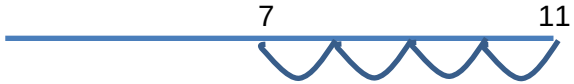
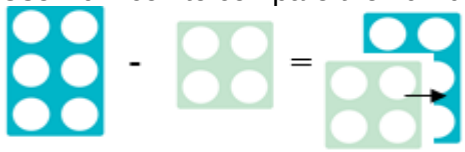
Subtraction
Year 1

Skills and Mental methods	Methods
Skills Read, write and interpret mathematical statements involving – and = Subtract one digit and two digit numbers to 20, including 0. Solve one step problems that involve subtraction using concrete objects and pictorial representations. Solve missing number problems such as 4 = 7 – ? **Mental Strategies** Represent and use number bonds and related subtraction facts within 20.	Calculate using a prepared number line to subtract one-digit and two-digit numbers to 20, including zero. E.g. 11 – 4 =  **Objects / pictorial representations** Use Numicon to compare the numbers, laying one on top.  Removal of objects. Children are given 7 objects and asked to move 3, how many are left? Pictorial recording: There were 7 butterflies in the garden. 3 flew away, how many are left? **Problem solving** There were 7 butterflies yesterday, today there are 4, how many flew away? Problems should include terms: take away, difference between, less than.

Subtraction
Year 2

Skills and Mental methods

Skills

Solve subtraction problems:

- Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
- Applying their increasing knowledge of mental and written methods.

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

- A 2 digit number and ones
- A 2 digit number and tens
- Two 2 digit numbers

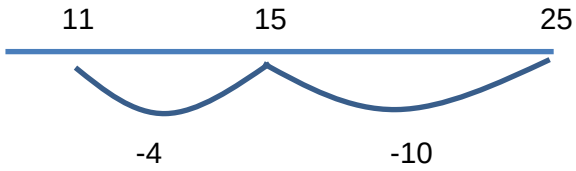
Recognise and use inverse relationships between addition and subtraction and use this to check calculations and solve missing number problems.

Mental Strategies

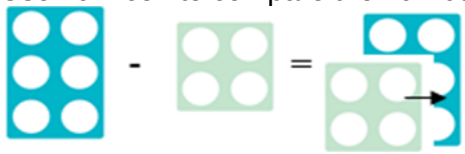
Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100.

Methods

Calculate using a number line to subtract using 2 digit numbers.
E.g. 25 – 14 =



Use numicon to compare the numbers, laying one on top.



6 – 4 = 2 so 60 – 40 = 20

Problem solving

Counting what you've got left, how much bigger is 18 than 10?

Counting what you've got left, how much bigger is 19 than 13?

Inverse operations

6 + 2 = 8 so 8 - ? = 2

Subtraction
Year 3

Skills and Mental methods

Skills

Estimate the answer to a calculation and use the inverse operations to check the answers.

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

Mental Strategies

Subtract numbers mentally including:

- 3 digit numbers and ones (336 – 2 = 334)
- 3 digit numbers and tens (336 – 20 = 316)
- 3 digit numbers and hundreds (336 – 200 = 136)

Methods

Column Subtraction

Use formal columnar subtraction to subtract up to 3 digits, including 1dp. Begin without decomposition (progress onto decomposition when ready).

```
  368
- 142
  226
```

Children may want to label H, T and U to support methodology. Children will be expected to estimate the answer to a calculation and use inverse operations to check answers.

Subtraction
Year 4

Skills and Mental methods

Skills

Estimate the answer to a calculation and use the inverse operation to check the answer.

Solve 2 step problems in contexts deciding which operation and method to use and why.

Mental Strategies

Find 1000 less than a given number.

Count backwards through 0 to include negative numbers.

Methods

Decomposition method

Subtract numbers with up to 4 digits and 2d.p. using formal written methods. Estimate and use inverse operations to check answers to a calculation.

2158 – 36 becomes

```
  2158
 -  36
  2122
```

1932 – 457 becomes

```
    8 12 1
  1 9 3 2
- 4 5 7
  1 4 7 5
```

Deans apparatus to demonstrate decomposition.

Subtracting Fractions

Subtract fractions with the same denominator.

$\frac{6}{7} - \frac{2}{7} = \frac{4}{7}$

Y3

Estimate

2158 – 36 is around 2160 – 40 = *2120.* Is your answer similar? Check by adding the number subtracted to the answer of the calculation.

```
  2122
+   36
  2158
```

Subtraction
Year 5

Skills and Mental methods

Skills

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

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

Mental Strategies

Subtract numbers mentally with increasingly large numbers.

Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.

Methods

Decomposition method

Subtract numbers with up to 4 digits and 3d.p. using formal written methods. Estimate and use inverse operations to check answers to a calculation.

2125.8 – 13.6 becomes

```
  2125.8
-   13.6
  2112.2
```

193.2 – 45.7 becomes

```
    8 12  1
  1 9 3 .2
-   4 5 .7
  1 4 7 .5
```

Subtracting Fractions

Subtract fractions with a different denominator beyond one whole.

$\frac{3}{4} - \frac{1}{8} = \frac{6}{8} - \frac{1}{8} = \frac{5}{8}$

Subtraction
Year 6

Skills and Mental methods

Skills

Children undertake mental calculations with increasingly large numbers and more complex calculations.

Mental Strategies

Use estimation to check answers to calculation and determine, in the context of a problem, an appropriate degree of accuracy.

Methods

Decomposition method

Subtract numbers with up to 4 digits and 3d.p. using formal written methods. Estimate and use inverse operations to check answers to a calculation

2125.8 – 13.6 becomes

$$\begin{array}{r} 2125.8 \\ -\ \ 13.6 \\ \hline 2112.2 \end{array}$$

193.2 – 45.7 becomes

$$\begin{array}{r} {\scriptstyle 8\ 12\ 1} \\ 1\not{9}\not{3}.2 \\ -\ \ 45.7 \\ \hline 147.5 \end{array}$$

Subtracting Fractions

Subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions.

$$4\tfrac{3}{4} - 1\tfrac{3}{8} = 4\tfrac{6}{8} - 1\tfrac{3}{8} = 3\tfrac{3}{8}$$

Explore the order of operations using brackets

6-1x3 = 3 and (6-1) x3 = 15

Problem solving

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

Use a number line to find the difference between positive and negative integers for measure such as temperature.
E.g. Find the difference between 11°C and -3°C.