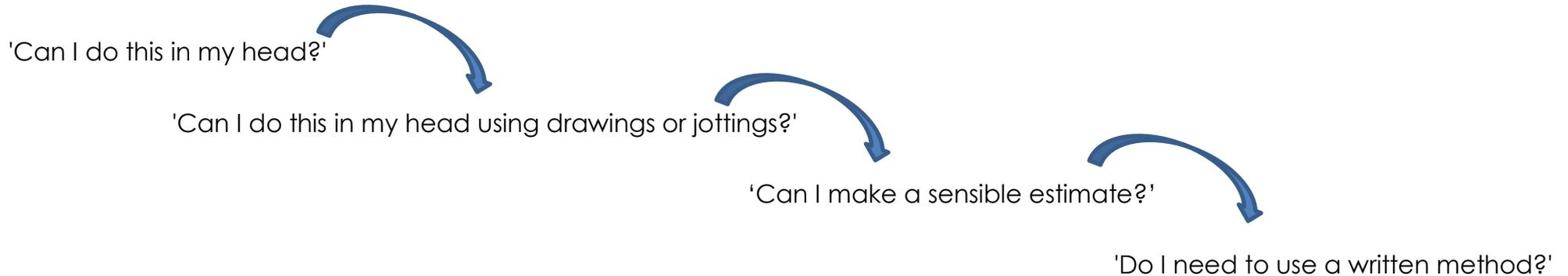# Boroughbridge Primary School

Calculation Policy

2014-15

This policy contains the key written methods of calculation that are to be taught throughout the school. It has been written to ensure consistency and progression throughout the school.

The overall aim is that when children leave primary school they:
• have a secure knowledge of number facts and a good understanding of the four operations;
• make use of diagrams and informal notes to help record steps and part answers when using mental methods that generate more information than can be kept in their heads;
• have an efficient, reliable, formal, written method of calculation for each operation that they can apply with confidence when undertaking calculations that they cannot carry out mentally.

They can select the method by asking themselves:

'Can I do this in my head?'

'Can I do this in my head using drawings or jottings?'

'Can I make a sensible estimate?'

'Do I need to use a written method?'

The four operations that are covered by this booklet are addition, subtraction, multiplication and division. Whichever operation is being taught the child needs to experience all of these steps to completely conquer it.
1) using objects
2) using pictures
3) using a numberline
4) using an expanded method
5) using a compact written method

Sometimes some of these steps need to be revisited to ensure understanding of the operation in concrete.

Glossary

2-digit – a number with 2 digits like 23, 45, 12 or 60

3-digit – a number with 3 digits like 123, 542, 903 or 561

Addition facts – knowing that 1+1 = 2 and 1+3 = 4 and 2+5 = 7. Normally we only talk about number facts with totals of 20 and under.

Array -An array is an arrangement of a set of numbers or objects in rows and columns –it is mostly used to show how you can group objects for repeated addition or subtraction.

Bridging beyond ten – a strategy when using numberlines. Adding a number that takes you to the next 'tens' number.

Bus Stop Method - traditional method for division with a single digit divisor

Column chunking – method of division involving taking chunks or groups or the divisor away from the larger number

Decimal number – a number with a decimal point

Denominator – in common fractions the number written below the line i.e. the divisor

Divisor – the smaller number in a division calculation. The number in each group for chunking.

Double – multiply a number by 2

Exchanging – Moving a 'ten' or a 'hundred' from its column into the next column and splitting it up into ten 'ones' (or 'units') or ten 'tens' and putting it into a different column

Expanded Multiplication – a method for multiplication where each stage is written down and then added up at the end in a column

Find the difference – A method for subtraction involving counting up from the smaller to the larger number

Grid method – a method for multiplying two numbers together involving partitioning

Half - a number, shape or quantity divided into 2 equal parts

Halve – divide a number by 2

Integer - a number with no decimal point

Inverse – the opposite operation. Addition is the inverse of subtraction, multiplication is the inverse of division

Long Multiplication – column multiplication where only the significant figures are noted

Number bonds to ten – 2 numbers that add together to make ten, like 2 and 8, or 6 and 4.

Number bonds to 100 – 2 numbers that add together to make 100 like 20 and 80, or 45 and 65 or 12 and 88

Numberline – a line either with numbers or without (a blank numberline). Children use this tool to help them count on for addition or subtraction and also in multiplication and division.

Numberline Chunking - method of division involving taking chunks or groups or the divisor away from the larger number

Number sentence – writing out a calculation with just the numbers in a line E.G. 2+4=6 or 35 ÷7 = 5 or 12 x 3 =36 or 32 – 5 = 27

Numerator - in common fractions the number written below the line

Partition – split up a larger number into the hundreds, tens and units. E.G.342 – 300 and 40 and 2

Place Value – knowing that in the number 342 – the '3' means '3 hundreds', the '4' means '4 tens' and the '2' means '2'.

