Addition and Subtraction: A focus on number bonds, first via practical hands-on experiences and subsequently using memorisation techniques, enables a good grounding in these crucial facts, and ensures that all children complete Stage 2 knowing the pairs of numbers which make all the numbers up to 10 at least. Children will also have experienced and been taught pairs to 20. Children's knowledge of number facts enables them to add several 1-digit numbers, and to add/subtract a 1-digit number to/from a 2-digit number. Another important conceptual tool is the ability to add/subtract 1 or 10, and to understand which digit changes and why. This understanding is extended to enable children to add and subtract multiples of 10 to and from any 2-digit number. The most important application of this knowledge is the ability to add or subtract any pair of 2-digit numbers by counting on or back in 10s and 1s. Children may extend this to adding by partitioning numbers into 10s and 1s.

Stage 1		
S1 +	Using place value	 Count in 1s e.g. 45 + 1 Count in 10s e.g. 45 + 10 without counting on in 1s Add 10 to any given 2-digit number 34 35 36 44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
	Adding on	 Add on in 1s e.g. 8 + 3 as 8, 9, 10, 11 Add two 1-digit numbers Add on in 10s e.g. 45 + 20 as 45, 55, 65 Add by putting the larger number first
	Using Number Facts	 Number bonds ('story' of 4, 5, 6, 7, 8, 9, 10) e.g. 7 = 7 + 0, 6 + 1, 5 + 2, 4 + 3 Add three 1-digit numbers, spotting pairs to 10 Use patterns based on known facts when adding e.g. 4 + 3 = 7 so we know 24 + 3, 44 + 3, 74 + 3
S1 -	Using place value	 Count back in 1s e.g. <i>Know 53 – 1</i> Count back in 10s e.g. <i>Know 53 – 1</i> 42 43 44 54
	Taking away	 Take away in 1s e.g. 11 – 3 as 11, 10, 9, 8 e.g. 14 – 3 as 14, 13, 12, 11 Take away in 10s e.g. 53 – 20 as 53, 43, 33
	Using Number Facts	 Number bonds ('story' of 4, 5, 6, 7, 8, 9, 10) e.g. 'Story' of 7 is 7-1=6, 7-2=5, 7-3=4 Subtract using patterns of known facts e.g. 7-3=4 so we know 27-3=24, 47-3=44, 77-3=74

	Stage 2		
S2 +	Using place value	 Know 1 more or 10 more than any number. e.g. 1 more than 67 e.g. 10 more than 85 Partitioning e.g. 55 + 37 as 50 + 30 and 5 + 7, then finally combine the two totals: 80 + 12 	
	Adding on	 Add 10 and multiples of 10 to a given 1- or 2-digit number e.g. 76 + 20 as 76, 86, 96 or in one hop: 76 + 20 = 96 Add two 2-digit numbers by counting on in 10s, then in 1s e.g. 55 + 37 as 55 + 30 (85) + 7 Count on in 1s and 10s from any given 2-digit number Add near multiples of 10 e.g. 46 + 19, 63 + 21 	
	Using Number Facts	 Know pairs of numbers which make the numbers up to and including 12 e.g. 8 = 4 + 4, 3 + 5, 2 + 6, 1 + 7, 0 + 8 e.g. 10 = 5 + 5, 4 + 6, 3 + 7, 2 + 8, 1 + 9, 0 + 10 Use patterns based on known facts when adding e.g. 6 + 3 = 9, so we know 36 + 3 = 39, 66 + 3 = 69, 56 + 3 = 59 	
S2 -	Using place value	 Know 1 less or 10 less than any number e.g. 1 less than 74 e.g. 10 less than 82 Partitioning e.g. 55 - 32 as 50 - 30 and 5 - 2 and combine the answers: 20 + 3 	
	Taking away	 Subtract 10 and multiples of 10 e.g. 76 – 20 as 76, 66, 56 or in one hop: 76 – 20 = 56 Subtract two 2-digit numbers by counting back in 10s, then in 1s e.g. 67 – 34 as 67 subtract 30 (37) then count back 4 (33) Subtract near multiples of 10 e.g. 74 – 21, 57 – 19 	
	Using Number Facts	 Know pairs of numbers which make the numbers up to and including 12 and derive related subtraction facts e.g. 10 - 6 = 4, 8 - 3 = 5, 5 - 2 = 3 Subtract using patterns of known facts e.g. 9 - 3 = 6, so we know 39 - 3 = 36, 69 - 3 = 66, 89 - 3 = 86 Bridging 10 e.g. 52 - 6 as 52 - 2 (50) - 4 - 46 	
	Counting Up	 Find a difference between two numbers on a line where the numbers are close together e.g. 51 – 47 	

Addition and Subtraction: Children are taught to use place value and number facts to add and subtract numbers mentally and they will develop a range of strategies to enable them to discard the 'counting in 1s' or fingers-based methods of Key Stage 1. In particular, children will learn to add and subtract multiples and near multiples of 10, 100 and 1000, and will become fluent in complementary addition as an accurate means of achieving fast and accurate answers to 3-digit subtractions. Standard written methods for adding larger numbers are taught, learned and consolidated, and written column subtraction is also introduced.

