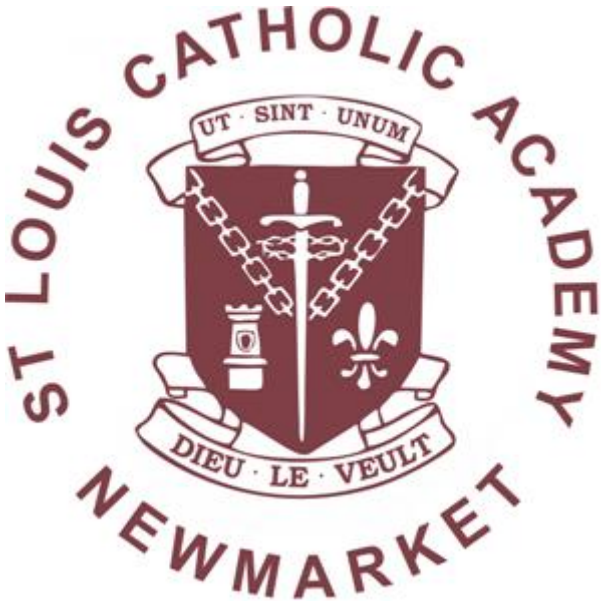


St Louis Catholic Academy

Calculation Policy

Part One

March 2016

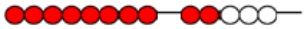
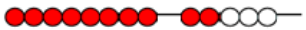
Addition and Subtraction EYFS

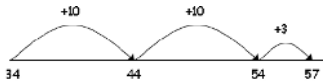
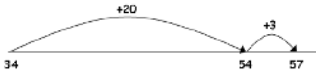
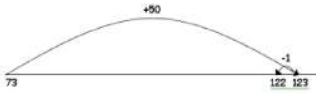
22-36 Months	30-50 Months	40-60 Months	Early Learning Goal
Begin to make comparisons between quantities.	Compare two groups of objects, saying when they have the same number.	Use the language of 'more' and 'fewer' to compare two sets of objects.	Count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.
Know that a group of things changes in quantity when something is added or taken away.	Show an interest in number problems.	Find the total number of items in two groups by counting all of them.	Using quantities and objects, add and subtract two single-digit numbers and count on or back to find the answer.
	Separate a group of three or four objects in different ways, beginning to recognise that the total is still the same.	Say the number that is one more than a given number.	Solve problems, including doubling, halving and sharing.
		Find one more or one less from a group of up to five objects, then ten objects.	
		In practical activities and discussion, begin to use the vocabulary involved in adding and subtracting.	

Key Vocabulary:

Add, more, make, sum, total, double, altogether, one more, ten more, how many to make…, how many more is…, how many more than …, difference.

Addition and Subtraction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Count in 2s, 5s and 10s.	Count on and back in steps of 2, 5 and 10.	Count on and back in multiples of 50 and 100.		Count forwards and backwards in steps of 10, 100 and 1000.	
Find a total by counting sets of 2, 5 and 10.					
Know pairs of numbers that add up to 10.	Know addition and subtraction facts within 10.				
	Use patterns of similar calculations. Eg:11+0=11, and 11-0=11 10+1=11, and 11-1=10 9+2=11, and 11-2 = 9 8+3=11, and 11-3 = 8	Recall and use addition and subtraction facts to 20 fluently; derive and use related facts, Eg: 130+50=180			
Given a number, find one more or one less.		Find 10 or 100 more or less than a given number.	Find 100 more or less than a given number.		
Use doubles to work out addition facts.	Find patterns to addition and subtraction number facts.				
Manipulatives (eg: Bead strings) can be used to illustrate addition and subtraction, including bridging through ten. Eg: Counting on two, then three, when adding five. 8+5=13  Eg: Counting back three, then two, when subtracting five. 13-5=8 	Double numbers to 20. Solve addition problems by counting on. Understand subtraction as both 'take away' and 'difference'. Use addition facts to find subtraction facts, and subtraction facts to find addition facts. Use addition to check the answer to a subtraction calculation, and subtraction to check the answer to an addition calculation. Add and subtract a 'near multiple of 10' to and from a 1-digit number. Add and subtract a 1-digit number to and from a multiple of 10.				