Quarter - a number, shape or quantity divided into 4 equal parts

Recombine – for addition, once you have partitioned numbers into hundreds, tens and units then you have to add the hundreds together, and then add the tens to that total, and then add the units to that total

Remainder – a whole number left over after a division calculation

Repeated addition – repeatedly adding groups of the same size for multiplication

Significant digit – the digit in a number with the largest value. E.G in 34 – the most significant digit is the 3, as it has a value of '30' and the '4' only has a value of '4'

Single digit – a number with only one digit. They're always less than 10.

Taking away – a method for subtraction involving counting backwards from the larger to the smaller number

Tens number - a number in the ten times tables – 10,20,30,40 50,etc.
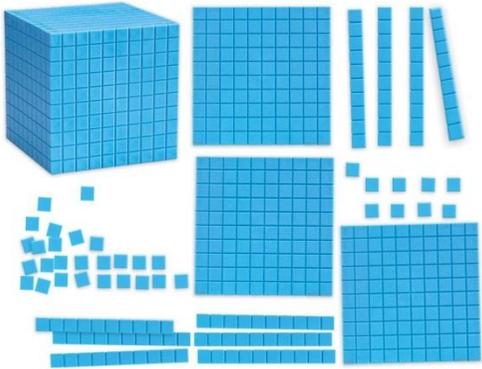
Unit – another term for single digit numbers. The right hand column in column methods is the 'units' column

For the full list please look here:

https://www.ncetm.org.uk/public/files/17308038/National+Curriculum+Glossary.pdf
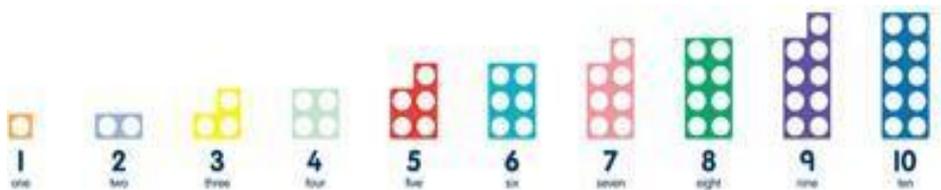
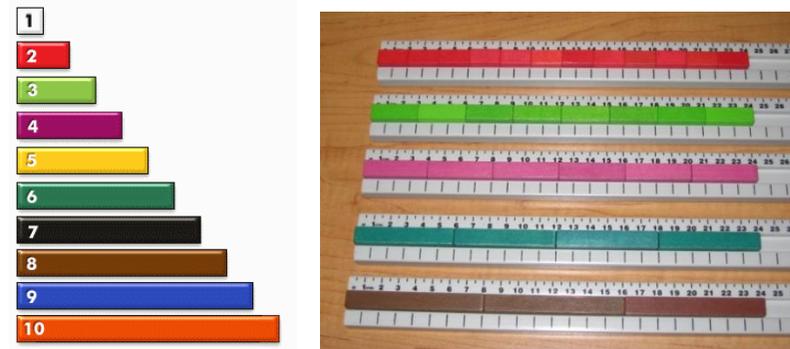# Resources that your children will use to help with calculation

Dienes

Dienes, although it has been used in schools for years is a crucial step in knowing what a 'one' (unit), a ten, a hundred and a thousand look like and how they can be added together and split up to form smaller and larger numbers.

Cuisenaire Rods

Although these little rods that represent integers from 1 to 10, can be used for a range of aspects of maths, we normally use them for multiplication and division. They are also really useful for addition.
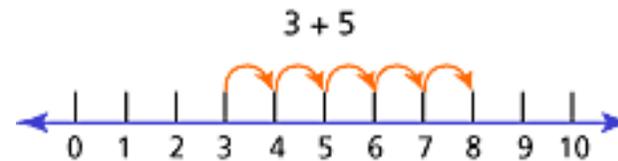
Numicon

Numicon is an especially useful resource as it can be used for teaching all four operations as well as fractions, decimals, percentages and a range of other aspects of maths. Each piece represents an integer from 1 to 10. The children love using it as it is colourful and tactile

Numberlines

Numberlines are a mainstay of teaching calculations. We have Pre-numbered and blank numberlines in school that children can write on or they can draw their own as appropriate for the calculation.

Key concepts

In order for children to be effective at calculation, solid understanding of place value and recall of key number facts is required. Please see below the National Centre for Excellence in the Teaching of Mathematics progression in place value and counting.

