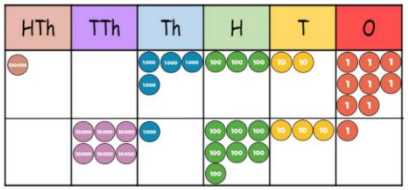
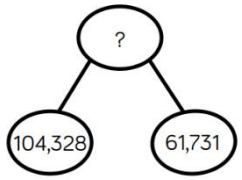
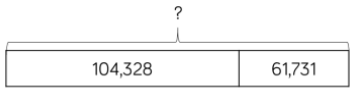
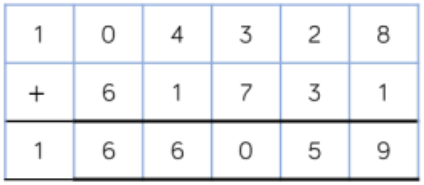
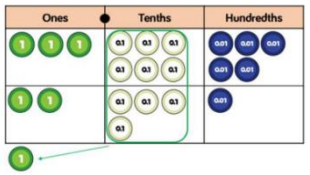
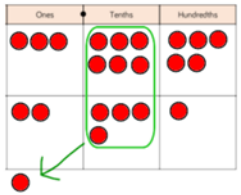
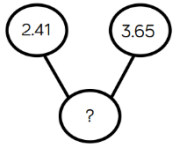
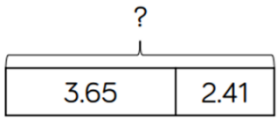
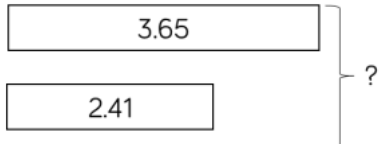
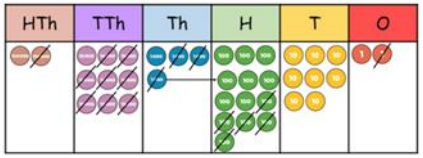
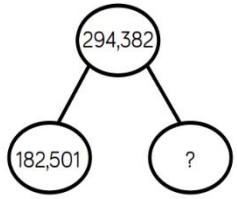
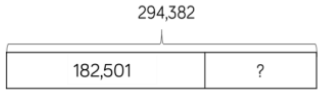
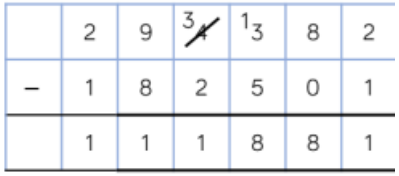
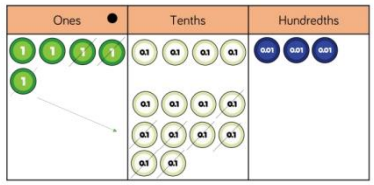
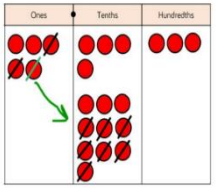
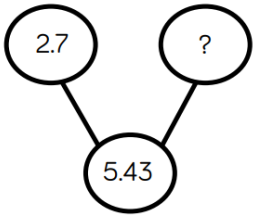
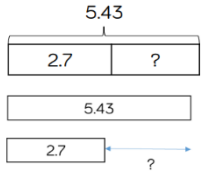
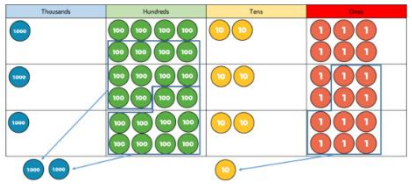
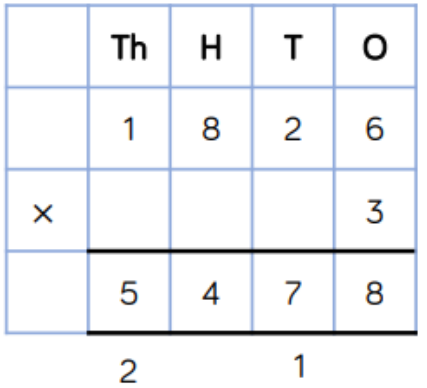
ADDITION YEAR 5

Objective & Strategy	Concrete	Pictorial	Abstract
Add numbers with at least 4 digits *104,328 + 61,731* By Year 5, most children are encouraged to work in the abstract using the column method to add large numbers. Some children may be able to work mentally	 Place value counters on a place value grid	 Part, Part Whole Models  Bar Model	
Add with up to 2 decimal places *3.65 + 2.41* At this stage, most children are encouraged to work in the abstract using the column method to add large numbers. Some children may be able to work mentally. Decimals are put into context: eg: money & measure	  Place value counters or plain counters on a place value grid	 Part, Part Whole Model   Bar Models	$$\begin{array}{r} 3.65 \\ +\ 2.41 \\ \hline 6.06 \\ \hline 1 \end{array}$$