Addition and Subtraction					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Children begin to use number lines, including empty number lines, to support calculations; using the line to count on or back in 1s. Eg: 12-3=9	Number lines, including empty number lines, can be used to count on in tens and units (ones); helping children to become efficient by adding the units in one jump using known facts (4+3=7). Eg: 34+23=57  Followed by adding the tens in one jump, then the units in one jump. Eg: 34+23=57  Followed by compensation/over-jumping. Eg: 73+49=122  				
	Use partitioning to add TU+TU. Eg: 37+24=30 + 7 20 + 4 50 +11=61				

Addition and Subtraction					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Recognise, represent and use number bonds, and the related addition and subtraction facts within 20. Eg: 9+7=16 7+9=16 16-9=7 16-7=9	Recall and use addition and subtraction facts to 20 fluently, derive and use related facts up to 100.				
Add and subtract 1-digit and 2-digit numbers to 20, including zero.	Add and subtract numbers using concrete objects, pictorial representations, the number line and empty number line, and mentally, including: - a 2-digit number and units (ones); - a 2-digit number and tens; - two 2-digit numbers; - three 1-digit numbers.	Add and subtract numbers mentally, including hundreds, tens and units (ones) to and from 3-digit numbers.	Add and subtract numbers mentally up to 4 digits.	Add and subtract numbers mentally up to 6 digits, including decimals to 2 decimal places.	Perform mental calculations, including with mixed operations, with numbers up to 6 digits and decimals.
Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Eg: 12+8=20, and 8+12=20	Add numbers with up to 3 digits, using the expanded written method of column addition. Eg: 789 + 642 = 1,431 789 642+ 11 (9+2) 120(80+40) +1,300(700+600) 1,431			Use knowledge of the order of operations to carry out calculations involving the four operations.

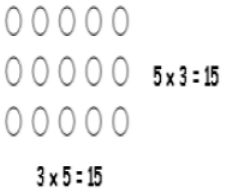
Addition and Subtraction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Record addition and subtraction in columns to support place value and prepare for formal written methods with larger numbers.	Add and subtract numbers with up to 3 digits, using the formal written method of column addition and subtraction. Eg: 789 + 642 = 1,431 789 642+ 1,431 1 1 Eg: 658 - 274 = 384 5 1 ~~6~~58 274- 384	Add and subtract numbers with up to 4 digits, using the formal written method of column addition and subtraction. Eg: 2,492 + 1,321 = 3,813 2,492 1,321+ 3,813 1 Eg: 4,609 - 2,483 = 2,126 5 1 4,~~6~~09 2,483- 2,126	Add and subtract numbers up to 6 digits, including decimals to 3 places, using the formal written methods of column addition and subtraction. Eg: 35,267 + 35,168 = 70,435 35,267 35,168+ 70,435 1 11 Eg: 194.82 + 116.01 = 310.83 194.82 116.01+ 310.83 1 1 Eg: 514.829+136.091=650.920 514.829 136.091+ 650.920 1 11 Eg: 231.44 - 161.25 = 70.19 1 10 1 ~~2~~31.~~4~~4 161.25 70.19	Add and subtract numbers up to 7 digits, including decimals to 2 decimal places, using the formal written methods of column addition and subtraction. Eg: 5,986.37+9,996.87=15,983.24 5,986.37 9,996.87+ 15,983.24 1 111 1 Eg: 75,986.37-29,996.88=45,989.49 6 14 18 17 15 12 1 ~~75,986.3~~7 29,996.88- 45,989.49