	Stage 3				
\$3 +	Using place value	 Count in 100s e.g. <i>Know</i> 475 + 200 as 475, 575, 675 Add multiples of 10, 100 and £1 e.g. 746 + 200, 746 + 40, £6·34 + £5 as £6 + £5 and 34p Partitioning e.g. 68 + 74 as 60 + 70 and 8 + 4 and combine the totals: 130 + 12 = 142 			
	Adding on	 Add two 2-digit numbers by adding the multiple of 10, then the 1s e.g. 67 + 55 as 67 + 50 (117) + 5 = 122 Add near multiples of 10 and 100 e.g. 67 + 39 e.g. 364 + 199 Add pairs of 'friendly' 3-digit numbers e.g. 548 + 120 Count on from 3-digit numbers e.g. 247 + 34 as 247 + 30 (277) + 4 = 281 			
	Using Number Facts	 Know pairs which total each number to 20 e.g. 7 + 8 = 15 e.g. 12 + 6 = 18 Number bonds to 100 e.g. 35 + 65 e.g. 46 + 54 e.g. 73 + 27 Add to the next 10 and the next 100 e.g. 176 + 4 = 180 e.g. 435 + 65 = 500 			
	Written	• Build on partitioning to develop expanded column addition with two 3-digit numbers e.g. 466 + 358 + 300 50 8 700 110 14 = 824 • Use expanded column addition where digits in a column add to more than the column value e.g. 466 + 358 + 100 10 800 20 4 • Compact column addition with two or more 3-digit numbers or towers of 2- digit numbers e.g. 347 + 286 + 495 • Compact column addition with 3- and 4-digit numbers • Recognise like fractions that add to 1 e.g. 1/4 + 3/4 e.g. 3/5 + 2/5			

S3 -	Taking away	• Use place value to subtract e.g. $348 - 30$ e.g. $348 - 40$ e.g. $348 - 8$ • Take away multiples of 10, 100 and £1 e.g. $476 - 40 = 436$ e.g. $476 - 300 = 176$ e.g. $\pounds 4 \cdot 76 - \pounds 2 = \pounds 2 \cdot 76$ • Partitioning e.g. $68 - 42$ as $60 - 40$ and $8 - 2$ e.g. $\pounds 6 \cdot 84 - \pounds 2 \cdot 40$ as $\pounds 6 - \pounds 2$ and 80p - 40p • Count back in 100s, 10s then 1s e.g. $763 - 121$ as $763 - 100$ (663) $- 20$ (643) $- 1 = 642$ • Subtract near multiples of 10 and 100 e.g. $648 - 199$ e.g. $86 - 39$
	Counting up	 Find a difference between two numbers by counting up from the smaller to the larger e.g. 121 – 87
	Using Number Facts	 Know pairs which total each number to 20 e.g. 20 - 14 = 6 Number bonds to 100 e.g. 100 - 48 = 52 e.g. 100 - 35 = 65 Subtract using number facts to bridge back through a 10 e.g. 42 - 5 = 42 - 2 (40) - 3 = 3
	Written	 Develop counting up subtraction e.g. 200 – 167 Use counting up subtraction to find change from £1 £5 and £10
		e.g. $\pounds 10.00 - \pounds 6.84$
		• Recognise complements of any fraction to 1 e.g. $1 - 1/4 = 3/4$ e.g. $1 - 3/5 = 2/5$

	Stage 4		
S4 +	Using place value	 Count in 1000s e.g. <i>Know</i> 3475 + 2000 as 3475, 4475, 5475 Partitioning e.g. 746 + 40 e.g. 746 + 203 as 700 + 200 and 40 and 6 + 3 e.g. 134 + 707 as 100 + 700 and 30 and 4 + 7 	
	Adding on Using Number Facts	• Add 2-digit numbers to 2-, 3- and 4-digit numbers by adding the multiple of 10 then the 1s e.g. $167 + 55 \text{ as } 167 + 50 (217) + 5 = 222$ • Add near multiples of 10, 100 and 1000 e.g. $467 + 199$ e.g. $3462 + 2999$ +200 +200 (
		• Add to the next whole number e.g. $4.6 + 0.4$ e.g. $7.2 + 0.8$	
	Written	 Build on expanded column addition to develop compact column addition with larger numbers i.g. 1466 + 4868 i.g. 1000 i.g. 1000 i.g. 5347 + 2286 + 1495 i.g. 5347 + 2286 + 1495 i.g. 121 i.g. 128 i.g. 128<	
		 Add like fractions e.g. 3/8 + 1/8 + 1/8 	

