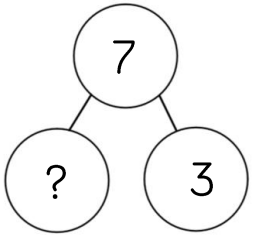
# Subtraction

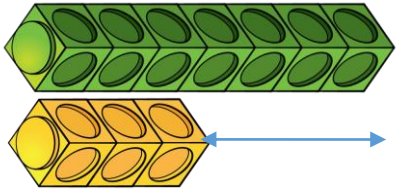
| Skill | Year | Representations and models | |
|---|---|---|---|
| Subtract two 1-digit numbers to 10 | 1 | Part-whole model<br>Bar model<br>Number shapes | Ten frames (within 10)<br>Bead strings (10)<br>Number tracks |
| Subtract 1 and 2-digit numbers to 20 | 1 | Part-whole model<br>Bar model<br>Number shapes<br>Ten frames (within 20) | Bead string (20)<br>Number tracks<br>Number lines (labelled)<br>Straws |
| Subtract 1 and 2-digit numbers to 100 | 2 | Part-whole model<br>Bar model<br>Number lines (labelled) | Number lines (blank)<br>Straws<br>Hundred square |
| Subtract two 2-digit numbers | 2 | Part-whole model<br>Bar model<br>Number lines (blank)<br>Straws | Base 10<br>Place value counters<br>Column addition |

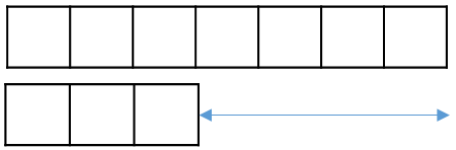
| Skill | Year | Representations and models | |
|---|---|---|---|
| Subtract with up to 3-digits | 3 | Part-whole model<br>Bar model | Base 10<br>Place value counters<br>Column addition |
| Subtract with up to 4-digits | 4 | Part-whole model<br>Bar model | Base 10<br>Place value counters<br>Column addition |
| Subtract with more than 4 digits | 5 | Part-whole model<br>Bar model | Place value counters<br>Column addition |
| Subtract with up to 3 decimal places | 5 | Part-whole model<br>Bar model | Place value counters<br>Column addition |

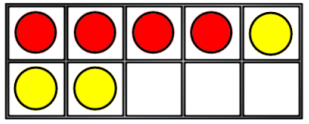
## Skill: Subtract 1-digit numbers within 10

## Year: 1

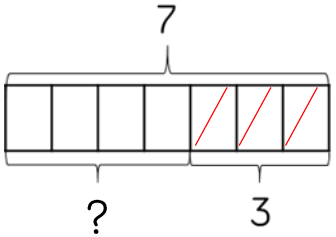


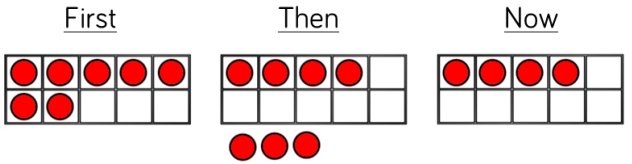


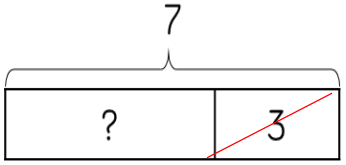


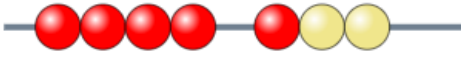


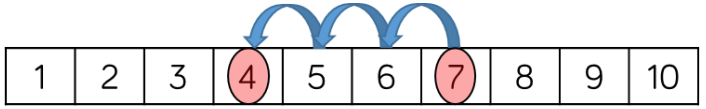
$$7 - 3 = 4$$





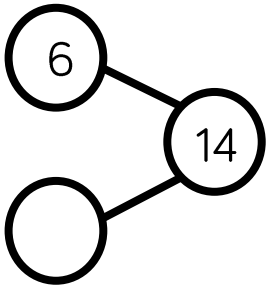

Part-whole models, bar models, ten frames and number shapes support partitioning.

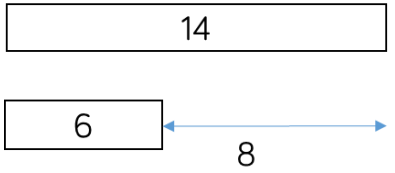
Ten frames, number tracks, single bar models and bead strings support reduction.

