



## The Federation of St Giles and St John Calculation Policy



This policy contains the key pencil and paper procedures that will be taught within our school. It has been written to ensure consistency and progression throughout the school and reflects a whole school agreement.

### Aims:

- Children are confident at calculating.
- Children can select the most appropriate method of calculating.
- By the end of key stage 2 children should be able to use a formal written method for addition, subtraction, multiplication and division.

### To achieve these aims:

- During their time at this school children will be encouraged to see mathematics as both a written and spoken language. Teachers will support and guide children through the following important stages:
  - ✚ using concrete apparatus to develop number sense and understanding throughout the school where appropriate.
  - ✚ developing the use of pictures and a mixture of words and symbols to represent numerical activities;
  - ✚ using standard symbols and conventions;
  - ✚ use of jottings to aid a mental strategy;
  - ✚ use of pencil and paper procedures;
- In key stage 2, pupils are taught formal, written methods. Children are encouraged to select the most appropriate method to calculate.
- When following the policy teachers need to assess exactly where their pupils lie on the progression map. The expectations are for each year group although some pupils may be working above or below these expectations so teachers will need to adjust accordingly.
- Children should not be made to go onto the next stage if:
  - 1) they are not ready.
  - 2) they are not confident.
- Children should be encouraged to approximate their answers before calculating.
- Children should be encouraged to check their answers after calculation using an appropriate strategy.
- Children should be encouraged to consider if a mental calculation would be appropriate before using written methods.
- This policy concentrates on the introduction of standard symbols, the use of the empty number line as a jotting to aid mental calculation and on the introduction of pencil and paper procedures. It is important that children do not abandon jottings and mental methods once pencil and paper procedures are introduced.

<p style="text-align: center;"><u>Mental skills-Addition</u></p> <ul style="list-style-type: none"> <li>• Recognise the size and position of numbers</li> <li>• Count on in ones and tens</li> <li>• Know number bonds to 10 and 20</li> <li>• Add multiples of 10 to any number</li> <li>• Partition and recombine numbers</li> <li>• Bridge through 10</li> </ul>	<p style="text-align: center;"><u>Key vocabulary (addition)</u></p> <ul style="list-style-type: none"> <li>• add</li> <li>• addition</li> <li>• plus</li> <li>• and</li> <li>• count on</li> <li>• more</li> <li>• sum</li> <li>• total</li> <li>• altogether</li> </ul>
<p style="text-align: center;"><u>Mental skills-Subtraction</u></p> <ul style="list-style-type: none"> <li>• recognise the size and position of numbers</li> <li>• count back in ones and tens</li> <li>• know number facts for all numbers to 20</li> <li>• subtract multiples of 10 from any number</li> <li>• partition and recombine numbers (only partition the number to be subtracted)</li> <li>• bridge through 10</li> <li>• subtracting near 10s</li> <li>• approximating</li> <li>• rounding</li> </ul>	<p style="text-align: center;"><u>Key vocabulary (subtraction)</u></p> <ul style="list-style-type: none"> <li>• subtract</li> <li>• less</li> <li>• take away</li> <li>• fewer</li> <li>• minus</li> <li>• difference</li> <li>• count back</li> <li>• between</li> </ul>
<p style="text-align: center;"><u>Mental skills-Multiplication</u></p> <ul style="list-style-type: none"> <li>• recognise the size and position of numbers</li> <li>• count on in different steps 2s,5s,10s</li> <li>• double numbers up to 10</li> <li>• recognise multiplication as repeated addition</li> <li>• quick recall of multiplication facts</li> <li>• use known facts to derive associated division facts</li> <li>• use known facts to generate other facts</li> <li>• multiplying by 10, 100, 1000 and understanding the effect</li> </ul>	<p style="text-align: center;"><u>Key vocabulary (multiplication)</u></p> <ul style="list-style-type: none"> <li>• lots of</li> <li>• groups of</li> <li>• times</li> <li>• multiply</li> <li>• multiplication</li> <li>• multiple</li> <li>• product</li> <li>• array</li> <li>• double</li> <li>• repeated addition</li> </ul>
<p style="text-align: center;"><u>Mental skills-Division</u></p> <ul style="list-style-type: none"> <li>• recognise the size and position of numbers</li> <li>• count back in different steps 2s,5s,10s</li> <li>• halve numbers to 20</li> <li>• recognise division as repeated subtraction</li> <li>• quick recall of division facts</li> <li>• use known facts to derive associated facts</li> <li>• divide by 10, 100, 1000 and understanding the effect</li> <li>• divide by multiples of 10</li> </ul>	<p style="text-align: center;"><u>Key vocabulary (division)</u></p> <ul style="list-style-type: none"> <li>• lots of</li> <li>• groups of</li> <li>• share</li> <li>• group</li> <li>• halve</li> <li>• divide</li> <li>• division</li> <li>• divided by remainder</li> <li>• factor</li> <li>• quotient</li> <li>• divisor</li> </ul>