Addition and Subtraction					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			Add and subtract numbers with up to 4 digits, including decimals to 2 decimal places, using the formal written method of column addition and subtraction. Eg: 2.71 + 42.42 = 45.13 2.71 42.42+ 45.13 1	Add and subtract numbers with different numbers of decimal places. Eg: 76.2+29.41=105.61 76.2 29.41+ 105.61 1	
	Recognise and use the inverse relationship between addition and subtraction, and use this to check calculations and solve missing number problems. Eg: 16-4=12 16-12=4 12+4=16 4+12=16	Estimate and check the answer to a calculation, including using the inverse operation.	Estimate and check the answer to a calculation, including using the inverse operation.	Use rounding to estimate, check answers to calculations and determine, in the context of a problem, levels of accuracy.	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems. Eg: 7=__-9 7+__=14	Solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures; - applying their increasing knowledge of mental and written methods.	Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
		Solve word problems and reason mathematically.			Solve problems involving addition, subtraction, multiplication and division.

Addition and Subtraction					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
New Key vocabulary: +, plus, less, leaves, take away, -, minus, subtract, =, equals, makes, score, before, after, larger, largest, smaller, smallest, near double, one more less, two more/fewer…, ten fewer…, how many, how many more to make…, how much more is, how many are left, number bonds, put together, difference between, count, count on, count back, sign, write, problem, answer, explain, related, tens, units (ones), digits, number line, empty number line.	**New Key vocabulary:** Addition, subtraction, inverse, half, halve, one hundred more, one hundred less, tens boundary, how many fewer is, how much less is, multiple of 10, partition.	**New Key Vocabulary:** Place value, hundreds, hundreds boundary, 2-digit number, 3-digit number, round, left, next, previous, forwards, backwards, compare, approximate, estimate, increase, operation, calculation, check, mental, jottings, written, expanded written method of column addition, formal written method of column addition and subtraction.	**New Key Vocabulary:** Thousands, tenths, tenths boundary, units boundary, multiples of 100, decrease, equals sign, is the same as, organize information.	**New Key Vocabulary:** Hundred thousands, ten thousands, hundredths, thousandths, adjust, negative numbers, negative, positive, decimal point, strategy, efficient.	**New Key Vocabulary:** Millions, BODMAS, orders, order of operations, trial and improvement, balance, representation, symbol, algebra, formula, formulae, equation, generate, substitute, expression, sequence, term, nth term, rule, consecutive, unknown, value, variable, systematic.

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Share objects into equal groups. video					
Find half of a group of objects. video					
Understand multiplication and division through grouping and sharing small quantities. video					
Explore division by cutting cakes, cutting pizza in half and sharing relating to fractions. video					
Know that 12÷3=4, and 12÷4=3. video					
Know and count in multiples of 2, 5 and 10. video	Count in steps of 2, 3 and 5 from zero. video	Count in multiples of 2, 3, 4, 5, 8, 10, 50 and 100 from zero.	Count in multiples of 6, 7, 9, 25 and 1000.	Count on and back in steps of powers of 10 for any given number up to 1,000,000.	Multiply a decimal by a whole number, including in practical contexts.
Make connections between arrays, number patterns and counting in steps of 2, 5 and 10. video	Count on and back in steps of 10 from any number. video video2	Understand and use the inverse relationship between multiplication and division.	Solve problems using multiplication and division facts.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Identify common factors, common multiples and prime numbers.
Find a total by counting in steps of 2, 5 and 10. video	Double numbers to 20. video	Use doubling to recall the multiplication facts for the 4 and 8 multiplication tables.	Multiply and divide 1 and 2-digit numbers by 10 and 100.	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	Use knowledge of multiples and factors to conduct tests of divisibility.
		Use halving to recall the division facts for the 4 and 8 times tables.		Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.	
Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays, with support. video Eg: 5x3=5+5+5					

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
 If there are 3 sweets in a bag, how many sweets are there in 5 bags? video  Arrays  video  2 x 3 = 6 Eg: 12 children were put into 3 groups, how many children were in each group? (12÷3=4) 					
	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognizing odd and even numbers.	Consolidate, recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables, and the related facts using multiples of 10.	Consolidate, recall and use multiplication and division facts for multiplication tables up to 12x12, and the related facts using multiples of 10.	Establish whether a number up to 100 is prime and recall prime numbers up to 19.	
	Use multiplication facts to find division facts from the 2, 5 and 10 multiplication tables. video	Use a multiplication statement that matches a division statement.	Recall square numbers up to 12x12 and the related division facts.	Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}).	
			Use place value, known and derived facts to multiply		Perform mental calculations, including with