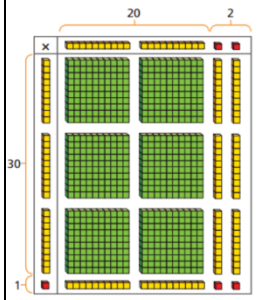
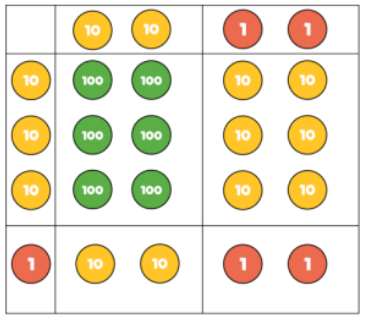
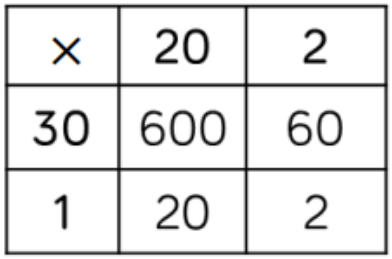
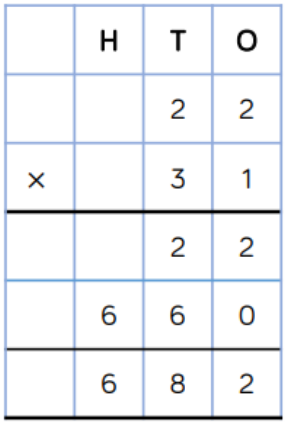
SUBTRACTION YEAR 5

Objective & Strategy	Concrete	Pictorial	Abstract
Subtract numbers with at least 4 digits. *294,382 – 182,501* By Year 5, most children are encouraged to work in the abstract using the column method to subtract to subtract numbers efficiently.	 Place value counters or plain counters on a place value grid. This reinforces the idea of exchanging. For example, by changing a hundreds counter for 10 tens counters to give sufficient 'tens' to enable the subtraction.	 Part, Part Whole Model  Bar Model	
Subtract numbers with up to 2 decimal places *5.43-2.7 = 2.73* At this stage, most children are encouraged to work in the abstract using the column method to subtract to subtract numbers efficiently. Children are given opportunities to subtract decimal numbers in the context of money and measure.	  Place value counters or plain counters on a place value grid .	 Part, Part Whole Model  Bar Models	$\begin{array}{r} {}^{4}\not{5}.{}^{1}43 \\ -\ 2.7 \\ \hline 2.73 \end{array}$ When writing the columns, children are taught to ensure the decimal points all line up.

MULTIPLICATION YEAR 5

Objective & Strategy	Concrete	Pictorial	Abstract
Multiply a 2,3 or 4-digit number by a 1-digit number. *1826 x 3 = 5,478* For children who continue to benefit from using manipulatives, place value counters provide the best support. By Year 5, children should have a rapid and accurate recall of the times tables facts, but some children may still need to use a times tables square for support. Most children are encouraged to use the short multiplication method for accuracy.	 Place Value counters on a Place Value grid 		

Whitchurch Combined School Calculation Policy – Year 5

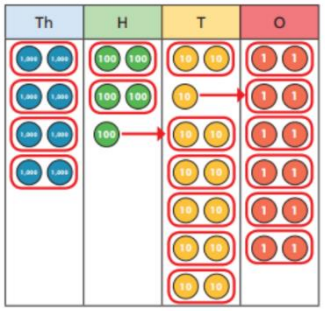
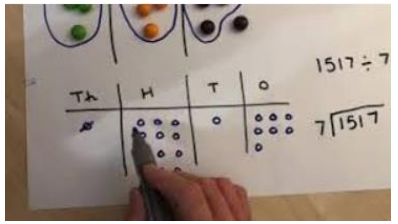
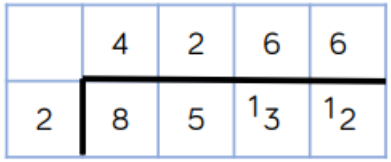
Objective & Strategy	Concrete	Pictorial	Abstract
Multiply a 2 or 3-digit number by a 2-digit number *22 x 31 = 682* Some children may benefit from using Dienes blocks and sticks to help them visualise the calculation. This links to finding the area of a rectangle as the Dienes blocks fill the space covered. However, place value counters and a place value grid are a more efficient concrete method. Grids are not encouraged in Year 5, but may still be used to help children picture the calculation. Most children by Year 5 are encouraged to use abstract methods and develop a confident and accurate use of formal long multiplication	 Dienes (base 10) blocks.  Place Value counters on a Place Value grid.		

Whitchurch Combined School Calculation Policy – Year 5

Objective & Strategy	Concrete	Pictorial	Abstract
Multiply a 4-digit number by a 2-digit number *2739 x 28 = 76,692* When multiplying a 4 digit number by a 2 digit number children should be confident in using a formal method of long multiplication. A times tables square may still be used if children have not yet secured a sound working knowledge of the tables. It is important that children are taught to consistently place exchanged digits. This will avoid confusion.			

TTh	Th	H	T	O
	2	7	3	9
×			2	8
2 (2)	1 (5)	9 (3)	1 (7)	2
5 (1)	4	7 (1)	8	0
7	6	6	9	2
		1		

DIVISION YEAR 5

Objective & Strategy	Concrete	Pictorial	Abstract
Divide a 4-digit number by 1-digit number *8532 divided by 2 = 4266* Place value counters or plain counters can be used on a Place Value grid to support children in visualising the calculation. Children could also draw counters on an empty Place Value grid through a pictorial method. However, in upper Key Stage 2, children are taught to use a more formal method of short division – especially where multiple exchanges are required.		 Pictorial method	 Formal short division method using the division symbol which resembles a 'bus stop'.