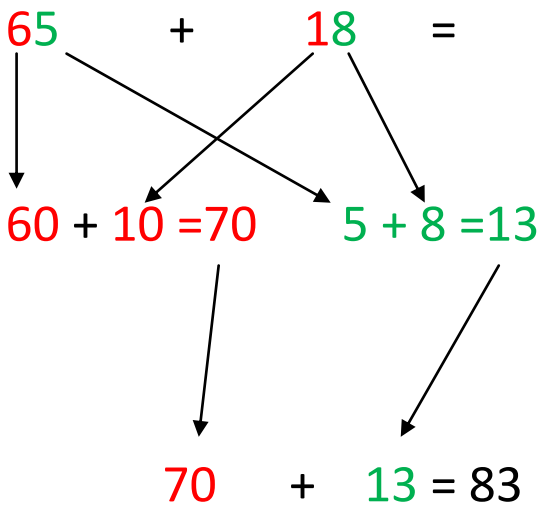
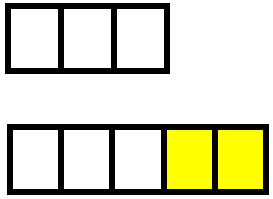
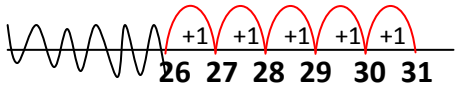
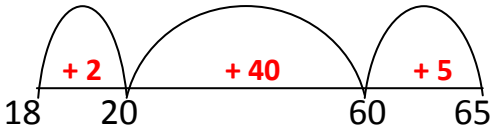
ADDITION GUIDELINES

Year One	Year Two	Year Three
Add 2 sets of objects together by counting **Know number bonds to 10** **Use number tracks to support counting and addition** **Be able to explain and apply**	**Know number bonds to 10, then 20** **Apply to addition calculations** **16+4 =** **37 + 3 =** **Move from number tracks to number lines** **Start to partition** **62 + 31 = 93** **60 + 30 = 90** **2 + 1 = 3** **90 + 3 = 93** **Be able to explain and apply**	**Informal written method using partitioning:**  **Be able to explain and apply**

ADDITION GUIDELINES		
Year Four	**Year Five**	**Year Six**
Adapt informal written method from Year 3 to vertical expanded layout (start with TU + TU then HTU = HTU also money and measures by end of year) 60 + 5 10 + 8 70 + 13 = 83 Be able to explain and apply	Extend informal written methods to column addition of two integers up to 10,000 (by end of year) Use with decimal money, length, weight, capacity Continue to stress mental and informal strategies if appropriate numbers 5346 + 1578 6924 1 1 Be able to explain and apply	Extend written methods to column addition of two or more integers, or decimals in different contexts. Select suitable strategy (mental, informal, compact, calculator) when solving problems Be able to explain and apply

SUBTRACTION GUIDELINES

Year One	Year Two	Year Three
How much longer is the second stick? **How many must I add to make the 2 sticks the same?**  **Find the difference between…..** **Be able to explain and apply**	**Link addition and subtraction facts** **4 + 6 = 10** **10 – 4 = 6** **10 – 6 = 4** **Use numbertracks or numberlines to 'find the difference' between 26 and 31**  **Be able to explain and apply**	**Informal written method using counting on:** **Find the difference between:** **18 and 65**  **40 + 5 + 2 = 47** The difference between 18 and 65 is 47 **Be able to explain and apply**

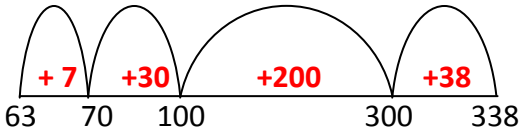
SUBTRACTION GUIDELINES

Year Four

Extend informal written method using counting on – focus on increasing efficiency

(HTU – HTU by end of year, also with money time and measures)

338 - 63 =



200 + 30 + 30 + 8 + 7 = 275

or

200 + 38 + 30 +7 = 275

Be able to explain and apply

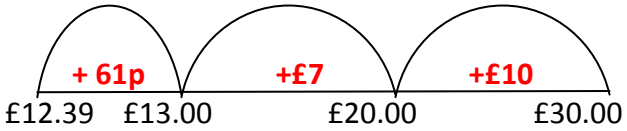
Year Five

Extend informal written method using counting on.

Focus on increasing efficiency.

Whole numbers, decimals, time and measures by end of year.

£30.00 - £12.39 = £17.61



£10 + £7 + 61p = **£17.61**

or

£17 + 61p = **£17.61**

Be able to explain and apply

Year Six

Extend counting on method for subtraction with decimal numbers (up to 3dp) in different contexts.