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			and divide mentally including, multiplying by 0 and 1; dividing by 1; multiplying together three numbers.	Multiply and divide numbers mentally, drawing on known facts.	mixed operations, large numbers and multiplying a decimal by a whole number.
	Show that multiplication of two numbers can be done in any order (commutative) and division by one number of another cannot. video Eg: 4x2=8, and 2x4=8 8÷4=2 but 4÷8≠2	Show that the multiplication of three numbers can be done in any order (commutative). Eg: 4x12x5=4x5x12 =20x12 =240	Recognise and use factor pairs and commutativity in mental calculations.	Multiply and divide whole numbers, and those involving decimals, by 10, 100 and 1000.	Multiply and divide whole numbers by 10, 100 and 1000, where the answers are up to 3 decimal places.
	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. video	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers multiplied by 1-digit numbers, using mental methods and progressing to formal written methods.			
		Estimate and check the answer to a calculation, including using the inverse operation.	Estimate and check the answer to a calculation, including using the inverse operation.		Use estimation to check answers to calculations and determine, in the context of the problem, an appropriate degree of accuracy.
	Solve problems, including multiplication and division, using materials, arrays, repeated addition, mental methods, multiplication and division facts, including problems in contexts. video	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Solve problems involving multiplication and division, including using the distributive law to multiply 2-digit numbers by one digit, positive integer scaling problems and harder correspondence problems in which n objects are connected to m objects.	Solve problems involving addition, subtraction, multiplication and division, and a combination of these, including scaling by simple fractions, problems involving simple rates and understanding the meaning of the equals sign.	Use knowledge of the order of operations to carry out calculations involving the four operations.

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		Solve word problems and reason mathematically.	Solve word problems and reason mathematically.	Use all 4 operations to solve problems involving money, including decimal notation.	Solve multi-step problems in contexts, deciding which operations and methods to use and why.
		Understand and use the distributive law and partitioning when multiplying a 2-digit number by a 1-digit number. video Eg: 39x7=(30x7)+(9x7) =210+63 =273	Understand and use the distributive law and partitioning when multiplying a 3-digit number by a 1-digit number. video Eg: 356 x 7 =(300x7)+(50x7)+(6x7) =2,100+350+42 =2,492 Understand and use the associative law: Eg: 15x4=(5x3)x4	Use partitioning and the grid method to calculate HTUxU, and TUxTU. Eg: 548 x 3 = 1644 **x** | **500** | **40** | **8** **3** | 1500 | 120 | 24 1500 120 24+ 1644 Eg: 58 x 42 = 2436 **x** | **50** | **8** **40** | 2,000 | 320 **2** | 100 | 16 2,000 320 100 16+ 2,436	Use partitioning and the grid method to calculate HTUxTU. Eg: 734 x 45 = 33,030 **x** | **700** | **30** | **4** **40** | 28,000 | 1,200 | 160 **5** | 3,500 | 150 | 20 28,000 3,500 1,200 160 150 20+ 33,030 1 1 1

Multiplication and Division

Year 1

Year 2

Year 3

Use partitioning and the grid method to calculate TUxU.

Eg: 14x6=84

x	10	4
6	.....	....
	.....	....
	.....	....
	.....	....
	.....	....
	.....	....

