

The Tynings Primary School

Calculation Policy 2013

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, 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?'

'Do I need to use a written method?'

Although the main focus of this policy is on formal written methods it is important to recognise that the ability to calculate mentally lies at the heart of numeracy. Key vocabulary and expectations for mental calculations have been included as in every written method there is an element of mental processing.

Although each method will be taught in the year group specified, children should not be discouraged from using previously taught methods with which they are secure, while the new concepts are becoming embedded.

Examples of the formal written methods for each of the four operations have been outlined alongside an example of the type of word problems children are expected to solve. More examples can be found in the pitch and expectations documents for each year (teacher shared / subject folders / maths / pitch and expectations)

It is expected that children from year 1 will be able to find the difference between pairs of numbers. This will be taught as a separate skill whereby all children will have the opportunity to use number lines to 'count on' to reinforce the concept of difference as 'how many between'.



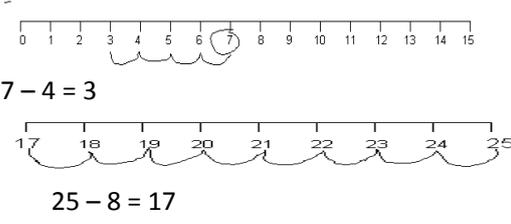
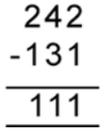
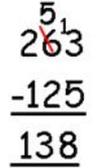
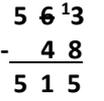
Addition: written calculations

Year 1: Number line	Objectives	Example word problems																												
	<p>Add a 1 or 2 digit number to a 2 digit number.</p> <p>Add a multiple of 10 to a 1 or 2 digit number</p>	<p>Lee buys two of these items. He spends £1. What does he buy?</p>																												
Year 2: Blank number line used to count on in multiples of 10 and 1																														
<p>$25 + 36 = 61$</p> <p>Partitioning $47 + 52 = 99$</p> $\begin{array}{r} 47 + 50 = 97 \\ 97 + 2 = 99 \end{array}$	<p>Add numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers 	<p>Janet spent 23p. Put a circle around the 2 items she bought.</p> <p>She used 3 coins to pay the 23p. Put a circle around each coin she used.</p> <p>Mina and Ben play a game. Mina scores 70 points. Ben scores 42 points. How many more points does Mina score than Ben?</p>																												
Year 3: Column addition with carrying																														
<p>$442 + 335 = 777$ $872 + 541 = 1413$</p> $\begin{array}{r} 442 \\ 335 \\ \hline 777 \end{array}$ $\begin{array}{r} 872 \\ 541 \\ \hline 1413 \\ 11 \end{array}$	<p>Add numbers with up to 3 digits, using the efficient written method of columnar addition.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers</p>	<p>Here is a set of stamps.</p> <p>David posts a parcel. It costs £1.90. He uses two of these stamps. Which two stamps does he use?</p>																												
Year 4 : Column addition with carrying																														
<p>$442 + 335 = 777$ $7872 + 541 = 8413$</p> $\begin{array}{r} 442 \\ 335 \\ \hline 777 \end{array}$ $\begin{array}{r} 7872 \\ 541 \\ \hline 8413 \\ 11 \end{array}$	<p>Add and subtract numbers with up to 4 digits using the efficient written method of columnar addition.</p> <p>Use whole numbers and £p.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p>	<p>These are the prices of sandwiches, drinks and fruit.</p> <table border="1" data-bbox="1129 1227 1385 1308"> <thead> <tr> <th>Sandwiches</th> <th>Drinks</th> <th>Fruit</th> </tr> </thead> <tbody> <tr> <td>ham £1.45</td> <td>milk 55p</td> <td>apple 15p</td> </tr> <tr> <td>tuna £1.70</td> <td>cola 45p</td> <td>pear 20p</td> </tr> <tr> <td>salad £1.20</td> <td>juice 65p</td> <td>melon 25p</td> </tr> </tbody> </table> <p>Shereen buys a tuna sandwich, milk and a pear. How much does she pay?</p> <p>Mike has 80p to spend on a fruit and a drink. What two things can he buy for exactly 80p?</p> <p>This table shows the numbers of children who went walking, sailing or climbing at an outdoor centre.</p> <table border="1" data-bbox="1219 1406 1433 1487"> <thead> <tr> <th></th> <th>May</th> <th>June</th> <th>July</th> </tr> </thead> <tbody> <tr> <td>walking</td> <td>25</td> <td>60</td> <td>75</td> </tr> <tr> <td>sailing</td> <td>15</td> <td>42</td> <td>50</td> </tr> <tr> <td>climbing</td> <td>18</td> <td>27</td> <td>23</td> </tr> </tbody> </table> <p>How many children went sailing in May, June and July altogether?</p> <p>How many more children went walking in June than climbing in June?</p>	Sandwiches	Drinks	Fruit	ham £1.45	milk 55p	apple 15p	tuna £1.70	cola 45p	pear 20p	salad £1.20	juice 65p	melon 25p		May	June	July	walking	25	60	75	sailing	15	42	50	climbing	18	27	23
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Year 5: Column addition including decimals																														
<p>$176 + 147 = 323$ $4.28 + 7.99 = 12.27$</p> $\begin{array}{r} 176 \\ 147 \\ \hline 323 \end{array}$ $\begin{array}{r} 4.28 \\ 7.99 \\ \hline 12.27 \end{array}$	<p>Use efficient written methods to add and subtract whole numbers and decimals up to 2dp.</p>	<p>Here is the cost of pizzas.</p> <table border="1" data-bbox="1123 1608 1321 1756"> <thead> <tr> <th></th> <th>Small</th> <th>Medium</th> </tr> </thead> <tbody> <tr> <td>Ham</td> <td>£4.20</td> <td>£5.50</td> </tr> <tr> <td>Salami</td> <td>£4.40</td> <td>£5.75</td> </tr> <tr> <td>Mushroom</td> <td>£4.50</td> <td>£6.00</td> </tr> <tr> <td>Cheese</td> <td>£3.80</td> <td>£4.95</td> </tr> <tr> <td>Tuna</td> <td>£4.25</td> <td>£5.40</td> </tr> <tr> <td>Extra tomato</td> <td>50p</td> <td></td> </tr> <tr> <td>Extra cheese</td> <td>50p</td> <td></td> </tr> </tbody> </table> <p>A shop sells sun hats.</p> <p>Ryan buys some sunglasses for £4.00 and a sun hat. How much change does he get from £10?</p> <p>Jill orders one small cheese pizza with extra tomato. What is the total cost?</p> <p>Ben buys one small pizza and one medium pizza. They cost him £10. Which two could they be?</p>		Small	Medium	Ham	£4.20	£5.50	Salami	£4.40	£5.75	Mushroom	£4.50	£6.00	Cheese	£3.80	£4.95	Tuna	£4.25	£5.40	Extra tomato	50p		Extra cheese	50p					
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Addition: mental calculations