S4	Taking away	• Use place value to subtract e.g. $4748 - 4000$ • Take away multiples of 10, 100, 1000, £1, 10p or 0.1 e.g. $8392 - 50$ e.g. $6723 - 3000$ e.g. $£3.74 - 3$ e.g. $5.6 - 0.2$ • Partitioning e.g. $£5.87 - £3.04$ as $£5 - £3$ and $7p - 4p$ e.g. $7493 - 2020$ as $7000 - 2000$ and $90 - 20$ • Count back e.g. $6482 - 1301$ as $6482 - 1000$ (5482) - 300 (5182) - $1 = 5181$ • Subtract near multiples of 10, 100, 1000 or £1 e.g. $3522 - 1999$ e.g. $£34.86 - £19.99$
	Counting up	 Find a difference between two numbers by counting up from the smaller to the larger e.g. 506 - 387 e.g. 4000 - 2693
	Using Number Facts	 Number bonds to 10 and 100 and derived facts e.g. 100 - 76 = 24 e.g. 1 - 0.6 = 0.4 h + + + + + + + + + + + + + + + + + + +
	Written	• Expanded column subtraction with 3- and 4-digit numbers e.g. $726 - 358$ 600 II0 I6 707 Z0 X - 300 50 8 300 60 8 • Begin to develop compact column subtraction e.g. $726 - 358$ • Use counting up subtraction to find change from £10, £20, £50 and £100 e.g. Buy a computer game for £34.75 using £50 • Subtract like fractions e.g. $3/8 - 1/8 = 2/8$

Addition and Subtraction: Children will consolidate their use of written procedures in adding and subtracting whole numbers with up to 6 digits and also decimal numbers with up to 2 decimal places. Mental strategies for adding and subtracting increasingly large numbers will also be taught. These will draw upon children's robust understanding of place value and knowledge of number facts. Negative numbers will be added and subtracted.

	Stage 5		
		Count in 0.1s, 0.01s a a Know what 0.1 more than 0.51 is	
	Using place		
	value	Partitioning	
		e.g. $2 \cdot 4 + 5 \cdot 8$ as $2 + 5$ and $0 \cdot 4 + 0 \cdot 8$ and combine the totals: $7 + 1 \cdot 2 = 8 \cdot 2$	
	Adding on	 Add two decimal numbers by adding the 1s, then the 0.1s/0.01s e.g. 5.72 + 3.05 as 5.72 + 3 (8.72) + 0.05 = 8.77 Add near multiples of 1 e.g. 6.34 + 0.99 e.g. 5.63 + 0.9 Count on from large numbers e.g. 6834 + 3005 as 9834 + 5 	
		 Number bonds to 1 and to the next whole number 	
		e.g. $5 \cdot 7 + 0 \cdot 3$ e.g. $0 \cdot 4 + 0 \cdot 6$	
	Using Number Facts		
		Add to the next 10 from a decimal number	
S5		e.g. $7.8 + 2.2 = 10$	
+		 Expanded column addition for money leading to compact column addition for adding several amounts of money 	
		e.g. £14·64 + £28·78 + £12·26	
		£14 60p 4p	
		£28 70p 8p	
		+ £12 20p 6p	
	Written	<u>F55 60p 8p</u>	
		 Compact column addition to add pairs of 5-digit numbers 	
		 Continue to use column addition to add towers of several larger numbers 	
		 Use compact addition to add decimal numbers with up to 2 decimal places 	
		e.g. <i>15</i> ·68 + 27·86	
		15.68	
		+ 27.86	
		43.54	
		 Add related fractions 	
		e.g. $3/4 + 1/8 = 7/8$	