60
24+
84

Eg: 14x6=84
video

x	10	4
6	60	24

60
24+
84

Year 4

Use partitioning and the grid method to calculate TUxU and HTUxU. video

Eg: 346x9=3114

x	300	40	6
9	2,700	360	54

2700
360
54 +
3,114
1 1

Year 5

Use partitioning and the grid method, the expanded written method of short multiplication and the formal written method of short multiplication to multiply HTUxU and ThHTUxU. video

Eg: the grid method:
2,378 x 4 = 9,512

x	2,000	300	70	8
4	8,000	1,200	280	32

8,000
1,200
280
32+
9,512
1

Eg: expanded written method of short multiplication:
2,378 x 4 = 9,512
video

2,378
4 x
32(8x4)
280(70x4)
1,200(300x4)
8,000+(2000x4)
9,512
1

Eg: formal written method of short multiplication:
2,378 x 4 = 9,512 video

2,378
4 x
9,512
1 3 3

Year 6

Use partitioning and the grid method, the expanded written method of long multiplication and the formal written method of long multiplication to multiply a decimal by a 2-digit number. video

Eg: the grid method:
6.37x23=146.51

x	6	0.3	0.07
20	120	6	1.4
3	18	0.9	0.21

120
18
6
1.4
0.9
0.21+
146.51
1 1

Eg: expanded written method of long multiplication:

6.37 x 23 = 146.51

6.37
23x
19.11 (3x6.37)
127.40+(20x6.37)
146.51
1

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
					Eg: formal written method of long multiplication: video & video2 6.37 x 23 = 146.51 6.37 23x 19.11 1 7 127.40+ 1 146.51
		Use the expanded written method of column multiplication to calculate TUxU. video Eg: 63 x 8 = 504 63 8x 24 (3x8) 480+ (60x8) 504	Use the expanded written method of column multiplication to calculate TUxU and HTUxU. video Eg: 342 x 7 = 2394 342 7x 14(2x7) 280(40x7) 2100+ (300x7) 2394	Multiply numbers up to 4 digits by a 1 or 2-digit number, using the formal written method of short and long multiplication. Eg: short multiplication: 2,741 x 6 = 16,446 2,741 6 x 16,446 4 2 Eg: long multiplication: video 2741 x 16 = 43,856 2,741 16x 16,446 4 2 27,410+ 43,856 1	Multiply numbers up to HTU x TU using the expanded written method of long multiplication. Eg: 648 x 45 = 29,160 648 45 x 3,240(5x648) 25,920+(40x648) 29,160 1

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		Use the formal written method of column multiplication to calculate TUxU. Eg: 63 x 8 = 504 63 8 x 504 2	Use the formal written method of column multiplication to calculate TUxU and HTUxU. video Eg: 342 x 7 = 2394 342 7x 2394 2 1		Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication. Eg: 648 x 45 = 29,160 648 45 x 3,240 2 4 25,920+ 1 3 29,160 1
					Divide a decimal by a 1-digit number using mental methods and the formal written method of short division. Eg: 43.5 ÷ 5 = 8.7 $5\overline{)43.5}$ = 8.7
					Divide a decimal by a 2-digit number using mental methods and the formal written method of short division. Eg: 496 ÷ 11 = 45r1 $11\overline{)496}$ = 45 r1

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		Understand and use partitioning and the distributive law when dividing a 2-digit number by a 1-digit number. Eg: 92÷4=(80÷4)+(12÷4) =20+3 =23	Understand and use partitioning and the distributive law when dividing a 2-digit number by a 1-digit number. Eg: 92÷4=(80÷4)+(12÷4) =20+3 =23	Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division, and interpret remainders appropriately for the context (whole number remainders, fraction remainders, decimal remainders or rounding remainders up or down). video Eg: 1253÷9=139r2 9) 1,253 = 139r2 Eg: 1253÷9=139 2/9 9) 1,253 = 139 2/9 Eg: 1253÷9=139.22 9) 1,253.00 = 139.22	Divide numbers up to 3 digits by a 2-digit number, 4 digits by a 2-digit number, and a decimal by a 2-digit number, using the expanded written method of long division. video Eg: 644 ÷ 14 = 46 14) 644 = 46 -560 (40x14) 84 -84 (6x14) 0 Eg: 5,900÷25=236 25) 5,900 = 236 -5,000 (200x25) 900 -750 (30x25) 150 -150 (6x25) 0 Eg: 36.8÷4 =9.2 4) 36.8 = -9.2 -36.0 (9x4) 0.8 -0.8 (0.2x4) 0
		Use the expanded written method of short division to calculate TU÷U. video video2			Divide numbers up to 4 digits by a 2-digit whole number, using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or rounding as appropriate for the context.

