# Marshfield CE VC Primary School 

## Learning together, inspiring each other, achieving our best

## Addition

National Curriculum Objectives by Year Group

| Year Group | Addition |
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| EYFS | - 40-60+: Find the total number of items in two groups by counting all of them. <br> - 40-60+: Say the number that is one more than a given number. <br> - 40-60+: Find one more from a group of up to five objects, then ten objects. <br> - 40-60+: In practical activities and discussion, begin to use the vocabulary involved in adding. <br> - 40-60+: Begin to identify own mathematical problems based on own interests and fascinations. <br> - ELG: Say which number is one more than a previous number <br> - ELG: Using quantities and objects, add two single-digit numbers and count on to find the answer. |
| Year 1 | - Read, write and interpret mathematical statements involving addition (+) and equals (=) signs <br> - Add one-digit and two-digit numbers to 20, including zero <br> - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems |
| Year 2 | - Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <br> a two-digit number and ones <br> a two-digit number and tens <br> two two-digit numbers <br> adding three one-digit numbers <br> - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot <br> - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. <br> - Find different combinations of coins that equal the same amounts of money <br> - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change |
| Year 3 | - Add numbers mentally, including: <br> a three-digit number and ones <br> a three-digit number and tens <br> a three-digit number and hundreds <br> - Add numbers with up to three digits, using formal written methods of columnar addition and subtraction <br> - Estimate the answer to a calculation and use inverse operations to check answers <br> - Solve problems, including missing number problems, using number facts, place value, and more complex addition. |


|  | - Add lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ); volume/capacity ( $(1 / \mathrm{ml})$ <br> - Add amounts of money to give change, using both $£$ and $p$ in practical contexts <br> - Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables. |
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| Year 4 | - Add numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate <br> - Estimate and use inverse operations to check answers to a calculation <br> - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. <br> - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> - Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. |
| Year 5 | - Add whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). <br> - Add numbers mentally with increasingly large numbers. <br> - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. <br> - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. <br> - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> - Use all four operations to solve problems involving measure <br> - Solve comparison, sum and difference problems using information presented in a line graph |
| Year 6 | - Perform mental calculations, including with mixed operations and large numbers <br> - Use their knowledge of the order of operations to carry out calculations involving the four operations. <br> - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. <br> - Solve problems involving addition, subtraction, multiplication and division <br> - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <br> - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate <br> - Calculate and interpret the mean as an average |


|  | Possible Concrete and Visual Representations |  | cildren's Recording | Vocabulary |
| :---: | :---: | :---: | :---: | :---: |
| EYFS |  |  | If using Numicon, children could use printed Numicon icons and stick these in progressing to recording number sentences alongside:$\begin{aligned} & 8+8=121+1=2 \\ & 9+9182+2=4 \\ & 10+10=23+3=2 \\ & 1+2102+2 \\ & 12+12.4^{2}+4=8 \\ & 5+5=10 \\ & 0+2=12 \\ & 7+\frac{1}{1}=14 \end{aligned}$ | number sentence add, more, and make total altogether double one more how many more to make ...? <br> how many more is ... than ...? <br> how much more is ...? equals balances |
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| Year 2 | $8+5$ <br> Cuisenaire Rods <br> Part-whole model <br> Adding three single-digit numbers | Adding three single-digit numbers $\begin{aligned} 4+7+6 & =17 \\ \frac{4+7+6}{40} & =10+7 \\ & =17 \end{aligned}$ <br> Partitioning $\begin{aligned} & 32+56= \\ & 30+50=80 \\ & 3+6=8 \\ & \hline 2+6 \end{aligned}$ <br> Column Method (no regrouping) $\begin{array}{r} 52 \\ +35 \\ \hline 87 \\ \hline \end{array}$ <br> Column Method (regrouping) $\begin{array}{r} 34 \\ +57 \\ \hline 91 \\ \hline 1 \end{array}$ | increase tens boundary commutative partition fact family regrouping partitioning bridging empty box inverse ten more number bonds for 20 number bonds within 20 check |
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Adding Hundreds:
$234+500=$


Adding 3-digit Numbers:


Remind children to exchange 'ten ones' for 'one ten'.

## Abacus



Place Value Counters


| $\mathbf{H}$ | $\mathbf{T}$ | $\mathbf{O}$ |  |
| ---: | ---: | ---: | ---: |
|  | 4 | 2 | 7 |
| +2 | 6 | 8 |  |
| 6 | 9 | 5 |  |
|  | 1 |  |  |
|  |  |  |  |





