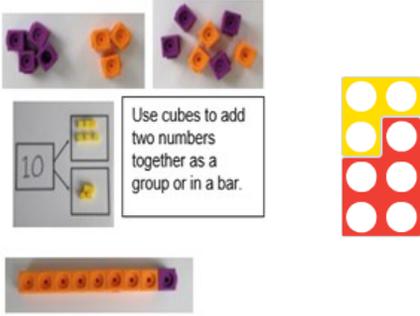
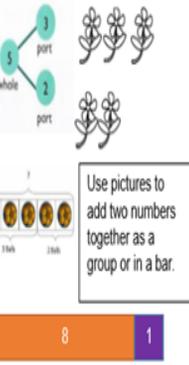
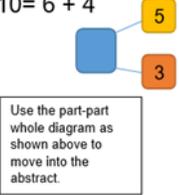
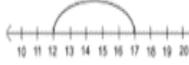
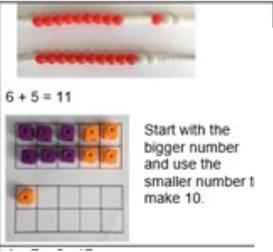
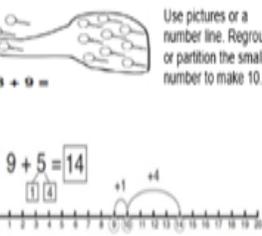


Progression in Addition leading to a written form

Year Group Expectations

[Mental strategies additional to Progression.]

Objective and strategy	Concrete	Pictorial	Abstract
Combining two parts to make a whole: part-whole model	 <p>Use cubes to add two numbers together as a group or in a bar.</p>	 <p>Use pictures to add two numbers together as a group or in a bar.</p>	$5 + \square = 8$ $4 + 3 = 7$ $10 = 6 + 4$  <p>Use the part-part whole diagram as shown above to move into the abstract.</p>
Starting at the bigger number and counting on	 <p>Start with the larger number on the bead string and then count on to the smaller number 1 by 1 to find the answer.</p>	$12 + 5 = 17$  <p>Start at the larger number on the number line and count on in ones or in one jump to find the answer.</p>	$7 + \square = 20$ $5 + 12 = 17$ <p>Place the larger number in your head and count on the smaller number to find your answer.</p>
Regrouping to make 10.	 <p>Start with the bigger number and use the smaller number to make 10.</p>	 <p>Use pictures or a number line. Regroup or partition the smaller number to make 10.</p>	$7 + 4 = 11$ <p>If I am at seven, how many more do I need to make 10. How many more do I add on now?</p>

**Year 1**

Fluency— to know addition number facts for all numbers up to 20 and related subtraction facts.

Place value— Begin to represent 2 digit numbers in tens and units [ teens]

Mental calculations— Add 1 more and 1 less

Children need to understand the equality sign so that the sign is not just interpreted as ‘the answer’

Use of number facts such as doubles— eg  $6 + 7 = \text{double } 6 = 12 + 1$

Promote 6,7,8, and 9 as  $5 + \text{something}$  through money, hands.

**Year 2**

Fluency —to use known addition and related subtraction facts up to 20 to solve problems and relate to facts to 100.

Place value— represent each 2 digit number in 10s and units. To know 0 as a place holder.

Mental calculations— add any 2 digit and 1 digit.

2 digit + multiple of 10.

3 1-digit numbers.

Some 2 digit to 2 digit numbers.

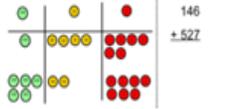
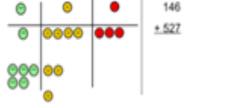
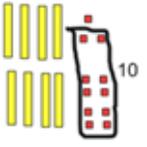
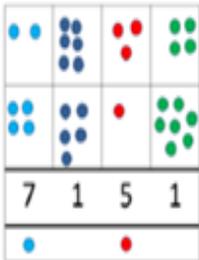
Mental strategies to continue to promote even when moving to column expanded method.

adding 9,11,19 and 21 by adding multiples of 10 and adjusting .

Using doubles and number facts then adjusting eg  $12 + 13$

$25 + 26$



Objective and strategy	Concrete	Pictorial	Abstract
<p>Column method- regrouping</p>	<p>Make both numbers on a place value grid.</p>  <p>Add up the units and exchange 10 ones for one 10.</p>  <p>Add up the rest of the columns, exchanging the 10 counters from one column for the next place value column until every column has been added.</p> <p>This can also be done with Base 10 to help children clearly see that 10 ones equal 1 ten and 10 tens equal 100.</p> <p>As children move on to decimals, money and decimal place value counters can be used to support learning.</p>	<p>Children can draw a pictorial representation of the columns and place value counters to further support their learning and understanding.</p>  <p>40 8 40 3 80 + 11 = 91</p> 	<p>Start by partitioning the numbers before moving on to clearly show the exchange below the addition.</p> $\begin{array}{r} 20 + 5 \\ 40 + 8 \\ 60 + 13 = 73 \end{array}$ <p>As the children move on, introduce decimals with the same number of decimal places and different. Money can be used here.</p> $\begin{array}{r} 72.8 \\ + 54.6 \\ \hline 127.4 \end{array}$ $\begin{array}{r} 536 \\ + 85 \\ \hline 621 \\ 11 \end{array}$ $\begin{array}{r} 23.361 \\ 9.080 \\ + 1.770 \\ \hline 34.211 \end{array}$

**Year 5**

Written expectations –add whole numbers with more than 4 digits using a formal written method.

Add decimals with up to 2 decimal places.

Place value– using 7 digit numbers and knowing what each digit represents .

Working with tenths, hundredths thousands with decimal point.

Mental calculations -

Add increasingly larger numbers using :

Partitioning in different ways, number facts, adding near multiples of 10,100,1000 then adjusting, bridging through 10,100,1000 or to an hour in the context of time.

**Year 6**

Written expectations –add whole numbers with more than 4 digits using a formal written method.

Add decimals with up to 3 decimal places.

Place value– using 8 digit numbers and knowing what each digit represents .

Working with tenths, hundredths thousands with decimal point.

Mental calculations-

Add increasingly larger numbers and operations than involve mixed operations and brackets.

Add increasingly larger numbers using :

Partitioning in different ways, number facts, adding near multiples of 10,100,1000 then adjusting, bridging through 10,100,1000 or to an hour in the context of time.