Year 1: Mental calculations	Vocabulary	Resources
<p>Pupils should memorise and reason with number bonds to 10 and 20 in several forms (e.g. $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$).</p> <p>They should realise the effect of adding or subtracting zero.</p>	<ul style="list-style-type: none"> • Add • altogether • total • more than 	Numicon Number lines Blank number lines Bead strings 100 squares
Year 2		
<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <p>Pupils should practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$, $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$, $100 - 70 = 30$ and $70 = 100 - 30$.</p>	<ul style="list-style-type: none"> • Add • altogether • total • more than • sum 	Numicon Blank number lines Bead strings 100 squares
Year 3		
<p>Add numbers mentally, including:</p> <ul style="list-style-type: none"> • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds <p>For mental calculations with two-digit numbers, the answers could exceed 100.</p>	<ul style="list-style-type: none"> • Add • altogether • total • more than • sum 	Numicon 100 squares
Year 4		
<p>Add mentally combinations of 1-digit and 2-digit numbers; continuing to use increasingly large numbers.</p>	<ul style="list-style-type: none"> • Add • altogether • total • more than • sum • Increase 	Numicon
Year 5		
<p>They should practise mental calculations with increasingly large numbers to aid fluency (e.g. $12\ 462 - 2\ 300 = 10\ 162$).</p>	<ul style="list-style-type: none"> • Add • altogether • total • more than • sum • Increase 	Numicon
Year 6		
<p>They should undertake mental calculations with increasingly large numbers and more complex calculations</p> <p>perform mental calculations, including with mixed operations and large numbers</p>	<ul style="list-style-type: none"> • Add • altogether • total • more than • sum • Increase 	Numicon

