Key Stage 2 – Addition

- Continue with partitioned columnar method.
- Introduce expanded columnar addition.

```
    H    T    O

    2    3    6
+        7    3
              9
    1    0    0
    2    0    0
    3    0    9
```

Progressing to the compact columnar method.

T O	H T O	T O	H T O	T O	H T O
2 3	3 1 5	9 4	5 6 1	4 7	2 3 7
+ 4 2	+ 6 2 4	+ 7 3	+ 7 1 8	+ 2 5	+ 5 1 6
6 5	9 3 9	1 6 7	1 2 7 9	7 2	7 5 3
				1	1

- Add money using both £ and pence in practical contexts.

Video clip:
Demonstration of expanded 3 digit columnar addition

National Curriculum requirements:
Add numbers with up to 3 digits, using the formal written method of columnar addition.

Key Stage 2 – Subtraction

Y3

- Continue with vertical number line subtraction progressing to the expanded columnar subtraction method.

89−35 = 54
$$80 + 9$$
$$- \underline{30 + 5}$$
$$\underline{50 + 4} = 54$$

- Introduce exchanging through the expanded columnar subtraction method.

72 - 47

$$^{60}\cancel{70} + {}^{1}2$$
$$- \underline{40 + 7}$$
$$\underline{20 + 5} = 25$$

- Pro   umnar subtraction.

T O	H T O	T O
4 7	8 6 4	⁴5¹1
- 2 3	- 6 2 1	- 3 6
2 4	2 4 3	1 5

- Emphasise value of digit, e.g. 4 tens subtract 2 tens = 2 tens. Use the correct language for subtraction i.e. exchange rather than borrow.
- Subtract amounts of money to give change.

Video clips:
Subtraction - teaching children to consider the most appropriate methods before calculating

Introducing partitioned column subtraction method, from practical to written
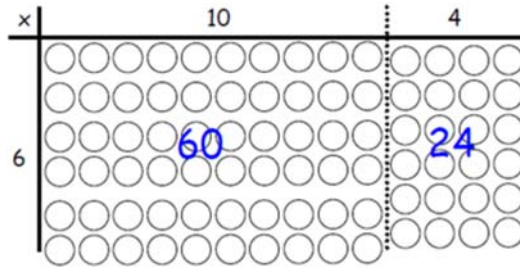
National Curriculum requirements:
Subtract numbers with up to 3 digits using the formal written method of columnar subtraction.

Key Stage 2 – Multiplication

- Recall and use multiplication tables for 3, 4 and 8.

- Continue to use arrays and number lines/Cuisenaire rods for 3, 4 and 8 multiplication tables.

- Write and calculate mathematical statements for multiplication. Statements to include the multiplication tables that they know and 2 digit numbers x 1 digit numbers. Pupils use mental methods and progress to formal written methods.

- Introduce grid model.

```
X |  10    4
6 |  60 + 24  = 84
  |
```


- Progressing to expanded method of multiplication.

```
   T O
   1 4
 x   5
   2 0   (5x4)
 + 5 0   (5x10)
   7 0
```

Video clips: Teaching the grid method as an interim step
(Partitioning and counters to introduce grid).

National Curriculum requirements: Multiply 2 digits by 1 digit, using mental and progressing to formal written methods.

Key Stage 2 – Division

Y3

- Recall and use division facts for 3, 4, and 8 times tables.

- Continue with repeated subtraction on a vertical number line.

- Write and calculate mathematical statements for division using the tables they know.

- Introduce grouping method before short division, encourage children to estimate answers before attempting calculation. Create fact box to encourage efficient grouping e.g. not always groups of 10 - 1x, 2x, 5x, 10x, 20x, 50x, 100x.

```
        13
5)  65
   - 50   (5 x 10)
     15
   - 15   (5 x 3)
      0
```

- Introduce short division, with exact answers.

- Progressing to short division involving carrying, with exact answers.

National Curriculum requirements:
Division questions based on multiplication tables they know.

Divide 2 digits by 1 digit, progressing to formal written methods.

The National Curriculum statutory requirements for Year 3 and the use of written methods are not clear therefore our guidance for Year 3 has been based on the skills required to access Year 4 statutory requirements.

Calculation: Fractions

Add and subtract fractions with the same denominator within one whole
E.g. 5/7 + 1/7 = 6/7