	e = 4.58 - 0.08 $e = 6.26 - 0.2$
	• Take away multiples of powers of 10
Taking Au	\sim rate away multiples of powers of 10 or 15.672 200 or 4.82 2 or 2.71 0.5 or 4.68 0.02
	$\mathbf{y} = e.g. \ 75 \ 672 - 500 \ e.g. \ 4.62 - 2 \ e.g. \ 2.77 - 0.5 \ e.g. \ 4.68 - 0.62$
	e.g. 3964 - 7057 e.g. 5.72 - 2.07
	• Subtract near multiples of 1, 10, 1000, 10,000 of £1
_	e.g. 86 456 – 9999 e.g. 3·58 – 1·99
	 Find a difference between two numbers by counting up from
	the smaller to the larger
	e.g. £12·05 - £9·59 e.g. 2009 - 869
	 Find change using shopkeepers' addition
	e.g. Buy a toy for £6.89 using £10.00
Counting	
	in du do
	 Find a difference between two amounts of money by counting up
	Derived facts from number bonds to 10 and 100
	e.g. $2 - 0.45$ using $45 + 55 = 100$ e.g. $3 - 0.86$ using $86 + 14 = 100$
5 Using	<u>0.8</u> 2
Number Fa	ts
-	0.96
	 Number bonds to £1, £10 and £100
	e.g. $\pounds 4.00 - \pounds 3.86$ e.g. $\pounds 100 - \pounds 66$ using $66 + 34 = 100$
	 Compact column subtraction for numbers with up to 5 digits
	e.g. 16 324 - 8516 0 15 13 1 14
	XXXXX
	Continue to use counting up subtraction for subtractions involving manage including finding change
	e.g. $\pounds 50 - \pounds 28.76$
	4p 20p L1
Written	[28-76 £28-80 £29 £30 [50
	Use counting up subtraction to subtract decimal numbers
	e.g. 4·2 - 1·74
	0-06 + 02 + 2 + 02 = 246
	0.06 2
	Subtract related fractions
	e.g. $3/4 - 1/8 = 5/$
	NB Counting up subtraction provides a default method for ALL children
55 Using Number Fa	• The a uniference between two announts of money by counting up • Derived facts from number bonds to 10 and 100 e.g. $2 - 0.45$ using $45 + 55 = 100$ e.g. $3 - 0.86$ using $86 + 14 = 100$ • Number bonds to £1, £10 and £100 e.g. £4.00 - £3.86 e.g. £100 - £66 using $66 + 34 = 100$ • Compact column subtraction for numbers with up to 5 digits e.g. $16\ 324 - 8516$ • Continue to use counting up subtraction for subtractions involving money, including finding change e.g. £50 - £28.76 • Use counting up subtraction to subtract decimal numbers e.g. $4.2 - 1.74$ • Subtract related fractions e.g. $3/4 - 1/8 = 5/$ NB Counting up subtraction provides a default method for ALL children

		Stage 6
S6 +	Using place value	 Count in 0.1s, 0.01s, 0.001s e.g. <i>Know what 0.001 more than 6.725 is</i> Partitioning e.g. 9.54 + 3.23 as 9 + 3, 0.5 + 0.2 and 0.04 + 0.03, to give 12.77
	Adding on	 Add two decimal numbers by adding the 1s, then the 0.1s/0.01s/0.001s e.g. 6.314 + 3.006 as 6.314 + 3 (9.314) + 0.006 = 9.32 Add near multiples of 1 e.g. 6.345 + 0.999 e.g. 5.673 + 0.9 Count on from large numbers e.g. 16 375 + 12 003 as 28 375 + 3
	Using Number Facts	 Number bonds to 1 and to the next multiple of 1 e.g. 0.63 + 0.37 e.g. 2.355 + 0.645 + 0.6
	Written	 Compact column addition for adding several large numbers and decimal numbers with up to 2 decimal places £14.64 Compact column addition with money + £28.78 e.g. £14.64 + £28.78 + £12.26 £12.26 11.1 £55.68
S6 -	Taking away	 Use place value to subtract decimals e.g. 7.782 - 0.08 e.g. 16.263 - 0.2 Take away multiples of powers of 10 e.g. 132 956 - 400 e.g. 686 109 - 40 000 e.g. 7.823 - 0.5 Partitioning or counting back e.g. 3964 - 1051 e.g. 5.72 - 2.01 Subtract near multiples of powers of 10 e.g. 360 078 - 99 998 e.g. 12.831 - 0.99
	Counting Up	 Find a difference between two decimal numbers by counting up from the smaller to the larger e.g. 1.2 - 0.87



Multiplication and Division: Children will be taught to count in 2s, 3s, 5s and 10s, and will relate this skill to repeated addition. Children will meet and begin to learn the associated x_2 , x_3 , x_5 and x_{10} tables. Engaging in a practical way with the concept of repeated addition and the use of arrays enables children to develop a preliminary understanding of multiplication, and asking them to consider how many groups of a given number make a total will introduce them to the idea of division. Children will also be taught to double and halve numbers, and will thus experience scaling up or down as a further aspect of multiplication and division.