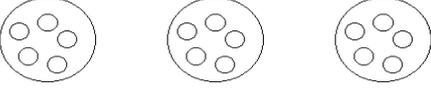
Subtraction: written calculations

Year 1: Number line with divisions		Objectives	Example word problems												
<p>Using a number Line: (with divisions):</p>  <p>$7 - 4 = 3$</p> <p>$25 - 8 = 17$</p>		<p>Subtract a 1 digit number from a one digit.</p> <p>Subtract a two-digit number and a multiple of 10 from a two-digit number.</p>	<p>There are 4 fewer boys than girls in Mr Hill's class. There are 18 girls. How many boys are there in Mr Hill's class?</p> <p>Amy has these coins in her purse.</p>  <p>How much is in Amy's purse? Amy spends 10p. How much does she have left?</p>												
Year 2															
<p>$76 - 41 = 35$</p>  <p>Partitioning $76 - 41 = 35$</p> <p>$76 - 40 = 36$</p> <p>$36 - 1 = 35$</p>		<p>Subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> a two-digit number and ones a two-digit number and tens two two-digit numbers A multiple of 10 from a 2 digit numbers 	<p>Mina and Ben play a game. Mina scores 70 points. Ben scores 42 points. How many more points does Mina score than Ben?</p> <p>A toy costs eight pounds fifty. Kemi pays with a ten pound note. How much change does she get?</p>												
Year 3															
<p>$242 - 131 = 111$</p> 		<p>Subtract numbers with up to 3 digits, using the efficient written method of columnar subtraction.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p>	<p>Subtract forty from one hundred and twenty.</p> <p>This jug has water in it.</p>  <p>Ravi pours 150 millilitres of water out of this jug. How much water will be left in the jug?</p>												
Year 4															
<p>$263 - 125 = 138$</p> 		<p>Add and subtract numbers with up to 4 digits using the efficient written method of columnar addition.</p> <p>Use whole numbers and £p.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p>	<p>Jan buys a newspaper for eighty pence and pays with a five pound note. How much change does she get?</p> <p>These are the prices of sandwiches, drinks and fruit.</p> <table border="1" data-bbox="1157 1355 1428 1489"> <thead> <tr> <th>Sandwiches</th> <th>Drinks</th> <th>Fruit</th> </tr> </thead> <tbody> <tr> <td>ham £1.45</td> <td>milk 55p</td> <td>apple 15p</td> </tr> <tr> <td>tuna £1.70</td> <td>cola 45p</td> <td>pear 20p</td> </tr> <tr> <td>salad £1.20</td> <td>juice 65p</td> <td>melon 25p</td> </tr> </tbody> </table> <p>Shereen buys a tuna sandwich, milk and a pear. How much does she pay?</p> <p>Mike has 80p to spend on a fruit and a drink. What two things can he buy for exactly 80p?</p>	Sandwiches	Drinks	Fruit	ham £1.45	milk 55p	apple 15p	tuna £1.70	cola 45p	pear 20p	salad £1.20	juice 65p	melon 25p
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Year 5															
<p>$563 - 48 = 515$</p> 	<p>$4.31 - 4.1 = 0.221$</p> 	<p>Use efficient written methods to subtract whole numbers and decimals up to 2 decimal places.</p>	<p>A shop sells sun hats.</p>  <p>Ryan buys some sunglasses for £4.69 and a sun hat. How much change does he get from £10?</p> <p>Subtract one point nine from two point seven.</p>												
Year 6															
<p>$402.10 - 243.86 = 158.24$</p> 	<p>$4.31 - 4.1 = 0.221$</p> 	<p>Use efficient written methods to add and subtract whole numbers and decimals up to 2 decimal places.</p>	<p>Calculate $15.05 - 14.84$.</p> <p>Nicola has £50. She buys 3 flowerpots at £12.75 each and a spade at £9.65. How much money does she have left?</p>												

