St Mary's C.E. (A) Primary School
Progression in Addition
National Curriculum 2014

Year	What will addition look like?	Guidance
		The guidance in italics is taken from the non- statutory guidance in the 'National Curriculum in England' document for 2014
EYFS	Practical, counting objects and relating addition to combining two groups of objects	
1	Use of the number track and number line - hopping and recording. (a) 2 and 3 equals 5 0 1 2 3 4 5 6 7 8 9 10 $2 + 3 = \square$ $5 + 3 + 1 = 9$ $\square + \triangle = 4$ $10 = 6 + \triangle$ Continue to develop pupils' understanding of addition with practical activities using concrete apparatus, such as bundles of straws, numicon, counters and diennes	*Pupils memorise and reason with number bonds to 10 and 20 in several forms (e.g. 9 + 7 = 16; 16 - 7 = 9; 7 = 16 - 9). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations. Pupils combine and increase numbers, counting forwards and backwards.* *They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms put together, add, altogether, total, take away, distance between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.*
2	Pupils continue to use the number line to calculate with bigger numbers, partitioning the smaller number and adding the most significant digit first (a) $52 + 24$ (b) $61 + 14 = \square$ +20 +4 52 72 76 (c) $12 + 7 + 4 = \square$ When children have a good understanding of place value and partitioning, introduce the columnar methods with additions that do not cross the tens boundary using concrete apparatus laid out in a columnar form. 	*Pupils extend their understanding of the language of addition and subtraction to include sum and difference* *Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using 3 + 7 = 10, 10 - 7 = 3 and 7 = 10 - 3 to calculate 30 + 70 = 100, 100 - 70 = 30 and 70 = 100 - 30. They check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (e.g. 5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5). This establishes commutativity and associativity of addition.* *Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.*
3	(a) Pupils continue to use the number line to support mental calculation +50 +4 +3 $86 + 57$ 86 136 140 143 Pupils build on their understanding of place value, partitioning and their concrete experiences to develop columnar methods of addition which bridge the tens, then hundreds, initially in the expanded form. **Expanded method** It is important that the children have a good understanding of place value and partitioning using concrete resources and visual images to support calculations. The expanded method enables children to see what happens to numbers in the standard written method. $48 + 36$ T U 67+ 83 + 24 42 11 5 80 120 91 125 and check answer	*Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.* *Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent*

3	Progressing to 3 digit numbers 124+ 137 11 50 200 261	
4	Partition one number when adding mentally (a) 625 + 48 = $$\overset{+40}{\frown}\quad\overset{+8}{\frown}$$ 625 665 673 Pupils use their understanding of the expanded columnar methods of addition to progress to use the compact method. 625 + 48 673 1 1294+ 2345 3639 1	*Pupils continue to practise both mental methods and columnar spacing addition and subtraction with increasingly large numbers to aid fluency.*
5	Adding larger numbers mentally, partitioning the smaller number 587 + 475 = $$\overset{+400}{\frown}\quad\overset{+70}{\frown}\quad\overset{+5}{\frown}$$ 587 987 1057 1062 Pupils use the compact column method to calculate with decimal numbers, and with larger whole numbers. £ 6.72 + 8.56 + 2.30 £ 17.58	*Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency* *They practise mental calculations with increasingly large numbers to aid fluency.*
6	Adding larger numbers mentally, supported by the number line, partitioning the smaller number (a) 7648+1486 = $$\overset{+1000}{\frown}\quad\overset{+400}{\frown}\quad\overset{+80}{\frown}\quad\overset{+6}{\frown}$$ 7648 8648 9048 9128 9134 Pupils add larger whole numbers using the columnar method. They add decimals with differing numbers of decimal places using the columnar method. Pupils may fill empty columns with zeros initially, to preserve place value. (a) 7648 (b) 124.9 + 7.25 + 1486 124.9**0*** 9134 + 7.25 111 132.15 11	*Pupils practise addition and subtraction for larger numbers, using the formal written methods of columnar addition and subtraction.* *They undertake mental calculations with increasingly large numbers and more complex calculations.*