	Stage 1			
	Counting in steps ('clever' counting)	 Begin to count in 2s a 4 6 7 7 9 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		
S1 ×	Doubling	• Find doubles to double 5 using fingers e.g. <i>double 3</i>		
	Grouping	 Begin to use visual and concrete arrays and sets of objects to find the answers to 'three lots of four' or 'two lots of five' e.g. three lots of four 		
S1 ÷	Counting in Steps ('clever' counting)	 Begin to count in 2s Begin to count in 10s Begin to count in 10s 		
	Halving	 Find half of even numbers up to 12, including realising that it is hard to halve an odd number 		
	Grouping	 Begin to use visual and concrete arrays and 'sets of' objects to find the answers to questions such as 'How many towers of four can I make with twelve cubes?' 		
	Sharing	Begin to find half of a quantity using sharing e.g. find half of 8 cubes by giving one each repeatedly to two children		

	Counting in steps ('clever' counting)	Count in 2s, 5s and 10s
		• Begin to count in 3s
	Doubling	Begin to know doubles of multiples of 5 to 100 e.g. <i>double 35 is 70</i>
	2002g	 Begin to double 2-digit numbers less than 50 with 1s digits of 1, 2, 3, 4 or 5
		 Use arrays to find answers to multiplication and relate to 'clever' counting a. 2. 4. as three late of four things
S 2		e.g. 3×4 as three lots of four things e.g. 6×5 as six steps in the 5s count as well as six lots of five
×	Grouping	$\int_{0}^{5} \int_{0}^{5} \int_{0$
		 Understand that 5 x 3 can be worked out as three 5s or five 3s
	Using Number Facts	 Know doubles to double 20 e.g. double 7 is 14 Start learning ×2, ×5, ×10 tables, relating these to 'clever' counting in 2s, 5s, and 10s a.g. 5 × 10 - 50 and five stops in the 10s count - 10, 20, 20, 40, 50
		e.g. $5 \times 10 = 50$, and five steps in the 10s count = 10, 20, 30, 40, 50
	Counting in Steps ('clever' counting)	 Count in 2s, 5s and 10s Count in 2s, 5s and 10s
	(Begin to count in 3s
	Halving	 Find half of numbers up to 40, including realising that half of an odd number gives a remainder of 1 or an answer containing a 1/2 e.g. 1/2 of 11 = 5 1/2
		Begin to know half of multiples of 10 to 100 e.g. half of 70 is 35
S 2		Relate division to multiplication by using arrays or towers of cubes to find answers to division
÷	Grouping	e.g. 'How many towers of five cubes can I make from twenty cubes?' as $x 5 = 20$ and also as $20 \div 5 =$
		Relate division to 'clever' counting and hence to multiplication
		e.g. 'How many fives do I count to get to twenty?'
		Begin to find half or a quarter of a quantity using sharing a g find a quarter of 16 subas by serting
	Sharing	the cubes into four piles
		Find 1/4, 1/2, 3/4 of small quantities $\frac{\frac{1}{2}}{\frac{1}{4}}$ $\frac{\frac{1}{4}}{\frac{1}{4}}$ $\frac{\frac{1}{4}}{\frac{1}{4}}$
	Using Number	• Know half of even numbers to 24 Know x2, x5 and x10 division facts
	Facts	Begin to know ×3 division facts

Multiplication and Division: This key stage is also the period during which all the multiplication and division facts are thoroughly memorised, including all facts up to 12×12 . Efficient written methods for multiplying or dividing a 2-digit or 3-digit number by a 1-digit number are taught, as are mental strategies for multiplication or division with large but 'friendly' numbers, e.g. when dividing by 5 or multiplying by 20.

Stage 3				
S3 ×	Counting in steps ('clever' counting)	• Count in 2s, 3s, 4s, 5s, 8s and 10s $\begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 \\ 11 & 12 & 13 & 14 & 15 & 16 & 17 & 18 & 19 & 20 \\ 21 & 22 & 23 & 24 & 25 & 26 & 27 & 28 & 29 & 30 \\ 31 & 32 & 33 & 34 & 35 & 36 & 37 & 38 & 39 & 40 \\ 41 & 42 & 43 & 44 & 45 & 46 & 47 & 48 & 49 & 50 \\ 51 & 52 & 53 & 54 & 55 & 56 & 57 & 58 & 59 & 60 \\ 61 & 62 & 63 & 64 & 65 & 66 & 67 & 68 & 69 & 70 \\ 71 & 72 & 73 & 74 & 75 & 76 & 77 & 78 & 79 & 80 \\ 81 & 82 & 83 & 84 & 85 & 86 & 87 & 88 & 89 & 90 \\ 91 & 92 & 93 & 94 & 95 & 96 & 97 & 98 & 99 & 100 \end{bmatrix}$		
	Doubling	 Find doubles of numbers to 50 using partitioning e.g. double 48 48 80 16 96 Use doubling as a strategy in multiplying by 2 e.g. 18 × 2 is double 18 = 36 		
	Grouping	 Recognise that multiplication is commutative e.g. 4 × 8 = 8 × 4 Multiply multiples of 10 by 1-digit numbers e.g. 30 × 8 = 240 Multiply 'friendly' 2-digit numbers by 1-digit numbers e.g. 13 × 4 		
	Using Number Facts	 Know doubles to double 20 e.g. <i>double 15 is 30</i> Know doubles of multiples of 5 to 100 e.g. <i>double 85 is 170</i> Know x2, x3, x4, x5, x8, x10 tables facts 		
	Written	 Build on partitioning to develop grid multiplication e.g. 23 × 4 × 20 3 4 80 12 = 92 		