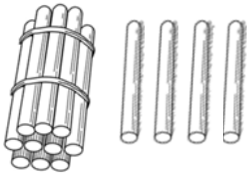
Cubes and bar models with two bars can support finding the difference.

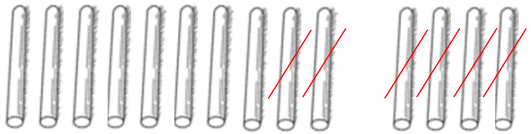
## Skill: Subtract 1 and 2-digit numbers to 20

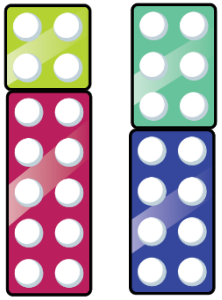
## Year: 1/2



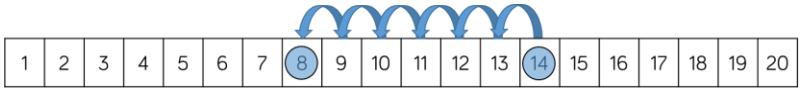



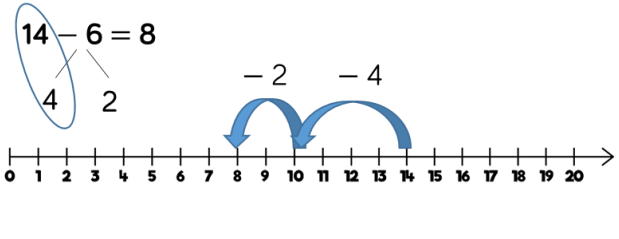



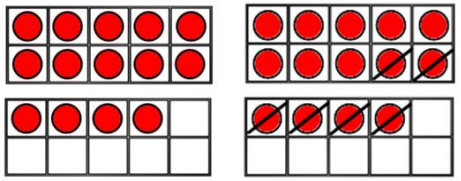


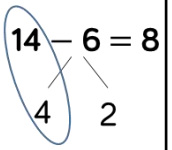


**14 – 6 = 8**



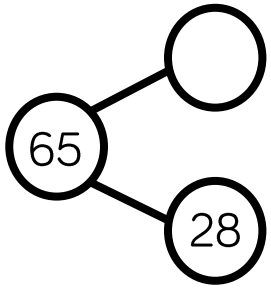


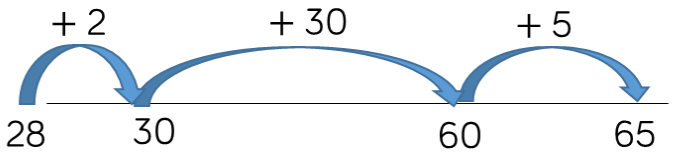

When subtracting one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten.

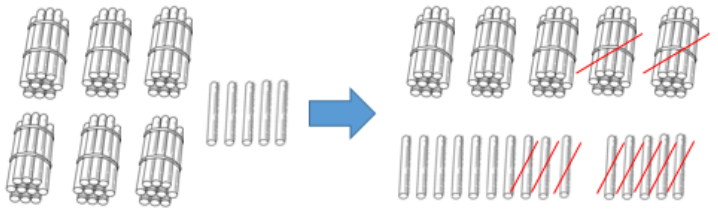
Children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.

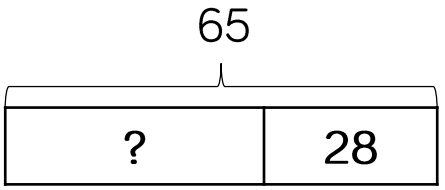
## Skill: Subtract 1 and 2-digit numbers to 100