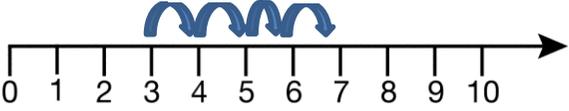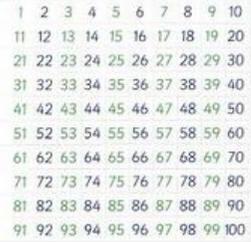| UNDERSTANDING PLACE VALUE					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
identify and represent numbers using objects and pictorial representations including the number line	recognise the place value of each digit in a two-digit number (tens, ones)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)
			find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths (copied from Fractions)	*recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* (copied from Fractions)	*identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places* (copied from Fractions)
	Do, then explain Show the value of the digit 2 in these numbers? 32 27 92 Explain how you know.	**Do, then explain** Show the3 value of the digit 3 in these numbers? 341 503 937 Explain how you know.	**Do, then explain** Show the value of the digit 4 in these numbers? 3041 4321 5497 Explain how you know.	**Do, then explain** Show the value of the digit 5 in these numbers? 350114 567432 985376 Explain how you know.	**Do, then explain** Show the value of the digit 6 in these numbers? 6787555 95467754 Explain how you know.
	Make up an example Create numbers where the units digit is one less than the tens digit. What is the largest/smallest number?	**Make up an example** Create numbers where the digit sum is three. E.g. 120, 300, 210 What is the largest/smallest number?	**Make up an example** Create four digit numbers where the digit sum is four and the tens digit is one. E.g. 1210, 2110, 3010 What is the largest/smallest number?	**Make up an example Give further examples** Create six digit numbers where the digit sum is five and the thousands digit is two. E.g. 3002000 2102000 What is the largest/smallest number?	**Make up an example** Create seven digit numbers where the digit sum is six and the tens of thousands digit is two. E.g. 4020000 What is the largest/smallest number?

COUNTING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number			count backwards through zero to include negative numbers	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	use negative numbers in context, and calculate intervals across zero
count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	count from 0 in multiples of 4, 8, 50 and 100;	count in multiples of 6, 7, 9, 25 and 1000	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	
given a number, identify one more and one less		find 10 or 100 more or less than a given number	find 1000 more or less than a given number		
Spot the mistake: 5,6,8,9 What is wrong with this sequence of numbers? **True or False?** I start at 2 and count in twos. I will say 9 **What comes next?** 10+1 = 11 11+1= 12 12+1 = 13 ……..	**Spot the mistake**: 45,40,35,25 What is wrong with this sequence of numbers? **True or False?** I start at 3 and count in threes. I will say 13? **What comes next?** 41+5=46 46+5=51 51+5=56 ……	**Spot the mistake**: 50,100,115,200 What is wrong with this sequence of numbers? **True or False?** 38 is a multiple of 8? **What comes next?** 936-10= 926 926 -10 = 916 916- 10= 906 …….	**Spot the mistake**: 950, 975,1000,1250 What is wrong with this sequence of numbers? **True or False?** 324 is a multiple of 9? **What comes next?** 6706+ 1000= 7706 7706 + 1000 = 8706 8706 + 1000 = 9706 ……	**Spot the mistake**: 177000,187000,197000,217000 What is wrong with this sequence of numbers? **True or False?** When I count in 10's I will say the number 10100? **What comes next?** 646000-10000= 636000 636000 –10000 = 626000 626000- 10000 = 616000 …….	**Spot the mistake**: -80,-40,10,50 What is wrong with this sequence of numbers? **True or False?** When I count backwards in 50s from 10 I will say -200 **True or False?** The temperature is -3. It gets 2 degrees warmer. The new temperature is -5?

Addition

Vocabulary

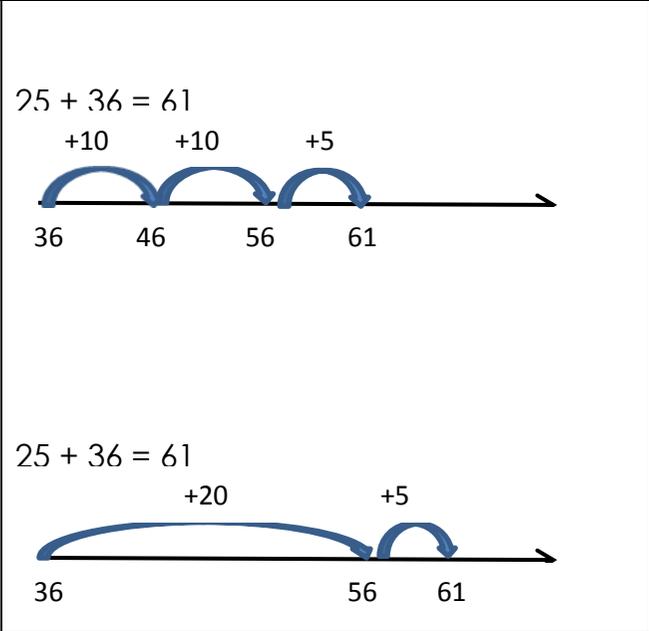## +, Add, Addition, Plus, And, Count on, More, Sum, Total, Altogether, Increase