		• Count in 2s, 3s, 4s, 5s, 8s and 10s
	Counting in Steps ('clever' counting)	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 (1) (2) (3) (4) (5) (4) (5) (5)
		<u>41</u> 42 43 44 49 40 47 48 49 50 <u>A</u> <u>A</u> <u>A</u> <u>A</u> <u>A</u> <u>51</u> 52 53 54 55 56 57 58 59 60
		61 62 63 64 65 66 67 68 69 70
		0 20 20 20 21 22 23 24 3 6 7 8 4 7 10 10 10 10 10 10 10 10 10 10 10 10 10
		Find half of even numbers to 100 using partitioning
		e.g. find half of 48 48
		20 4
	Halving	
		24
		Use halving as a strategy in dividing by 2
		e.g. $36 \div 2$ is half of $36 = 18$
		Find half of odd numbers
		Recognise that division is not commutative
S3		 Relate division to multiplications 'with holes in'
÷	Grouping	e.g. $\times 5 = 30$ is the same calculation as $30 \div 5 =$ thus we
		can count in 5s to find the answer
		_ × £5 = £30
		Divide multiples of 10 by 1-digit numbers
		e.g. 240 ÷ 8 = 30
		 Begin to use subtraction of multiples of 10 of the divisor to divide numbers above the 10th multiple
		e.g. 52 ÷ 4 is 10 × 4 (40) and 3 × 4 (12) = 13
	Using number facts	Know half of even numbers to 40 Know half of multiples of 10 to 200
		e.g. half of 170 is 85
		• Know x2, x3, x4, x5, x8, x10 division facts
	Written	 Perform divisions just above the 10th multiple using written jottings, understanding how to give a remainder as a whole number
		 Use division facts to find unit and simple non-unit fractions of amounts
		within the times-tables
		e.g. 3/4 of 48 is 3 × (48 ÷ 4) = 36

	Stage 4		
S4 ×	Counting in steps (Sequences)	• Count in 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s, 11s, 12s, 25s, 50s, 100s and 1000s $25 \ 25 \ 25 \ 25 \ 25 \ 25 \ 25 \ 25 \$	
	Doubling	 Find doubles to double 100 and beyond using partitioning e.g. double 126 Begin to double amounts of money e.g. £3.50 doubled is £7 Use doubling as a strategy in multiplying by 2, 4 and 8 e.g. 34 × 4 is double 34 (68) doubled again = 136 	
	Grouping	 Use partitioning to multiply 2-digit numbers by 1-digit numbers e.g. 24 × 5 ×5 100 20 Multiply multiples of 100 and 1000 by 1-digit numbers using tables facts e.g. 400 × 8 = 3200 Multiply near multiples by rounding e.g. 24 × 19 as (24 × 20) - 24 = 456 	
	Using Number Facts	 Know times-tables up to 12 × 12 	
	Written	 Use grid multiplication to multiply 3-digit numbers by 1 digit numbers e.g. 253 × 6 × 200 50 3 6 1200 300 18 = 1518 Use a vertical written algorithm (ladder) to multiply 3-digit numbers by 1-digit numbers e.g. 253 × 6 × 6 i.g. 253 × 6 × 6 i.g. 253 × 6 × 6 i.g. 253 × 6 × 6 × 200 i.g. 253 × 6 Use grid multiplication to multiply 2-digit numbers by 2- I.g. 253 × 6 × 10 6 40 400 240 = 640 8 80 48 = 128 768 	

\$4 ÷	Counting in Steps ('clever' counting)	• Count in 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s, 11s, 12s, 25s, 50s, 100s and 1000s $25 \ 25 \ 25 \ 25 \ 25 \ 25 \ 25 \ 25 \$
	Halving	 Find half of even numbers to 200 and beyond using partitioning e.g. find half of 258 Begin to halve amounts of money e.g. £9 halved is £4.50 Use halving as a strategy in dividing by 2, 4 and 8
		e.g. 164 ÷ 4 is half of 164 (82) halved again = 41
	Grouping	 Use multiples of 10 times the divisor to divide by 1-digit numbers above the tables facts e.g. 45 ÷ 3 as 10 × 3 (30) and 5 × 3 (15) 10 × 3 = 30 15 Divide multiples of 100 by 1-digit numbers using division facts e.g. 3200 ÷ 8 = 400
	Using Number Facts	• Know times-tables up to 12 × 12 and all related division facts
	Written	 Use a written version of a mental method to divide 2- and 3-digit numbers by 1-digit numbers e.g. 86 ÷ 3 as 20 × 3 (60) and 8 × 3 (24), remainder 2 8 6 ÷ 3 = 8 6 ÷ 3 = 8 6 ÷ 3 = 2 8 r2 2 0 × 3 = 6 0 2 6 8 × 3 = 2 4 2 8 • Use division facts to find unit and non-unit fractions of amounts within the times-tables e.g. 7/8 of 56 is 7 × (56 ÷ 8) = 48