Select suitable strategy (mental informal, calculator) when solving problems

Teach compact decomposition:

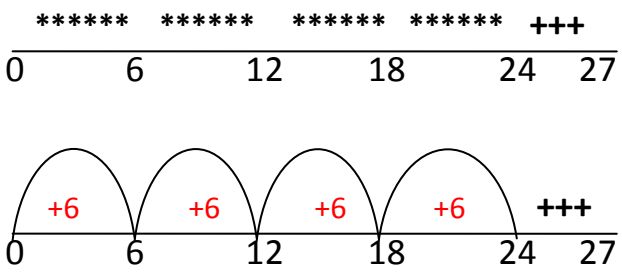
363-127

$$\begin{array}{r} {}^{\not 5}\not 3\,{}^{1}\not 6\,3 \\ -\ 1\ 2\ 7 \\ \hline 2\ 3\ 6 \end{array}$$

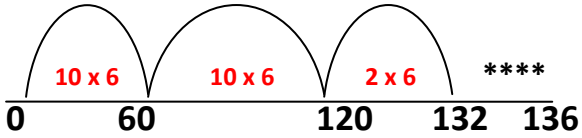
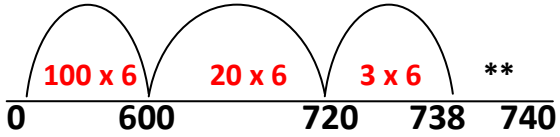
Extend to larger numbers and decimal money

Be able to explain and apply

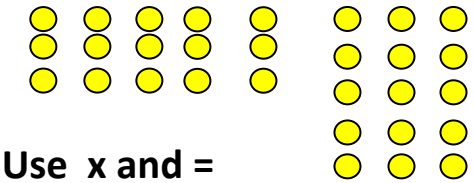
DIVISION GUIDELINES

Year One	Year Two	Year Three
I have 8 wheels, how many bikes can I make?	Grouping equally	Informal written method using equal groups on a numberline:
	15 ÷ 3 =	27 ÷ 6 = 4 r 3
Give everyone 2 sweets	How many groups of 3 are there in 15?	
Make groups of 3 for PE	X X X 3 X X X 6 X X X 9 X X X 12 X X X 15	Link to array
Halving small even numbers	X X X X X X X X X X X X X X X 3 6 9 12 15	How many groups of 6 in 27? Introduce remainders Focus on grouping rather than sharing
Be able to explain and apply	Halving as inverse as doubling Be able to explain and apply	Halving even numbers as inverse of doubling Be able to explain and apply

DIVISION GUIDELINES

Year Four	Year Five	Year Six
Extend informal written method as Yr 3 – increase efficiency by using multiples of 10 as first jump **(TU ÷ U / HTU ÷ U)** **136 ÷ 6 = 22 r 4**  **Read questions as** **'How many groups of 6 are there in 136?'** **Be able to explain and apply**	**Extend informal written method as Yr 4 – increase efficiency by using multiples of 10 and 100** **(TU ÷ U / HTU ÷ U)** **740 ÷ 6 = 123 r 2**  **Read questions as** **'How many groups of 6 are there in 740?'** **Be able to explain and apply**	**Continue to use numberline method as Yr 5.** **Introduce compact short division for most able during term 6.** 239 ÷ 8 = $8\overline{)23^{7}9}$ 2 9 r7 **Be able to explain and apply**

MULTIPLICATION GUIDELINES

Year One	Year Two	Year Three
How many wheels on 3 bikes? Make a tower three times higher that this one Count in 2s and 10s Double numbers to 5, then 10 Be able to explain and apply	Count on in steps of 2,10 and 5 to at least 30 Numbertrack, numberline, hundred square as support Repeated addition 5 + 5 + 5 + 5 = 20 Make arrays 3 x 5 = 15 or 5 x 3 = 15  Use x and = Doubling to 10 and beyond Be able to explain and apply	x2, x5, x10 Introduce x3 and x4 (x6 by end of year) Single digit x 1, x10, x100 Doubling to 20 Related facts 7 x 5 → 5 x 7 Division facts 7 x 5 = 35 35 ÷ 7 = 5 35 ÷ 5 = 7 Use grid method 14 x 8 = | X | 10 | 4 | | 8 | 80 | 32 | 80 + 30 + 2 = 112 Be able to explain and apply

MULTIPLICATION GUIDELINES

Year Four

Continue to use grid method as numbers become more complex

HTU x U

147 x 4

X	100	40	7
4	400	160	28

400 + 100 + 60 + 28 = 588

or

560 + 28 = 588

Be able to explain and apply

Year Five

Grid method

HTU x U,
HTU x TU,
2dp x U

£3.86 x 7 =

X	£3	80p	6p
7	£21	560p (£5.60)	42p

£21 + £5 = £26
60p + 42p = £1.02
£26 + £1.02 = £27.02

If decimals are not in context of money, multiply as whole numbers and use approximation to establish place value in answer :
5.07m x 8 calculate as
507 x 8 = 4056

Be able to explain and apply

Year Six

Children continue to use the grid method as written method for multiplication however in a wide range of contexts.

During term 6 model compact multiplication so children are ready for secondary school

625 x 6

```
  625
x   6
 3750
 1 3
```

Be able to explain and apply

Langdon Primary School

Calculation Policy