Subtraction: mental calculations

Year 1: Mental calculations	Vocabulary	Resources
<p>represent and use number bonds and related subtraction facts within 20.</p> <p>add and subtract one-digit and two-digit numbers to 20 ($9 + 9$, $18 - 9$), including zero.</p> <p>Pupils should memorise and reason with number bonds to 10 and 20 in several forms (e.g. $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero.</p>	<ul style="list-style-type: none"> • take away • difference between • less than 	Numicon Number lines Blank number lines 100 squares Bead strings
Year 2		
<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Pupils should practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$, $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$, $100 - 70 = 30$ and $70 = 100 - 30$.</p>	<ul style="list-style-type: none"> • take away • difference between • less than 	Numicon Blank number lines 100 squares Bead strings
Year 3		
<p>Subtract numbers mentally, including:</p> <ul style="list-style-type: none"> • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds 	<ul style="list-style-type: none"> • take away • difference between • less than 	Numicon 100 squares
Year 4		
<p>Add mentally combinations of 1-digit and 2-digit numbers; continuing to use increasingly large numbers.</p>	<ul style="list-style-type: none"> • take away • difference between • less than • decrease 	Numicon
Year 5		
<p>They should practise mental calculations with increasingly large numbers to aid fluency (e.g. $12\ 462 - 2\ 300 = 10\ 162$).</p>	<ul style="list-style-type: none"> • take away • difference between • less than • decrease 	Numicon
Year 6		
<p>They should undertake mental calculations with increasingly large numbers and more complex calculations.</p> <p>Perform mental calculations, including with mixed operations and large numbers.</p>	<ul style="list-style-type: none"> • take away • difference between • less than • decrease 	Numicon

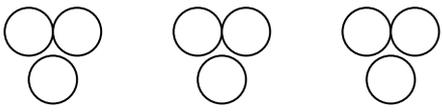
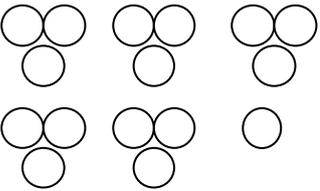
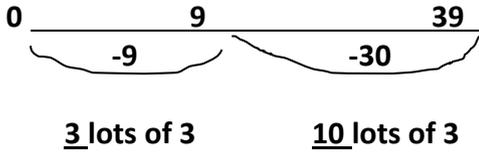
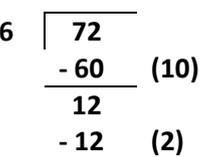
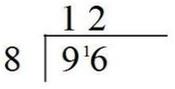
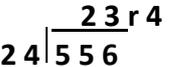
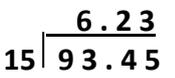
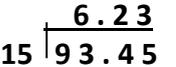
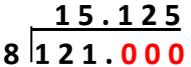
Multiplication: written methods

