



Benington C of E Primary School

Calculation Policy

Written	Reviewed	Next Review Date	Author	Sub-Policies
December 2020		December 2022	Vanessa Welch	Maths policy

Addition and Subtraction	Contexts and Resources
<p>By the end of Key Stage 1: Counting on and back on different steps (especially 1 and 10) Bridging through 10 Number bonds (not just 10 and 20) Partitioning (not just into tens and ones for example, $16 = 15 + 1$)</p>	<p>Resources Pupils to practise using a variety of adult and child led resources such as: cubes, counters, bead strings, numicon, objects, counting sticks, 100 square, number lines, arrow cards, Diennes blocks, sand, water, measures, fractions, place value sliders, Cuisenaire rods etc.</p> <p>Pupils to have access to a variety of resources including: Abacus, Hamilton, Essential Maths, White Rose, Nrich, Collins and Twinkl</p>
<p>By the end of Year 3: BASE METHOD Expanded Method: $30 + 60 = 90$ $5 + 4 = 9$ $90 + 9 = 99$ So $35 + 64 = 99$</p>	
<p>By the end of Year 4: Introduce Compact (Contracted) Method: $\begin{array}{r} 39 \\ + 64 \\ \hline 103 \end{array}$carrying to be done in the carrying row</p> <p>Exchanging Method: $\begin{array}{r} 121 \\ -13 \\ \hline 08 \end{array}$</p>	

<p>By the end of Year 5 and 6: Addition using bigger numbers, numbers of different lengths, decimals. Revert to base methods when introducing big steps in understanding.</p>	<p>Contexts Word problems Missing number problems Inverses Pattern Spotting Systematic Working Extension by breadth (missing digits, how many possibilities, equals in different places) Algebra</p>
<p>Multiplication and Division</p>	
<p>By the end of Key Stage 1: Arrays Doubling/Halving (including odd numbers) Counting in steps Grouping/Sharing</p>	
<p>By the end of Year 3: Learn tables (0s, 1s, 2s, 10s, 5s, 3s, 4s, 6s) and inverses. Using multiplication facts and jumps on a number line. Missing number calculations to secure understanding of the = sign. Doubling and halving Place Value Multiplying and dividing by 10.</p> <p>Informal partitioning and chunking Eg $10 \times 3 = 30$ $6 \times 3 = 18$ So $16 \times 3 = 48$</p> <p>45 divided by 3 = 18 Using my 3x tables I know $10 \times 3 = 30$ How many lots of 3 make the extra 18? (6) So I know that I have 16 lots of 3 altogether.</p>	
<p>By the end of Year 4: BASE METHODS Compact for 2 x 1 digit, Grid Method and Partitioning, shown alongside each other. Chunking for division Secure tables and division facts up to 12 x 12</p>	
<p>By the end of Year 5 and 6: Develop Formal Methods, short then long. Revert to earlier Base Methods when introducing big steps in learning such as tens, ones and decimals.</p>	