Multiplication and Division: Efficient and flexible strategies for mental multiplication and division are taught and practised, so that children can perform appropriate calculations even when the numbers are large, such as $40\ 000\ \times\ 6$ or $40\ 000\ \div\ 8$. In addition, it is in Years 5 and 6 that children extend their knowledge and confidence in using written algorithms for multiplication and division.

Stage 5		
S5 ×	Doubling and Halving	• Double amounts of money using partitioning e.g. double £6.73
		 Use doubling and halving as a strategy in multiplying by 2, 4, 8, 5 and 20 e.g. 58 × 5 is half of 58 × 10 (580) = 290
	Grouping	 Multiply whole numbers and decimals by 10, 100, 1000 e.g. 3.4 × 100 = 340 Use partitioning to multiply 'friendly' 2- and 3-digit numbers by 1-digit numbers 2400 12 e.g. 402 × 6 as 400 × 6 (2400) and 2 × 6 (12) = 241 Use partitioning to multiply decimal numbers by 1-digit numbers e.g. 4.5 × 3 as 4 × 3 (12) and 0.5 × 3 (1.5) = 13.5 Multiply near multiples by rounding e.g. 32 × 29 as (32 × 30) - 32 = 928
	Using Number Facts	 Use times-tables facts up to 12 x 12 to multiply multiples of 10/100 of the multiplier e.g. 4 x 6 = 24 so 40 x 6 = 240 and 400 x 6 = 2400 Use knowledge of factors and multiples in multiplication e.g. 43 x 6 is double 43 x 3 e.g. 28 x 50 is half of 28 x 100 (2800) = 1400 Know square numbers and cube numbers
	Written	• Know square numbers and cube numbers • Short multiplication of 2-, 3- and 4-digit numbers by 1-digit numbers e.g. 435×8 435×8 24 3480 • Long multiplication of 2-, 3-and 4-digit numbers by 'teen' numbers e.g. 48×16 • Grid multiplication of numbers with up to 2 decimal places by 1-digit numbers e.g. $1 \cdot 34 \times 6$ • Multiply fractions by 1-digit numbers e.g. $3/4 \times 6 = 18/4 = 42/4 = 41/2$ • B Grid multiplication provides a default method for ALL children

	Doubling and	 Halve amounts of money using partitioning e.g. half of £14.84 is half of £14 (£7) plus half of 84p (42p) £14.84 £14.84
	Haiving	£7·42 Use doubling and halving as a strategy in dividing by 2, 4, 8, 5 and 20
		e.g. 115 ÷ 5 as double 115 (230) ÷ 10 = 23
		 Divide numbers by 10, 100, 1000 to obtain decimal answers with up to 3 decimal places e.g. 340 ÷ 100 = 3.4 Use the 10th, 20th, 30th multiple of the divisor to divide
		'friendly' 2- and 3-digit numbers by 1-digit numbers
		e.g. 186 ÷ 6 as 30 × 6 (180) and 1 × 6 (6)
	Grouping	I 8 6 ÷ 6 =
		$ \begin{array}{c} \ \ \ \ \ \ \ \ \ \ \ \ \ $
S 5		 Use division facts from the times-tables up to 12 × 12 to
÷	Using Number Facts	divide multiples of powers of 10 of the divisor
		e.g. 3600 ÷ 9 using 36 ÷ 9
		Know square numbers and cube numbers
		 Use a written version of a mental strategy to divide 3-digit
		Furthers by 1-digit numbers e_{1} , a_{2} , b_{2} , b_{3} , b_{3} , a_{2} , b_{3} , a_{3} , b_{3} ,
		3 2 6 ÷ 6 =
	Written	$ \begin{array}{c} \hline \ \times \ 6 = 3 \ 2 \ 6 \\ \hline \ 5 \ 0 \ \times \ 6 = 3 \ 0 \ 0 \\ \hline \ 2 \ 6 \\ \hline \ 4 \ \times \ 6 = 2 \ 4 \\ \hline \ 2 \\ \hline \ 5 \ 4 \\ \end{array} \right) $
		 Short division of 3- and 4-digit numbers by 1-digit
		numbers
		e.g. 139 ÷ 3 4 6 r 1 3 1 3 ¹ 9
		 Give remainders as whole numbers or as fractions
		 Find unit and non-unit fractions of large amounts e.g. 3/5 of 265 is 3 x (265 ÷ 5) = 159
		Turn improper fractions into mixed numbers and vice versa