Year 1: Groupings and arrays		Objectives	Example word problems								
<p>Making sets: 3 x 5 ("3 sets of 5")</p>  <p>Leading to...</p> 		<p>Solve simple one-step problems involving multiplication, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p>	<p>How much money is in the money box?</p>  <p>Count five hops of two along this number line. What number will you reach?</p>								
Year 2: Number line											
<p>Groupings: As in year 1, but with larger numbers. Arrays</p> <p>  1 row of 12  2 rows of 6  3 rows of 4 </p> <p>Repeated addition</p> <p> $4 + 4 + 4 + 4$ 4×4 </p>		<p>Recognise and use the inverse relationship between multiplication and division in calculations</p> <p>They are taught multiplication with larger numbers through equal grouping and relating multiplication tables to arrays and repeated addition.</p>	<p>Ben's dad washes cars. He uses 12 buckets of water. Each bucket has 5 litres of water.</p>  <p>How many litres of water does he have altogether?</p>								
Year 3: Grid method leading to long division											
<p>$13 \times 5 = 665$</p> <table border="1" data-bbox="55 896 327 1052"> <tr> <td>X</td> <td>100</td> <td>30</td> <td>7</td> </tr> <tr> <td>5</td> <td>500</td> <td>150</td> <td>35</td> </tr> </table>	X	100	30	7	5	500	150	35	<p>$149 \times 6 = 894$</p> $\begin{array}{r} 149 \\ \underline{6 \times} \\ 54 \quad (6 \times 9) \\ 240 \quad (6 \times 40) \\ \underline{600} \quad (6 \times 100) \\ 894 \end{array}$	<p>Develop reliable written methods for multiplication, starting with calculations of two-digit numbers by one-digit numbers and progressing to the efficient written methods of short multiplication.</p>	<p>The shop is open for 6 days each week. It is open for 8 hours each day. How many hours is the shop open each week? Show how you work it out.</p>
X	100	30	7								
5	500	150	35								
Year 4: Long division leading to compact (short) method											
<p>$149 \times 6 = 894$</p> $\begin{array}{r} 149 \\ \underline{6 \times} \\ 54 \quad (6 \times 9) \\ 240 \quad (6 \times 40) \\ \underline{600} \quad (6 \times 100) \\ 894 \end{array}$	<p>$256 \times 7 = 1792$</p> $\begin{array}{r} 256 \\ \underline{7 \times} \\ 1792 \\ \underline{\quad} \\ 34 \end{array}$	<p>Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.</p> <p>Pupils should write statements using the distributive law $39 \times 7 = 30 \times 7 + 9 \times 7$ and associative law $(2 \times 3) \times 4 = 2 \times (3 \times 4)$.</p>	<p>One length of the swimming pool is 25 metres. Jane swims 5 lengths of the pool. How far does Jane swim altogether? Kiz swims 225 metres in the pool. How many lengths does he swim?</p> <p>Leila puts 4 seeds in each of her pots. She uses 6 pots and has 1 seed left over. How many seeds did she start with?</p>								
Year 5: Compact (short method)											
<p>$256 \times 7 = 1792$</p> $\begin{array}{r} 256 \\ \underline{7 \times} \\ 1792 \\ \underline{\quad} \\ 34 \end{array}$	<p>$256 \times 17 = 4352$</p> $\begin{array}{r} 256 \\ \underline{17 \times} \\ 17392 \\ 2560 \\ \underline{\quad} \\ 4352 \\ 11 \end{array}$	<p>Multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers</p>	<p>It costs £2.20 for each child to camp each night. They go for 6 nights. How much will each child have to pay for the 6 nights?</p>								
Year 6: Compact (short) method leading to multiplying with decimals											
<p>$256 \times 17 = 4352$</p> $\begin{array}{r} 256 \\ \underline{17 \times} \\ 17392 \\ 2560 \\ \underline{\quad} \\ 4352 \\ 11 \end{array}$	<p>$256 \times 1.7 = 435.2$</p> $\begin{array}{r} 256 \\ \underline{1.7 \times} \\ 1739.2 \\ 256 \\ \underline{\quad} \\ 435.2 \\ 11 \end{array}$	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication</p>	<p>Some children do a sponsored walk. Jason is sponsored for £3.45 for each lap. He does 23 laps. How much money does he raise?</p> <p>'Halve my number and then add 17. The answer is 23.' What is Riaz's number?</p>								

Multiplication: mental calculations

Year 1	Vocabulary	Resources
Count up and back in twos, fives and tens. Count in 5's using the numbers on a clock.	<ul style="list-style-type: none"> • Doubling / double • Groups of 	Numicon
Year 2		
<p>Introduced to multiplication tables. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face.</p> <p>They use inverse relations to develop multiplicative reasoning (e.g. $4 \times 5 = 20$ and $20 \div 5 = 4$).</p>	<ul style="list-style-type: none"> • Doubling / double • Groups of / lots of • Multiply / multiplication • Multiplication tables / times tables 	Numicon Number lines 100 squares
Year 3		
<p>Recall and use multiplication and division facts for the 3, 6, 4 and 8 multiplication tables and make links between them, and the 2 times table.</p> <p>Practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.</p> <p>Develop efficient mental methods, for example $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$ and multiplication and division facts (e.g. using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts ($30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$).</p>	<ul style="list-style-type: none"> • Doubling / double • Groups of / lots of • Multiply / multiplication • Times tables 	Numicon 100 squares
Year 4		
<p>Recall multiplication and division facts for multiplication tables up to 12×12.</p> <p>Pupils should practise mental methods and extend this to three-digit numbers to derive facts, for example $200 \times 3 = 600$ into $600 \div 3 = 200$, to become fluent.</p>	<ul style="list-style-type: none"> • Doubling / double • Groups of / lots of • Multiply / multiplication • Times tables • Factor 	Numicon 100 squares
Year 5		
<p>identify multiples and factors, including finding all factor pairs</p> <p>know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</p>	<ul style="list-style-type: none"> • Doubling / double • Groups of / lots of • Multiply / multiplication • Times tables • Factors / factor pairs • Multiples • Square and cube numbers 	Numicon 100 squares
Year 6		
<p>Identify common factors, common multiples and prime numbers</p> <p>Undertake mental calculations with increasingly large numbers and more complex calculations.</p>	As in year 5	Numicon 100 squares