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		Eg: 72 ÷ 3 = 24 $\begin{array}{r} 24 \\ 3\overline{)\,72} \\ -60 \\ \hline 12 \\ 12 \\ \hline 0 \end{array}$ (20x3) (4x3)			Eg: 432 ÷ 15 = 28^{r12} video $\begin{array}{r} 28\text{ r}12 \\ 15\overline{)\,432} \\ -300 \\ \hline 132 \\ -120 \\ \hline 12 \end{array}$ (20x15) (8x15) Eg: 432 ÷ 15 = $28\frac{4}{5}$ $\begin{array}{r} 28\frac{12}{15}=28\frac{4}{5} \\ 15\overline{)\,432} \\ -300 \\ \hline 132 \\ -120 \\ \hline 12 \end{array}$ (20x15) (8x15) Eg: 432 ÷ 15 = 28.8 video video2 $\begin{array}{r} 28.8 \\ 15\overline{)\,432.0} \\ 30 \\ \hline 132 \\ 120 \\ \hline 120 \\ 120 \\ \hline 0 \end{array}$
		Use the formal written method of short division to calculate TU÷U. video Eg: 98 ÷ 7 = 14 $\begin{array}{r} 14 \\ 7\overline{)\,9^{2}8} \end{array}$	Use the formal written method of short division to calculate TU÷U and HTU÷U. video Eg: 430÷5=86 $\begin{array}{r} 86 \\ 5\overline{)\,4^{4}3^{3}0} \end{array}$ And, 432÷5=86r2 $\begin{array}{r} 86\text{ r}2 \\ 5\overline{)\,4^{4}3^{3}2} \end{array}$ video		Divide a decimal by a 2-digit number, using the formal written method of long division. Eg: 58.32 ÷ 18 = 3.24 $\begin{array}{r} 3.24 \\ 18\overline{)\,58.32} \\ -54. \\ \hline {}^{3}\cancel{4}^{1}.3 \\ -3.6 \\ \hline .72 \end{array}$

Multiplication and Division					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			Use the expanded written method of long division to calculate HTU ÷ U. Eg: 252 ÷ 3 = 84 $\begin{array}{r} \,-84 \\ 3\overline{)\,252} \\ \underline{-240}\ (80\times3) \\ 12 \\ \underline{12}\ (4\times3) \\ 0 \end{array}$		
Key vocabulary: Count in 1s, 2s, 5s, 10, array, =, equals, sign, is the same as, grouping, sharing, fraction, double, doubling, once, twice, count, count on, count in, count up to, count back, before, after, forwards, backwards, pattern, how many, lots of, groups, groups of, equal groups, makes, altogether, equality, equally, whole, half, halves, quarter, divide, multiply, share, multiple, multiples of.	**Key vocabulary:** x, times, ÷, division, division facts, three times, ten times, times as (big, long, wide, etc), repeated addition, row, column, share equally, one each, two each, group in pairs, threes, tens…, equal groups of, divided by, divided into, left, left over, related fact, sets of.	**Key Vocabulary:** Hundreds, tens, units (ones), multiplication, multiplied by, product, divisor, divisible by, estimate, approximation, partition, halve, inverse, next, previous, more, less, operation, calculation, prime, the grid method, the expanded written method of column multiplication, the formal written method of column multiplication, the formal written method of short division.	**Key Vocabulary:** Tenths, hundredths, factor, square number, square root, problem, organize, information, quotient, integer scaling problem.	**Key Vocabulary:** Prime factor, common factor, squared (^{2}), cubed (^{3}), common multiple, decimal places, carry, composite (non-prime), whole number remainder, fraction remainder, decimal remainder, rounding up/down, formal written method of short multiplication, formal written method of long multiplication.	**Key Vocabulary:** Simplify, equivalent, degrees of accuracy, greatest common factors, divisibility test, expanded written method of long multiplication, the expanded written method of long division, the formal written method of long division.