## Year: 2

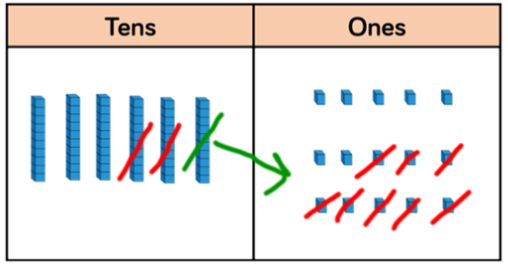


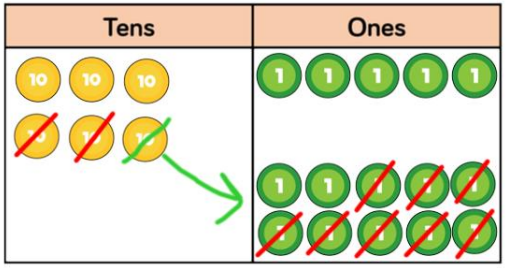






$$65 - 28 = 37$$




$$\begin{array}{r} {}^{5}\not{6}\,{}^{1}\not{5} \\ -\ 2\ 8 \\ \hline 3\ 7 \end{array}$$

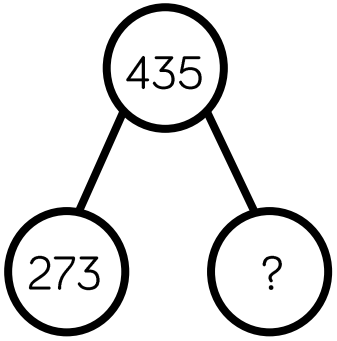


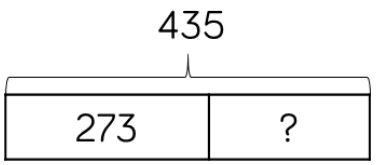

At this stage, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient.

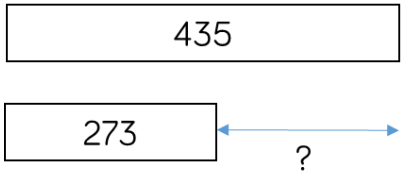
Children can also use a blank number line to count on to find the difference. Encourage them to jump to multiples of 10 to become more efficient.

## Skill: Subtract numbers with up to 3 digits

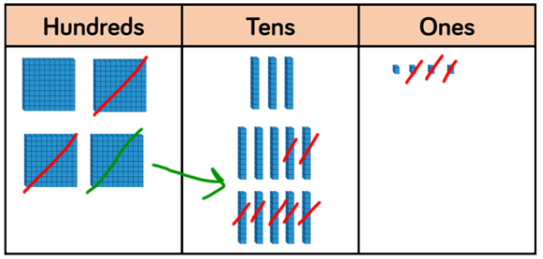
## Year: 3



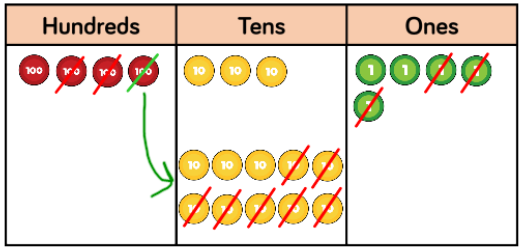




**435 − 273 = 262**




$$\begin{array}{r} {}^{3}\not{4}\,{}^{1}\not{3}5 \\ -\ 273 \\ \hline 262 \end{array}$$



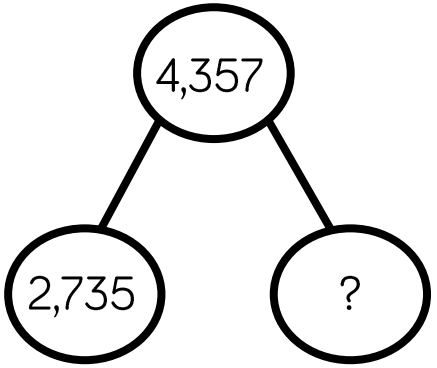

Base 10 and place value counters are the most effective manipulative when subtracting numbers with up to 3 digits.

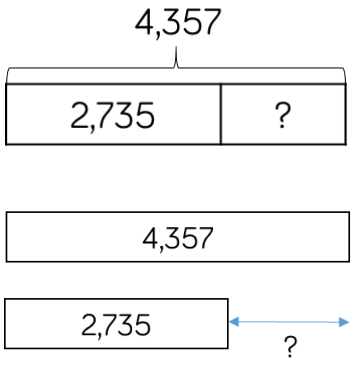
Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.

Plain counters on a place value grid can also be used to support learning.