Year 1 - Number line			
Mental Strategies	**Objectives**	**Written Methods**	
• Number bonds to 20 • Counting in steps of 1s, 2s, 5s, and 10s • Recall doubles of all numbers to at least 20 • Addition facts for totals to at least 20 • Addition can be done in any order • Multiples of 1s, 2s, 5s, 10s • Find the difference (the gap between the numbers) • Solve practical word problems, involving additions to 10 and then 20.	Add one-digit and two-digit numbers to 20, including zero	3 + 4 = 7 +1 +1 +1 +1 0 1 2 3 4 5 6 7 8 9 10 15 + 4 = 19 +1 +1 +1 +1 15 16 17 18 19	Later use blank number lines and hundred squares 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Year 2 - Blank number line used to count on in multiples of 10 and 1

• Number bonds to 20 • Number bonds to 50 (more able) • Counting in 2s, 5s and 10s • Doubles to 20 (then to 50 for more able) • Number bonds of multiples of 10 • Knowing to put the largest number first in addition	Add numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones TU + U - a two-digit number and tens TU + T - two two-digit numbers TU +TU - adding three one-digit numbers U + U + U -Higher ability children to move to HTU + TU	$25 + 36 = 61$ $+10$ $+10$ $+5$ 36 46 56 61 $25 + 36 = 61$ $+20$ $+5$ 36 56 61	When secure move onto partitioning $25 + 36 = 61$ $20 + \ 5$ $\underline{30 + \ 6}$ $50 + 11 = 61$

Year 3 - Column addition with carrying

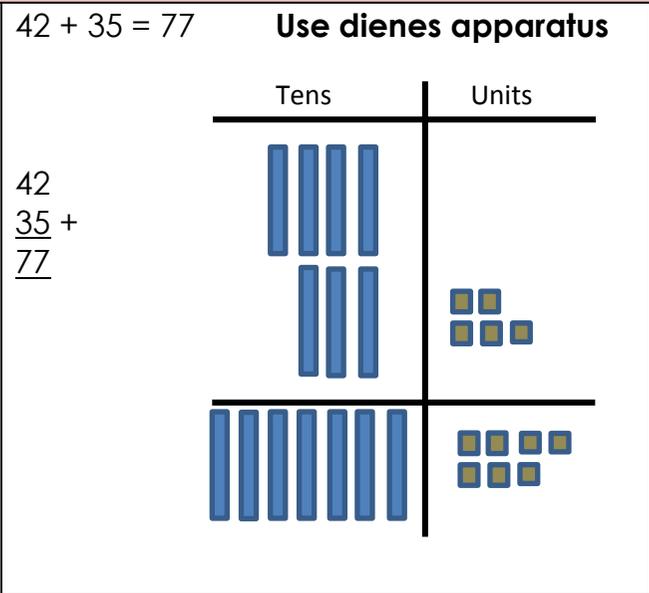|			
Start with the larger number, partition the smaller number 57 into tens and units and count on the multiples of 10 first and then the units. $57 + 86$ $+50$ $+4$ $+3$ 86 136 140 143	Add numbers with up to three digits, using the formal written methods of columnar addition Estimate the answer to a calculation and use inverse operations to check answers	$42 + 35 = 77$ **Use dienes apparatus** 42 $\underline{35} +$ $\underline{77}$ Tens | Units	$612 + 549 = 1161$ 612 $\underline{549} +$ $\underline{1161}$ $_1$ Here use the language of carrying a ten. **Use dienes apparatus**

Year 4 - Column addition with carrying			
999 + 637 By rounding the 999 up to 1000 and then taking the 1 back later 999 + 637 1000 + 637 = 1637 1637 -1 = 1636	Add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate Estimate and use inverse operations to check answers to a calculation	1442 + 1335 = 2777 1442 1335 + 2777 **Use dienes apparatus**	1612 + 1549 = 21161 1612 1549 + 3161 _{1 1} **Use dienes apparatus**
Year 5 - Column addition (including decimals with up to 2 decimal places)			
Partitioning numbers 126 + 93 100 + 90 +20 + 6 +3 100 + 110 + 9 = 219	Add whole numbers with more than 4 digits, including using formal written methods (columnar addition) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Use addition methods in a range of real life and problem based contexts.	7872 + 7541 7872 7541 + 15413 _{1 1} **Use dienes apparatus**	4.28 + 7.19 = 12.47 4.28 7.19 + 11.47 _{1 1}