Division: written calculations

Year 1: Groupings		Objectives	Example word problems
9 grouped in 3's 		Solve simple one-step problems involving division, calculating the answer using concrete objects, pictorial representations and groupings with the support of the teacher. Find simple fractions of objects, numbers and quantities.	Four children share these sweets. They each get the same number of sweets. How many sweets does each child get? 
Year 2: Groupings including remainders			
16 grouped in 3's = 5 groups and 1 left over (remainder) 		Pupils should use a variety of language to describe division. They are taught division with larger numbers through equal sharing out quantities (including divisions where there are remainders) Find more complex fractions of objects, numbers and quantities.	Anna has 54p. She buys as many pencils as she can. How much money will she have left?  Pencil 10p
Year 3 Division on a number line (repeated subtraction) leading to subtracting 'chunks'			
$39 \div 3 = 13$ 		Develop reliable division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the efficient written methods of short division.	Harry saves 20p coins. He has saved £3.20. How many coins has he saved? Show how you work it out. Sadi needs 26 cartons of juice for her party. There are four cartons in a pack. How many packs does she need to buy?
Year 4 : Chunking (including remainders) leading to short division			
$72 \div 6 = 12$ 	$96 \div 8 = 12$ 	Become fluent in the efficient written method of short division with exact answers when dividing by a one-digit number.	One length of the swimming pool is 25 metres. Jane swims 5 lengths of the pool. How far does Jane swim altogether? Kiz swims 225 metres in the pool. How many lengths does he swim?
Year 5: Short division leading to division with decimals			
$556 \div 24 = 23 \text{ r } 4$ 	$93.45 \div 15 = 6.23$ 	Divide numbers up to 4 digits by a one-digit number using the efficient written method of short division. Interpret remainders appropriately for the context, including with remainders, as fractions, as decimals or by rounding (e.g. $98 \div 4 = 24 \text{ r } 2 = 24 \text{ r } 2/4$ or $241/2 = 24.5 \approx 25$).	There are 70 children. Each tent takes up to 6 children. What is the least number of tents they will need? Show your method.
Year 6: Short division leading to division with decimal remainders			
$93.45 \div 15 = 6.23$ 	$121 \div 8 = 15.125$ 	Divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context including with remainders, as fractions, as decimals or by rounding (e.g. $98 \div 4 = 24 \text{ r } 2 = 241/2 = 24.5 \approx 25$).	Lynne wants to raise £100. She is sponsored for £6.50 for each lap. What is the least number of whole laps she must do?

Division: mental calculations

Year 1	Vocabulary	Resources
	<ul style="list-style-type: none"> Sharing 	Numicon
Year 2		
<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p>	<ul style="list-style-type: none"> Sharing Halving Remainder Division / divide 	Numicon Number lines
Year 3		
<p>Recall and use multiplication and division facts for the 3, 6, 4 and 8 multiplication tables.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p>	<ul style="list-style-type: none"> Sharing / share equally Halving / half Remainder Division / divide 	Numicon Number lines
Year 4		
<p>Recall multiplication and division facts for multiplication tables up to 12×12.</p> <p>Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers for example $200 \times 3 = 600$ into $600 \div 3 = 200$, to become fluent.</p> <p>Recognise and use factor pairs.</p>	<ul style="list-style-type: none"> Sharing / share equally Halving / half Remainder Division / divide Factor 	Numicon Number lines
Year 5		
<p>Divide numbers mentally drawing upon known facts.</p> <p>Solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors.</p>	<ul style="list-style-type: none"> Sharing / share equally Halving / half Remainder Division / divide Factor 	Numicon
Year 6		
<p>Perform mental calculations, including with mixed operations and large numbers.</p>	<ul style="list-style-type: none"> Sharing / share equally Halving / half Remainder Division / divide 	Numicon