<u>**Essex Primary school   Addition calculation policy**</u>

By the end of year 6, children will have a range of calculation methods, mental and written. Selection will depend upon the numbers involved.
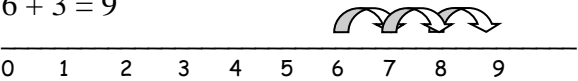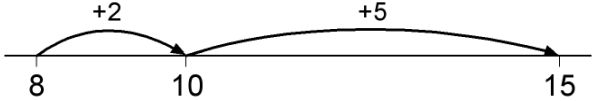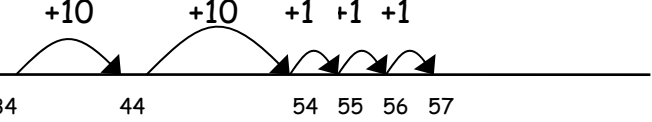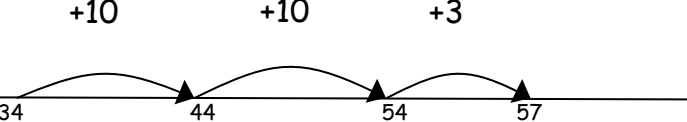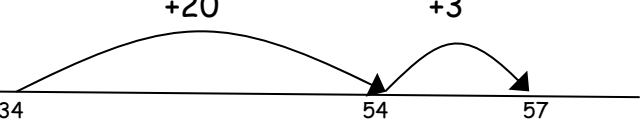
Children should not be made to go onto the next stage if:

      1)   **they are not ready.**
      2)   **they are not confident.**

Children should be encouraged to **approximate** their answers before calculating.
Children should be encouraged to **check their answers** after calculation using an appropriate strategy.
Children should be encouraged to consider if a mental calculation would be appropriate before using written methods.

The different stages	Examples
Stage 1 (Rec) Counting sets of objects	
Stage 2 (Rec/Yr1) Combining 2 sets of objects into 1 group and counting practically	$6 + 2$ = the children may get 6 cubes, then 2 more and count how many altogether.
Stage 3 (Rec/Yr1) Drawing pictures/dots – informal jottings. Then counting how many.	$4 + 2 = 6$ * * * * + * *
Stage 4(Yr1) Counting on, on a number line with numbers on it.	$6 + 3 = 9$ 0 1 2 3 4 5 6 7 8 9

Stage 5 (Yr2)
Steps in addition can be recorded on a number line. The steps often bridge through a multiple of 10.
 	
  1. Partition the smaller number into tens and units.
  2. Add on the tens.
  3. Add on the units.
	$8 + 7 = 15$
	
	34 + 23 = 57
	
	Then helping children to become more efficient by adding the units in one jump (by using the known fact 4 + 3 = 7).
	
	34 + 23 = 57
	
	Followed by adding the tens in one jump and the units in one jump.
	
	34 + 23 = 57

Stage 6 (Yr2/Yr3) Partitioning and Recombining	24 + 12 20 4 10 2 20 + 10 = 30 4 + 2 = 6 30 + 6 = 36

Stage 7 (Yr3)
Partitioning and adding least significant digits first
	Adding the least significant digits first- using informal pencil and paper methods to support, record and explain partial mental methods building on existing mental strategies.
	
	Children to add **least significant digits** first in preparation for carrying.
	
	67　　　　　　　　　　267
	+24　　　　　　　　　+ 85
	  80 (60 + 20)　　　　 12 (7+5)
	  11 (7+4)　　　　　　140 (60 + 80)
	  91　　　　　　　　　200 (200+0)
	　　　　　　　　　　　352

Stage 8 (Yr4)
Partitioning leading to carrying
	625　　　　　　783　　　　　367
	+ 48　　　　　　+ 42　　　　+ 85
	  673　　　　　　 825　　　　 452
	  1　　　　　　　 1　　　　　 11
	
	Using similar methods, children will:
	✓　*add several numbers with different numbers of digits;*
	✓　*begin to add two or more three-digit sums of money, with or without adjustment from the pence to the pounds;*
	✓　*know that the decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. £3.59 + 78p.*

Stage 9 (Yr5)
Extend carrying method to larger numbers
	Children should extend the carrying method to numbers with at least 4 digits.
	
	  587　　　　　　　　　　　　　3587
	+ 475　　　　　　　　　　　+ 675
	  1062　　　　　　　　　　　 4262
	  1 1　　　　　　　　　　　　1 1 1
	
	Using similar methods, children will:
	✓　*add several numbers with different numbers of digits;*
	✓　*begin to add two or more decimal fractions with up to three digits and the same number of decimal places;*
	✓　*know that decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. 3.2 m – 280 cm.*

Stage 10 (Yr6)
Extend carrying method to number with any number of digit.
	Children should extend the carrying method to number with any number of digits.
	
	  7648　　　 6584　　　 42
	+ 1486　　 + 5848　　　 6432
	  9134　　　 12432　　　 786
	  111　　　　111　　　　 3
	　　　　　　　　　　　 + 4681
	　　　　　　　　　　　 11944
	　　　　　　　　　　　　 121
	
	Using similar methods, children will
	✓　*add several numbers with different numbers of digits;*
	✓　*begin to add two or more decimal fractions with up to four digits and either one or two decimal places;*
	✓　*know that decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. 401.2 + 26.85 + 0.71.*