Year 6 - Column addition (including decimals with up to 3 decimal places)			

Near doubles
159 + 160
 	
150 doubled = 300
300 + 10 + 9 = 319
 	
Rounding and adjusting
219 + 341
 	
220 + 340 = 560
	As above
	
	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
	Use addition methods in a range of real life and problem based contexts.
		7872 + 7541
		
		  7872
		  7541 +
		  15413
		   _{1 1}
			4.28 + 7.89 = 12.17
			
			  4.28
			  7.89 +
			  12.17
			  _{1 1 1}

Subtraction

Vocabulary

-, Subtract, Take Away, Minus, Less, Fewer, Difference

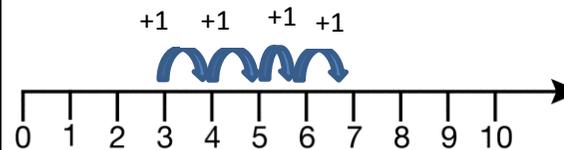### Year 1 - Number line

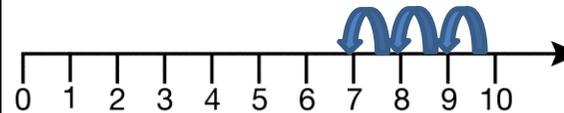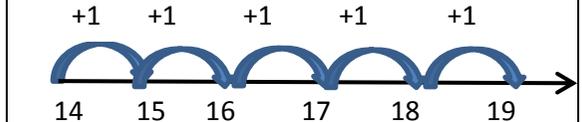|			
• Halve numbers to 20 • Subtraction of a one digit number or two digit number and a multiple of 10 from a two digit number • Number facts subtraction to at least 5 • Count back in 1s, 2s, 5s, and 10s • Number bonds to 10	Subtract one-digit and two-digit numbers to 20, including zero TU- U	**Finding the difference** $7 - 3 = 4$ $+1 \quad +1 \quad +1 \quad +1$ 0 1 2 3 4 5 6 7 8 9 10 **Counting back** $10 - 3 = 7$ $-1 \quad -1 \quad -1$ 0 1 2 3 4 5 6 7 8 9 10	$19 - 14 = 5$ $+1 \quad +1 \quad +1 \quad +1 \quad +1$ 14 15 16 17 18 19

Year 2 - Blank number line used to count back in multiples of 10 and 1

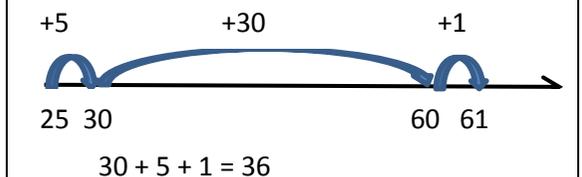|			
• Counting backwards in 1s, 2s, 5s, and 10s • Subtraction facts within 10 • Subtraction facts within 20 (within 50 for more able children)	Subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and tens TU – T	**Finding the difference:** $61 - 25 = 36$ $+5 \quad +10 \quad +10 \quad +10 \quad +1$ 25 30 40 50 60 61 $30 + 5 + 1 = 36$	$61 - 25 = 36$ $+5 \quad +30 \quad +1$ 25 30 60 61 $30 + 5 + 1 = 36$
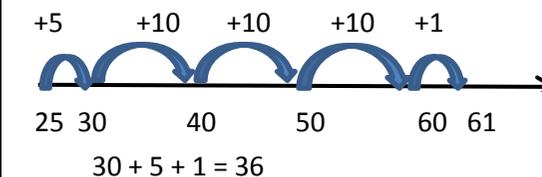
• Halving to 20 • Subtraction facts of multiples of 10	- two two-digit numbers TU – TU - Higher ability to move to HTU – TU - a two-digit number and ones TU – U	**Counting back:** 52 - 11 = 41 -1 -10 41 42 52	52 - 21 = 31 -1 -20 31 32 52 50 - 39 = 11 +1 -40 10 11 50

Year 3 - Column subtraction

Count forward on a number line from the smaller number to **find the difference** +2 +20 +4 28 30 50 54	Subtract numbers with up to three digits, using the formal written methods of columnar subtraction Estimate the answer to a calculation and use inverse operations to check answers	**Use Dienes apparatus** 76 – 35 = 41 76 35 – 41 Tens Units Then subtract 34 Tens Units Write out column method alongside using practical equipment	74 – 27 = 47 ⁶7¹4 2 7 – 4 7 'Exchange' not 'borrow' a ten

