline & 4 & 7 & 5 \\ \hline \end{array}$$

Answer: 475

6562-4748 =1814

$$\begin{array}{r} \overset{5\ 1\ 5\ 1}{\cancel{6}\cancel{5}\cancel{6}2} \\ -\ 4748 \\ \hline 1814 \\ \hline \end{array}$$

Multiplication

Y4

Children will know by heart all the multiplication facts derived from the 2x, 4x, 8x, 3x, 6x, 5x, 10x and 11x tables.

✓ **Partitioning**

38 x 5 = (30 x 5) + (8 x 5)
= 150 + 40
= 190

✓ **Grid method**

235 x 8
Children will approximate first
235 x 8 is approximately 250 x 8 = 2000

x	200	30	5
8	1600	240	40

1600
240
+ 40
1880

Division

Y4

Children will recall division facts derived from the 2x, 4x, 8x, 3x, 6x, 5x, 10x and 11x tables.

✓ **Chunking**

Children will develop a method of chunking using the facts they know and can derive.

96 ÷ 6

```
   1 6
6 ) 96
  - 60   10x6
    36
  - 36    6x6
    0
```

1 x 6 =6
10 x 6 = 60
6 x 6 = 36

Answer : 16

Children are encouraged to cross out the divisor to leave the answer.

✓ **Short division**

98 ÷ 7 becomes

```
    1  4
  ┌─────
7 │ 9  8
    2
```

Answer: 14

- ✓ **Formal written layout**

Two digit numbers by one digit numbers

```
  23
x  4
  12
  80 +
  92
```

24 × 6 becomes

```
   2 4
×    6
-------
 1 4 4
-------
   2
```

Answer: 144

Three digit numbers by one digit numbers

356 x 7

```
   3 5 6
x      7
-------
     4 2
   3 5 0
 2 1 0 0
 2 4 9 2
```

342 × 7 becomes

```
     3 4 2
×        7
---------
 2 3 9 4
---------
   2 1
```

Answer: 2394