## Skill: Subtract numbers with up to 4 digits

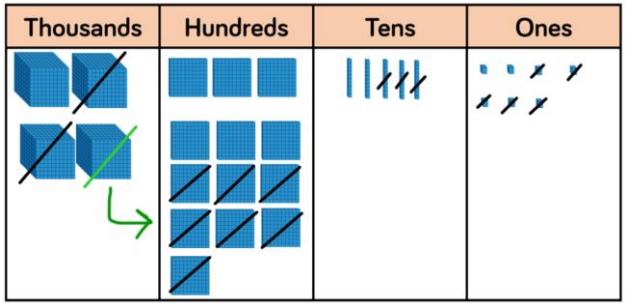
## Year: 4

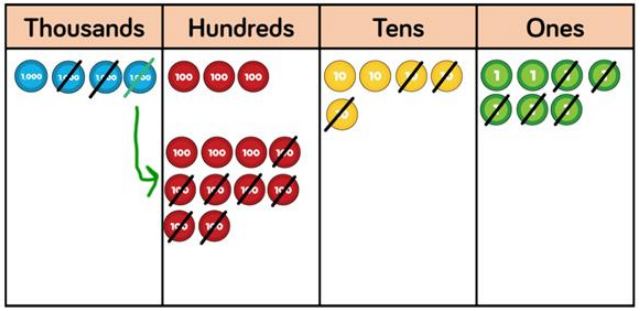



$$\begin{array}{r} {}^{3}\cancel{4}^{1}357 \\ -\ 2735 \\ \hline 1622 \end{array}$$

$$4{,}357 - 2{,}735 = 1{,}622$$



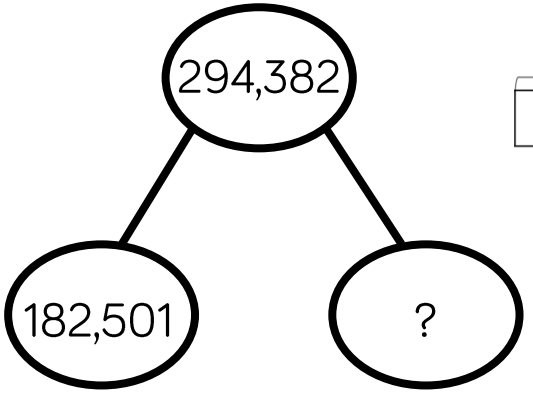

Base 10 and place value counters are the most effective manipulatives when subtracting numbers with up to 4 digits.

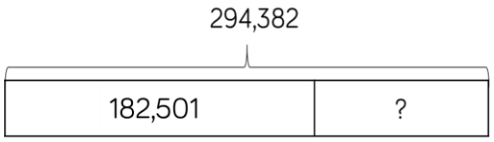
Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.

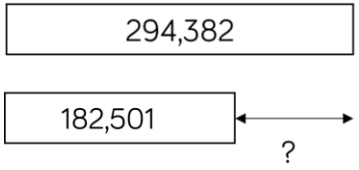
Plain counters on a place value grid can also be used to support learning.