	Stage 6		
	Doubling and Halving	 Double decimal numbers with up to 2 places using partitioning e.g. <i>double 36.73</i> ^{36.73} ⁷² 1.46 ⁷² 1.46 Use doubling and halving as strategies in mental 	
	Grouping	multiplication• Use partitioning as a strategy in mental multiplication, as appropriate e.g. 3060×4 as 3000×4 (12 000) and 60×4 (240) = 12 240 e.g. $8 \cdot 4 \times 8$ as 8×8 (64) and $0 \cdot 4 \times 8$ ($3 \cdot 2$) = $67 \cdot 2$ • Use factors in mental multiplication 	
	Using Number Facts	 Use times-tables facts up to 12 x 12 in mental multiplication of large numbers or numbers with up to 2 decimal places e.g. 6 x 4 = 24 and 0.06 x 4 = 0.24 	
S6 ×	Written	• Short multiplication of 2-, 3- and 4-digit numbers 3743 by 1-digit numbers $\frac{3743 \times 6}{421}$ e.g. 3743×6 • Long multiplication of 2-, 3- and 4-digit numbers by 2-digit numbers 456 e.g. 456×38 $\frac{\times 38}{13680}$ $\frac{36448}{11}$ 11 17328 • Short multiplication of decimal numbers using $\times 100$ and $\div 100$ e.g. $13 \cdot 72 \times 6$ as $(1372 \times 6) \div 100 = 82 \cdot 32$ • Short multiplication of money $\pounds 1 \ 3.7 \ 2$ e.g. $\pounds 13 \cdot 72 \times 6$ as $(1372 \times 6) \div 100 = 82 \cdot 32$ • Short multiplication of numbers with up to 2 decimal places by 1-digit numbers e.g. $6 \cdot 76 \times 4$ $\frac{\times 6}{42428} \frac{0.7006}{0.24} = 27 \cdot 04$ • Multiply simple pairs of proper fractions e.g. $1/2 \times 1/4 = 1/8$ NB Grid multiplication provides a default method for ALL children	

	Doubling and Halving	 Halve decimal numbers with up to 2 places using partitioning e.g. half of 36.86 is half of 36 (18) plus half of 0.86 (0.43)
		36·86 18 0·43 18·43
		Use doubling and halving as strategies in mental division
	Grouping	 Use the 10th, 20th, 30th, or 100th, 200th, 300th multiples of the divisor to divide large numbers e.g. 378 ÷ 9 as 40 × 9 (360) and 2 × 9 (18), remainder 2 3 7 8 ÷ 9 =
		$ \begin{array}{c c} x & 9 = 3 & 7 & 8 & 3 & 7 & 8 \div 9 = 42 & r2 \\ \hline 4 & 0 & x & 9 = 3 & 6 & 0 \\ \hline & 1 & 8 & & & 1 \\ \hline & 2 & x & 9 = & 1 & 8 \\ \hline & 2 & & & & & & \\ \hline & & & & & & & \\ \hline & & & &$
		• Use tests for divisibility $a_1 = 125 \text{ divides by } 2 \text{ as } 1 + 2 + 5 = 0 \text{ and } 0 \text{ is in the x2 table}$
S6 ÷	Using Number Facts	 Use division facts from the times-tables up to 12 x 12 to divide decimal numbers by 1-digit numbers e.g. 1.17 ÷ 3 is 1/100 of 117 ÷ 3 (39) Know tests of divisibility for numbers divisible by 2, 3, 4, 5, 9, 10 and 25
		 Short division of 3- and 4-digit numbers by 1-digit numbers e.g. 139 ÷ 3 4 6 r 1 3 1 3 19 Long division of 3- and 4-digit numbers by 2-digit numbers e.g. 4176 ÷ 13 300 + 20 + 1, r 3 4176 ÷ 13 = 321 r 3
	Written	$ \begin{array}{r} 13 \overline{\smash{\big }\ 4176} \\ \underline{-3900} \\ 276 \\ \underline{-260} \\ \overline{16} \\ \underline{-13} \\ \overline{3} \\ \end{array} $
		 Give remainders as whole numbers, fractions or decimals Use place value to divide 1- and 2-place decimals by numbers ≤ 12
		e.g. $3.65 \div 5$ as $(365 \div 5) \div 100 = 0.73$
		Invide proper fractions by whole numbers