Which method will my child be using?

Addition

Year 5

Children will continue to use the carrying method to solve calculations such as:

```
    3  3  6  4              3  1  2  1              3  .  5  6
 +     2  4  7                    3  7           +  2  .  4  7
 ─────────────           +     1  4  8           ───────────
    3  6  1  1           ─────────────              6  .  0  3
 ─────────────             3  3  0  6           ───────────
       1  1             ─────────────                    1
                              1  1
```

Place value counters will be used as a practical resource to support understanding.
They will also be adding:

- several numbers with different numbers of digits, understanding the place value;
- *decimals with up to two decimal places (with each number having the same number of decimal places), knowing that the decimal points line up under one another.*
- amounts of money and measures, including those where they have to initially convert from one unit to another

Subtraction

Year 5

Children should continue to use the decomposition method to solve calculations such as:

```
   6      6                  2        13
   7  ¹0  7  ¹2              3  .  4  ¹2
 - 3  2  2  6              - 1  .  7  6
 ───────────              ───────────
   3  8  4  6                1  .  6  6
 ───────────              ───────────
```

They will also be subtracting:

- numbers with different numbers of digits, understanding the place value;
- *decimals with up to two decimal places (with each number having the same number of decimal places), knowing that the decimal points line up under one another.*
- amounts of money and measures, including those where they have to initially convert from one unit to another

   Practical resources such as base ten and place value counters should be available for children who require them to aid understanding.

Multiplication

Year 5

Children should continue to use the grid method and extend it to multiplying numbers with up to four digits by a single digit number, e.g. 4346 x 8

x	4 000	300	40	6
8	32 000	2400	320	48

```
    32000
 +   2400
 +    320
 +     48
    34768
```

and numbers with up to four digits by a two-digit number, e.g. 2693 x 24

x	2000	600	90	3
20	40000	12000	1800	60
4	8000	2400	360	12

```
    40000
 +   8000
 +  12000
 +   2400
 +   1800
 +    360
 +     60
 +     12
    64632
```

Once confident with the grid method for multiplication, children can then progress to using expanded columnar methods.
eg 4326 x 7

```
      4 3 2 6
    x       7
          4 2   ( 7 x 6)
        1 4 0   ( 20 x 7)
      2 1 0 0   ( 300 x 7)
    2 8 0 0 0   ( 4000 x 7)
    3 0 2 8 2
```

Only when children are confident and accurate using these methods should they be shown the standard formal methods for short multiplication and long multiplication.

Short multiplication

```
      4 3 2 6
    x       7
    3 0 2 8 2
        2 1 4
```

Long multiplication

24 × 16 becomes

```
        2
      2   4
  ×   1   6
 ──────────
  2   4   0
  1   4   4
 ──────────
  3   8   4
 ──────────
```
Answer: 384

124 × 26 becomes

```
      1   2
  1   2   4
  ×       2   6
 ──────────────
  2   4   8   0
      7   4   4
 ──────────────
  3   2   2   4
      1   1
```
Answer: 3224

124 × 26 becomes

```
      1   2
  1   2   4
  ×       2   6
 ──────────────
      7   4   4
  2   4   8   0
 ──────────────
  3   2   2   4
      1   1
```
Answer: 3224

Children should also be using these methods to solve problems and multiply numbers in the context of money or measures.

Division

Year 5

Children may continue to use the key facts box for as long as they find it useful. Using their knowledge of linked multiplication facts, children should be encouraged to use higher multiples of the divisor. Any remainders should be shown as integers, e.g. 523 ÷ 8 = 65 remainder 3.

```
           65r3
      8 ) 523
        - 320     40x
          203
          160     20x
        -  43
           40
        -   3      5x
```

1x	8
2x	16
4x	32
5x	40
10x	80
20x	160
40x	320

Groups of 8
Partial tables/key facts box

By the end of year 5, children should be able to use the chunking method to divide a four digit number by a single digit number. If children still need to use the key facts box, it can be extended to include 100x e.g. 2458 ÷ 7 = 351 remainder 1.

```
           351r1
      7 ) 2458
        - 2100    300x
           358
           350    50x
        -    8
             7     1x
        -    1
```

1x	7
2x	14
4x	28
5x	35
10x	70
20x	140
40x	280

100x	700
200x	1400
400x	2800
500x	35000

Groups of 7
Partial tables/key facts box

Once children are confident and accurate when dividing by a single digit using partial tables, they can progress to the standard formal written method for short division

```
        8   6  r 2
   5 ) 4   3  ³2
```

Children should be able to solve real life problems including those with money and measures. They need to be able to make decisions about what to do with remainders after division and round up or down accordingly.