Progression in Calculations
Written methods of calculations are based on mental strategies. Each of the four operations builds on mental skills which provide the foundation for jottings and informal written methods of recording. Skills need to be taught, practised and reviewed constantly. These skills lead on to more formal written methods of calculation.

Strategies for calculation need to be represented by models and images to support, develop and secure understanding. This, in turn, builds fluency. When teaching a new strategy it is important to start with numbers that the child can easily manipulate so that they can understand the methodology.

The transition between stages should not be hurried as not all children will be ready to move on to the next stage at the same time, therefore the progression in this document is outlined in stages. Previous stages may need to be revisited to consolidate understanding when introducing a new strategy.

A sound understanding of the number system is essential for children to carry out calculations efficiently and accurately.
Magnitude of Calculations

**Year 1** – U + U, U + TU (numbers up to 20) including adding zero, U – U, TU – U (numbers up to 20) including subtracting zero, U x U, U ÷ U


**Year 3** – add numbers with up to three-digits, HTU + multiples of 10, HTU + multiples of 100, subtract numbers up to three-digits, HTU – U, HTU – multiples of 10, HTU – multiples of 100, HTU – HTU, TU x U, TU ÷ U

**Year 4** - add and subtract numbers with up to four-digits, ThHTU + ThHTU, ThHTU - ThHTU, add and subtract decimals with up to two decimal places in the context of money, multiply three numbers together, TU x U, HTU x U, TU x U, multiply by zero and one, TU ÷ U, HTU ÷ U

**Year 5** – add and subtract numbers with more than four-digits, add and subtract decimals with up to three decimal places, ThHTU x U, ThHTU x TU, HTU x TU, multiply whole numbers and decimals with up to three-decimal places by 10, 100 and 1000, divide numbers with up to four-digits by U (including remainders as fractions and decimals and rounding according to the context)

**Year 6** - add and subtract numbers with more than four-digits, add and subtract decimals with up to three decimal places, multiply numbers with up to four-digits by TU, multiply numbers with up to two-decimal places by a whole number, divide numbers up to four-digits by TU (interpreting remainder according to the context), divide decimals up to two-decimal places by U or TU
Children must have concrete experiences that enable them to create visual images. They should be encouraged to articulate their learning and to become pattern spotters.
bead string

count stick

place value apparatus

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Units/Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

Multilink

place value counters

Numicon

0.1

1 0

Cuisenaire

double sided counters

10

0.1

100

number line

number grids 100 and 200