| Year	What will addition look like?
R	- Counting all- a child doing 2+3 counts out 2 bricks and then three bricks and then find the total by counting all the bricks. - Counting on from the first number- a child finding 3+5 counts on from the first number; 'four, five, six, seven, eight'. - Bead strings, counters, physical objects
1	National Curriculum 2014 - Read, write and interpret mathematical statements involving addition (+)and equals (=) signs - Represent and use number bonds within 20 - Add one-digit and two-digit numbers to 20, including zero - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = _ - 9. Vocabulary:- - Counting on from the larger number, even when it is not the first number. - Finding totals - Increasing the size of a number (e.g. 5 more than 12) - Using known addition facts to solve addition problems 6+4 5+3 10+8 Use a number line to solve simple addition problems 11 + 8 = 17 + 12 = 29
2	National Curriculum 2014 - Solve problems with addition: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods - Recall and use addition facts to 20 fluently, and derive and use related facts up to 100 - Add numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one-digit numbers - Show that addition of two numbers can be done in any order (commutative) - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Vocabulary:- - Adding using partitioning (10s and 1s/units) - Counting on from the largest number - Concrete apparatus such as Base 10 and Numicon to be used to support understanding of addition. Use a number line to add 2 digit numbers Parition the number we are adding, then add tens and ones.
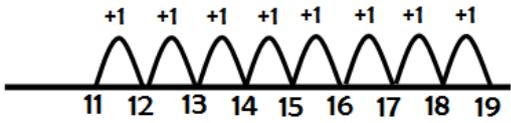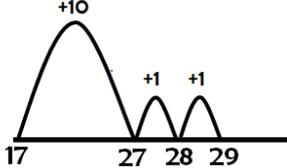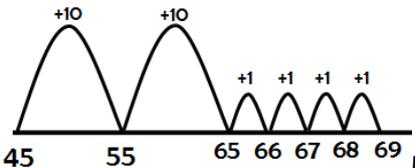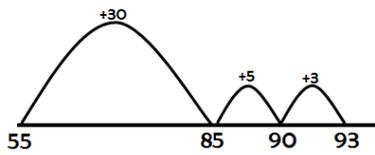
+30 +5 +3
55   85 90 93   More able - begin to combine tens and bridge where necessary.

National Curriculum 2014

3	**National Curriculum 2014**
	➢ Solve problems, including missing number problems, using number facts, place value, and more complex addition
	➢ Add numbers mentally, including:
	    • a three-digit number and ones
	    • a three-digit number and tens
	    • a three-digit number and hundreds
	➢ Add numbers with up to three digits, using formal written methods of columnar addition.
	➢ Estimate the answer to a calculation and use inverse operations to check answers
	
	Vocabulary:-
	• Number line – adding using partitioning
	• Column addition
	• Missing numbers
	• Partition
	• Expanded method
	
	Use a number line when adding (TU+TU, HTU+TU, HTU+HTU)
	
	+30 +5 +3
	55 85 90 93
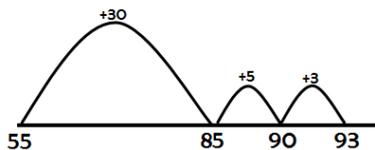	
	Use expanded formal written method of column addition once secure with number line method.
	
	288
	+166
	―――
	14
	140
	300
	―――
	454

4	**National Curriculum 2014** ➢ add numbers with up to 4 digits using the formal written methods of columnar addition ➢ estimate and use inverse operations to check answers to a calculation ➢ solve addition two-step problems in contexts, deciding which operations and methods to use and why. Vocabulary:- • Expanded column addition • Compact column addition • Carry • Place Value Use expanded formal written method of column addition, progressing to compact formal written method (up to ThHTU+ ThHTU) 288 489 +166 + 254 ――― ―――― 14 743 140 1 1 300 ――― 454 Number line continues to support mental addition. Lower ability children will still use a number line until secure. +30 +5 +3 55 85 90 93
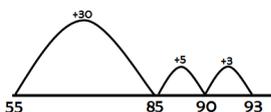
5	**National Curriculum 2014**
	   ➢ add whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
	   ➢ add and subtract numbers mentally with increasingly large numbers
	   ➢ use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
	   ➢ solve addition multi-step problems in contexts, deciding which operations and methods to use and why.
	   ➢ solve problems involving number up to three decimal places
	
	Vocabulary:-
	   ➢ Expanded column addition
	   ➢ Compact column addition
	   ➢ Carry
	   ➢ Place Value
	
	Use compact formal written method (numbers with more than 4 digits)
	
	$$\begin{array}{r} 1489 \\ + \ 2254 \\ \ _{1\ 1} \\ \hline 3743 \\ \hline \end{array}$$
	
	Use compact formal written method to problem solve (e.g. in the context of money)
	
	$$\begin{array}{r} 3\ .\ 5\ 6 \\ +\ 2\ .\ 4\ 7 \\ \hline 6\ .\ 0\ 3 \\ \hline {}_{1} \end{array}$$
	
	Lower ability children to use expanded method of column addition where necessary (see Year 4)

6	**National Curriculum 2014**
	   ➢ solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	   ➢ perform mental calculations, including with mixed operations and large numbers
	   ➢ identify common factors, common multiples and prime numbers
	   ➢ use their knowledge of the order of operations to carry out calculations involving the four operations
	   ➢ solve problems involving addition, subtraction, multiplication and division
	   ➢ use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
	
	Use compact formal written method to support problem solving.
	
	$$\begin{array}{r} 4\ 2 \\ 6\ 4\ 3\ 2 \\ 7\ 8\ 6 \\ 3 \\ +\ \ 4\ 6\ 8\ 1 \\ \hline 1\ 1\ 9\ 4\ 4 \\ \hline 1\ 1\ 2\ 1 \end{array}$$
	
	Use compact formal written method to add decimals.
	
	$$\begin{array}{r} 4\ 0\ 1\ .\ 2\ 0 \\ 2\ 6\ .\ 8\ 5 \\ +\ \ \ \ \ 0\ .\ 7\ 1 \\ \hline 4\ 2\ 8\ .\ 7\ 6 \\ \hline 1 \end{array}$$