Year 4 - Column subtraction			
Counting back using known/close number facts 342 - 87 = 342 – 40 = 302 302 – 40 = 262 262 – 7 = 255 342 – 87 = 342 – 90 = 252 252 + 3 = 255	Subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate Estimate and use inverse operations to check answers to a calculation	263 – 125 = 138 2⁵6¹3 1 2 5 – 1 3 8	3675 – 1234 = 2441 3675 1234 – 2441
Year 5 - Column subtraction (including decimals with up to 2 decimal places)			
Find the difference between 296 and 854 296 + 4 = 300 300 + 500 = 800 800 + 54 = 854 4 + 500 + 54 = 558	Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Use subtraction methods in a range of real life and problem based contexts	2563 – 1271 = 292 2⁴5̶ ¹6 3 1 2 7 1 – 1 2 9 2	4.31 – 4.1 = 0.21 4.31 4.10 - 0.21

Year 6 - Column subtraction (including decimals with up to 3 decimal places)			
	As above Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. Use addition methods in a range of real life and problem based contexts.	$402.95 - 242.74$ $^3\mathbf{4}^102.95$ $2\ 42.74$ $\underline{1\ 60.21}$	

Multiplication

Vocabulary

X, Lots of, Groups of, Times, Multiply, Multiplication, Product, Twice, Array, Row, Column, Double, Repeated Addition

Year 1 - Grouping			
• Chanting in steps of 1s, 2s, 3s, 5s, and 10s • Quick recall of all doubles to 20	Solve simple one-step problems involving multiplication, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher count in multiples of twos, fives and tens	 2 3	

Year 2 - Grouping / Arrays / Repeated addition

• Counting in 2s, 5s and 10s • Doubling to 20 (to 50 for more able) • Multiples of 2s, 5s and 10s (and for 3s for more able) • Knowing that multiplication is the reverse of division+	Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (×) and equals (=) signs TU x U or U x TU – know that it can be done in any order. Recall 2,5 and 10 times tables	Arrays (1X12, 2X6, 3X4) XXXXXXXXXXXX 1 row of 12 XXXXXX XXXX XXXXXX XXXX 2 rows of 6 XXXX 3 rows of 4	Repeated Addition (4x5) 4 + 4 + 4 + 4 + 4 = 20

Year 3 - Grid method leading to short multiplication

• Quick recall of multiples 2s, 3s, 4s, 5s,, 6s, 7s, 8s, 9s and 10s • Halving and doubling of numbers up to 1000 • Quick recall of 2x, 3x, 4x, 5x, 6x, 7x, 8s, 9s and 10s tables	Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, progressing to efficient written methods	35 x 6 = 210 | X	30	5
6	180	30 | 180 + 30 = 210	35 x 6 = 210 35 x 6 30 180 210 1

Year 4 - Short Multiplication

• Repeated addition • 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 + 60 = 900 cm	Multiply two-digit and three-digit numbers by a one-digit number using a formal written layout	Some children will still need the grid method to consolidate understanding 39 x 8 = 312	89 x 7 = 623

39 x 8 = 312

X	30	9
8	240	72

240 + 72 = 312   **OR**

$$\begin{array}{r} 240 \\ \underline{72} + \\ 312 \\ {}_1 \end{array}$$

89 x 7 = 623

$$\begin{array}{r} 89 \\ \underline{x\ 7} \\ 623 \\ {}_{16} \end{array}$$
OR
$$\begin{array}{r} 89 \\ \underline{x\ \ 7} \\ 63 \\ \underline{560} \\ 623 \\ {}_1 \end{array}$$

Year 5 - Short and Long multiplication (Including decimals in context)

275 x 10 = 2750
275 x 2 = 550
2750 - 550 = 2200

275 doubled is 550
550 doubled is 1100
1100 doubled is 2200

Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers

6481 x 9 = 58329

$$\begin{array}{r} 6481 \\ \underline{X\ \ \ 9} \\ 58329 \\ {}_{4\ 7} \end{array}$$

56 x 27 = 1512

X	20	7
50	1000	350
6	120	42

$$\begin{array}{r} 1350 \\ \underline{162} + \\ 1512 \end{array}$$

$$\begin{array}{r} 56 \\ \underline{X\ 27} \\ 392 \\ {}_4 \\ \underline{1120} \\ {}_1 \\ 1512 \\ {}_1 \end{array}$$