## Skill: Subtract numbers with more than 4 digits

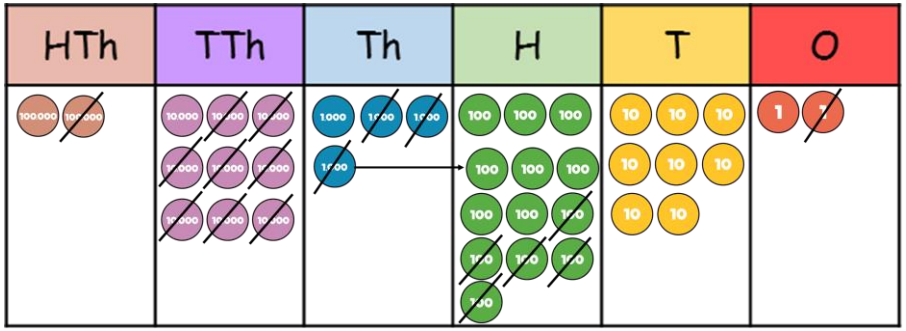
## Year: 5/6




**294,382 – 182,501 = 111,881**

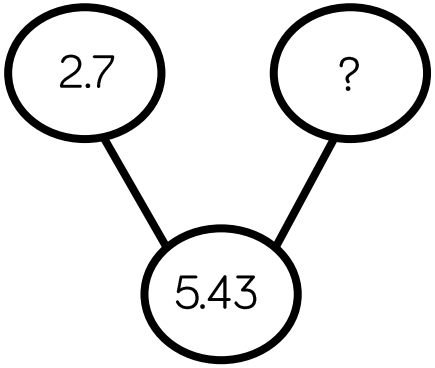


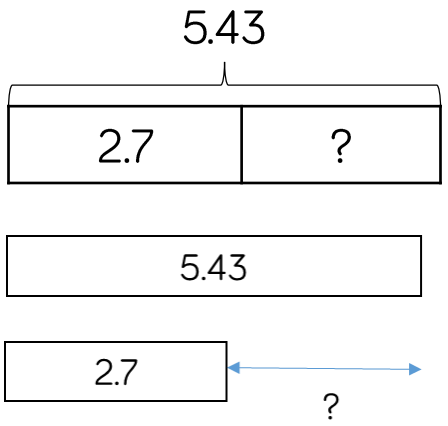

| | | | | | | |
|---|---|---|---|---|---|---|
| | 2 | 9 | $^{3}\cancel{4}$ | $^{1}3$ | 8 | 2 |
| – | 1 | 8 | 2 | 5 | 0 | 1 |
| | 1 | 1 | 1 | 8 | 8 | 1 |

Place value counters or plain counters on a place value grid are the most effective concrete resource when subtracting numbers with more than 4 digits.

At this stage, children should be encouraged to work in the abstract, using column method to subtract larger numbers efficiently.

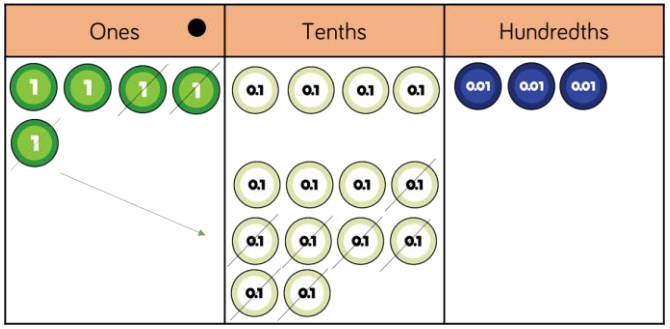
## Skill: Subtract with up to 3 decimal places

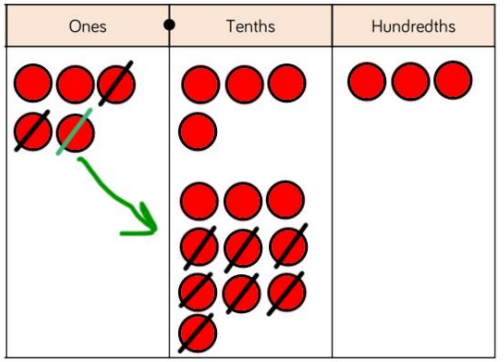



$$\begin{array}{r} {}^{4}\cancel{5}.{}^{1}43 \\ -\ 2.7 \\ \hline 2.73 \end{array}$$

**5.43 − 2.7 = 2.73**




## Year: 5

Place value counters and plain counters on a place value grid are the most effective manipulative when subtracting decimals with 1, 2 and then 3 decimal places.

Ensure children have experience of subtracting decimals with a variety of decimal places. This includes putting this into context when subtracting money and other measures.

# Glossary

**Addend -** A number to be added to another.

**Aggregation -** combining two or more quantities or measures to find a total.

**Augmentation -** increasing a quantity or measure by another quantity.

**Commutative –** numbers can be added in any order.

**Complement –** in addition, a number and its complement make a total e.g. 300 is the complement to 700 to make 1,000

**Difference –** the numerical difference between two numbers is found by comparing the quantity in each group.

**Exchange –** Change a number or expression for another of an equal value.

**Minuend –** A quantity or number from which another is subtracted.

**Partitioning –** Splitting a number into its component parts.

**Reduction –** Subtraction as take away.

**Subitise –** Instantly recognise the number of objects in a small group without needing to count.

**Subtrahend -** A number to be subtracted from another.

**Sum -** The result of an addition.

**Total –** The aggregate or the sum found by addition.