Subtraction - Year Four

- Subtract numbers with up to 4 digits using the formal written method of columnar subtraction where appropriate

- Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Continue to teach the use of empty number lines with three and four digit numbers, as appropriate.

Continue to develop the formal written method of subtraction by revisiting the expanded method first, if necessary. Continue to use base ten materials to support understanding.

Formal written method

```
  7 8
- 2 5
  5 3  without exchanging
```

with exchanging
```
    ¹ ¹⁵
    2̶5̶8
  -  7 3
    1 8 5
```

When children are confident, develop with four digit numbers and decimal numbers (in the context of money and measures).

Subtraction - Year Five

- Subtract whole numbers with more than 4 digits, including using formal written method (columnar subtraction)

- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Continue to teach the use of empty number lines with larger numbers and decimals, as appropriate.

Continue to develop the formal written method for subtraction with three and four digit numbers (see Y4 guidance), returning to an expanded method and using base ten materials, if necessary.

503 – 278 = 225

Introduce subtraction of decimals, initially in the context of money and measures.

£166.25 – £83.72 = £82.53

$$400 + 90 + 13$$
$$- \ 200 + 70 + \ 8$$
$$\overline{200 + 20 + \ 5}$$

```
  16  5  12
  1̶6̶6·2̶5
- 8 3·7 2
  8 2·5 3
```

Ensure the decimal points line up.

Subtraction - Year Six

No objectives have been included in the programmes of study explicitly related to written methods for subtraction in Year 6. However, there is an expectation that children will continue to practice and use the formal written method for larger numbers and decimals and use these methods when solving problems, when appropriate (see previous years' guidance for methods).

Our aim is that by the end of Year 6 children use mental methods (with jottings) when appropriate, but for calculations that they cannot do in their heads, they use an efficient formal written method accurately and with confidence.

Stages in Subtraction

Mental methods of calculation

Oral and mental work in mathematics is essential, particularly so in calculation. Early practical, oral and mental work must lay the foundations by providing children with a good understanding of how the four operations build on efficient counting strategies and a secure knowledge of place value and number facts.

Later work must ensure that children recognise how the operations relate to one another and how the rules and laws of arithmetic are to be used and applied.

Subtraction - Early Stages (EYFS)

Children will engage in a variety of counting songs and rhymes and practical activities.

In practical activities and through discussion they will begin to use the vocabulary associated with subtraction.

They will find one less than a given number.

They will begin to relate subtraction to 'taking away' using objects to count 'how many are left' after some have been taken away.

6 – 2 = 4

'Take two apples away. How many are left?'

Children will begin to count back from a given number.

Subtraction - Year One

♦ Given a number, identify one more and one less

♦ Read, write and interpret mathematical statements involving subtraction (-) and the equals (=) sign

♦ Represent and use number bonds and related subtraction facts within 20

♦ Subtract one - digit and two-digit numbers within 20, including zero
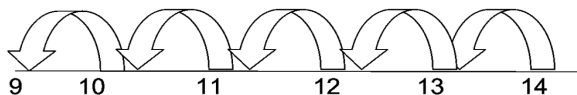
♦ Solve missing number problems

e.g. 20 - ☐ = 15

Children will continue to practise counting back from a given number.

Initially use a number track to count back for subtraction: 9 – 5 = 4

'Put your finger on number nine. Count back five.'

Then progress to a marked number line:

Counting back in ones from a given number
14 – 5 = 9

9   10   11   12   13   14

## Subtraction- Year Two

♦ Subtract numbers using concrete objects, pictorial representations, and mentally, including:

A two digit number and ones

A two digit number and tens

Two two-digit numbers

♦ Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot

♦ solve problems with addition and subtraction:

- using concrete objects and pictorial representations, including those involving numbers, quantities and measures

 - applying their increasing knowledge of mental and written methods

Counting back using an empty number line within 100, in ones then tens.

Counting back in tens from a given number
58 – 30 = 28

-10   -10   -10

28   38   48   58
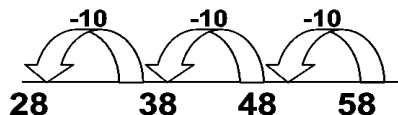
Counting back efficiently
76 – 45 = 31

- 40
-5

31   36   76
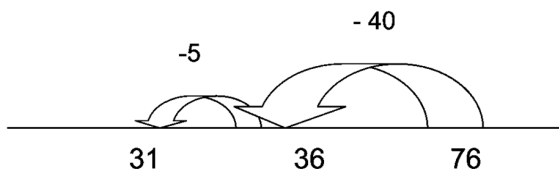
Counting on to find a small difference

Introduce complementary addition to find differences (only use for small differences).

The use of models is extremely important here to understand the idea of "difference".

Count up from the smallest number to the largest to find the difference.

12 - 8 = 4

Subtraction - Year Three

♦ Subtract numbers with up to three digits, using formal written method of columnar subtraction

♦ Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Further develop the use of the empty number line with calculations that bridge 100:

126 – 45 = 81

-5   -10   -10   -10   -10

81   86   96   106   116   126
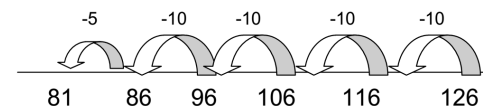
Extend with larger numbers by counting back…

216 – 27 = 189

…and by **counting on** to find the difference (small difference):

231 – 198 = 33

Expanded written method without exchanging
78 – 22 = 56

$$70 + 8$$
$$- \ 20 + 2$$
$$50 + 6 = 56$$

Expanded written method with exchanging
73 – 27 = 46

70 + 3 becomes 60 + 13
-20 + 7   - 20 + 7
              40 + 6 = 46