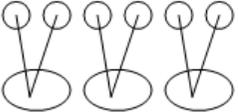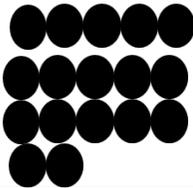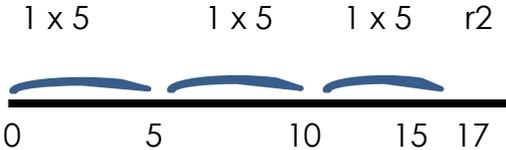| Year 6 - Long multiplication (Including decimals in context)			
24 x 16 20 x 16 = 320 4 x 16 = 64 320 + 64 = **384**	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	134 x 32 = 4288 134 X 32 268 4020 4288	13.4 x 3.2 = 42.88 13.4 X 3.2 2.68 40.20 42.88

Division

Vocabulary

Lots of, Groups of, Share, Halve, Divide, Division, Divided by, Remainder, Fraction, Divisible

Year 1 - Sharing: leading to: Grouping

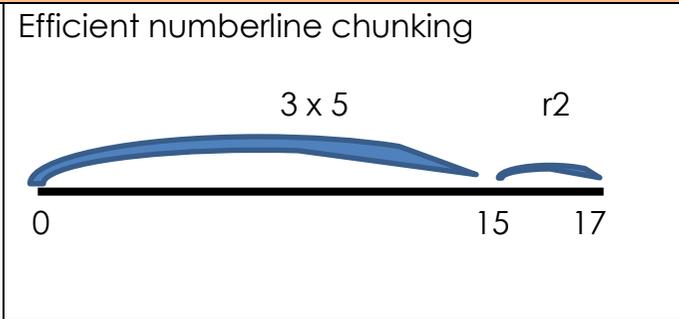|			
• Halving numbers up to 20 (the opposite of doubling)	Solve simple one-step problems involving division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Use dots/pictures on circles to share objects $12 \div 3 = 4$	Repeated subtraction/grouping There are 6 biscuits. How many children can have two biscuits each? Grouping (repeatedly subtract 2)

Year 2 - Grouping

• Counting in 2s, 5s, and 10s • Halving • Knowing that division is the reverse of multiplication.	Calculate mathematical statements for division within the multiplication tables and write them using the division ($\div$) and equals ($=$) signs	$17 \div 5 = 3$ r2 Leading to arrays	Numberline chunking 1 x 5 1 x 5 1 x 5 r2 0 5 10 15 17

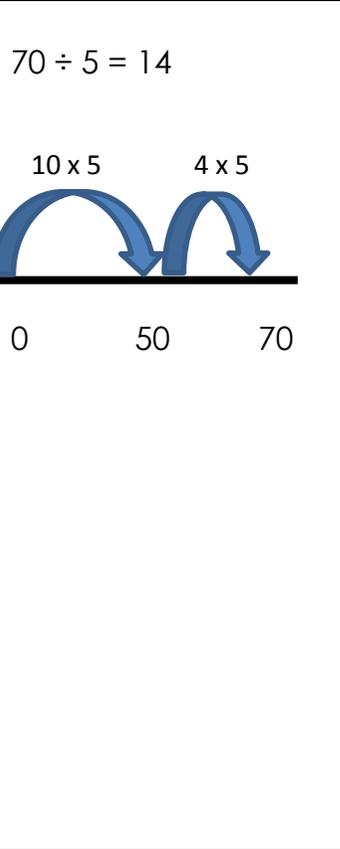| Year 3 - Use of the Inverse Operation			
• Rapid recall of halves and doubles to 1000	Write and calculate mathematical statements for division using the multiplication tables that they know, progressing to efficient written methods	Efficient numberline chunking 3 x 5　　　　　r2 0　　　　　　15　　17	Check with inverse operations $26 \div 5 = 5\ r1$ $5 \times 5 = 25$ $25 + 1 = 26$

Year 4 - Chunking (including remainders) leading to short division			
$70 \div 5 = 14$ 10 x 5　　　4 x 5 0　　50　　70	No specific objective for division written methods So... As above	Efficient numberline chunking: $138 \div 6 = 23$ Number facts $6 \times 2 = 12$ $6 \times 3 = 18$ $6 \times 10 = 60$ 10 x 6　　10 x 6　　3 x 6 0　　　　60　　　120　138 $10 + 10 + 3 = 23$	Leading to $18 \div 6 = 3$ $6\,\overline{)\,18}$　　shown as 6 The short division:` $$7\,\overline{)\,9\,^{2}8} = 1\,4$$
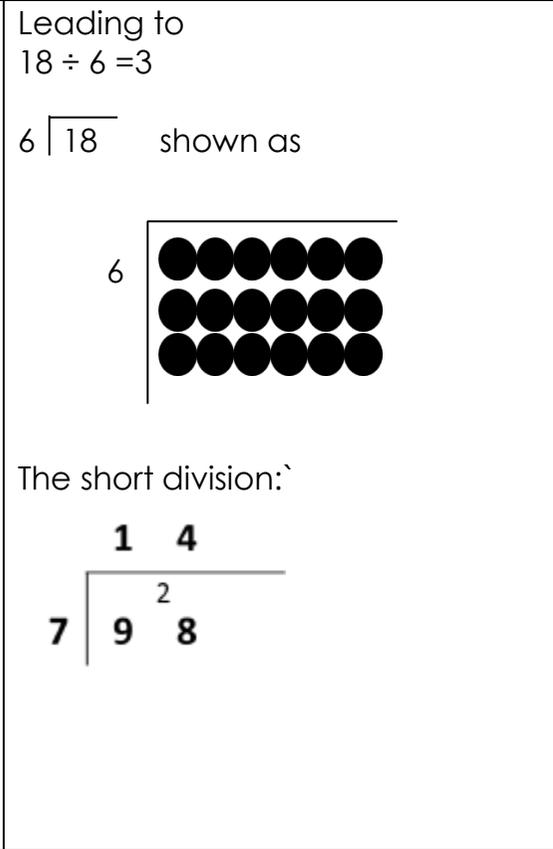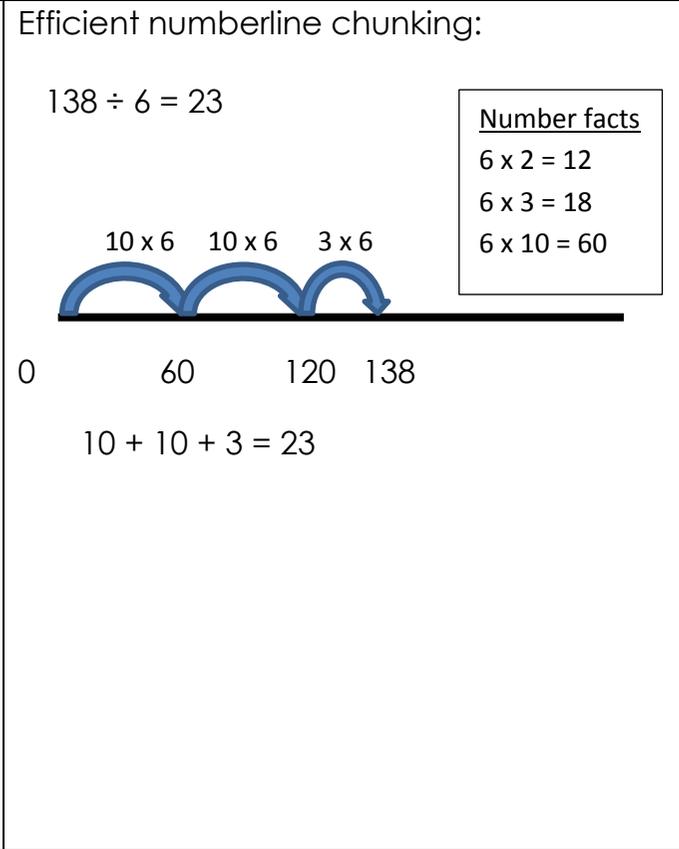
Year 5 - Short division - dividing by a one digit number (Decimal division in context to be included)			
Estimate 234 ÷ 9 = My estimation is 25 because I rounded up 234 to 250 and 9 to 10 250 ÷ 10 = 25	Divide numbers up to 4 digits by a one-digit number using a formal written method of short division and interpret remainders appropriately for the context	Bus Shelter $$\begin{array}{r} 1\ \ 4 \\ \hline 7\, |\, 9\ \ {}^{2}8 \end{array}$$	
Year 6 - Short and Long division - dividing by a two digit number (Decimal division in context to be included)			
Use doubling and halving eg, to x by 50, multiply by 100 then halve 26 x 50 26 x 100 = 2600 2600 ÷ 1300	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Divide numbers up to 4 digits by a two-digit whole number using the formal written method of short division, and interpret remainders according to the context	$$\begin{array}{r} 4\ \ 5\ \ r\,1 \\ \hline 1\ 1\, |\, 4\ \ 9\ \ {}^{5}6 \end{array}$$ Answer: $45\frac{1}{11}$ $$\begin{array}{r} 2\ \ 8\ \ r\,12 \\ \hline 1\ 5\, |\, 4\ \ 3\ \ 2 \\ 3\ \ 0 \\ \hline 1\ \ 3\ \ 2 \\ 1\ \ 2\ \ 0 \\ \hline 1\ \ 2 \end{array}$$	$$\begin{array}{r} 3\,.\,0\,7\ \ r\,1 \\ \hline 1\,2\, |\, 3\,6\,.\,8\,5 \end{array}$$