


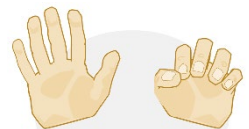

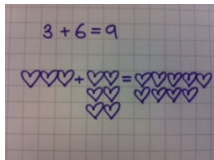
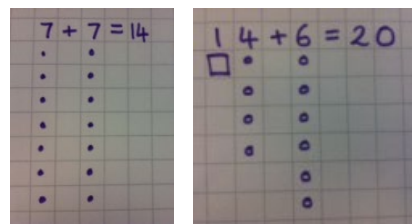

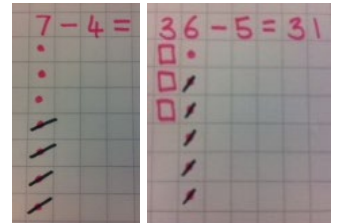
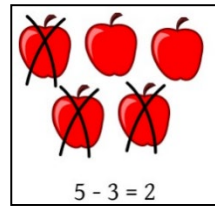
Ebor Gardens and Victoria Primary Academies

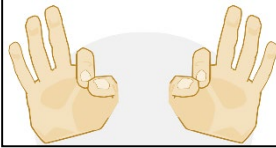
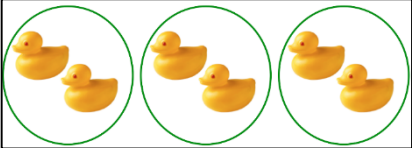

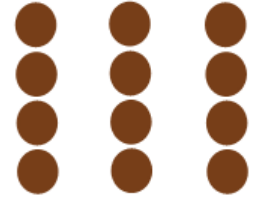
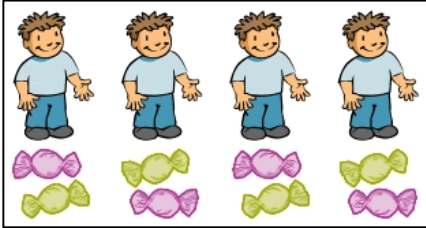
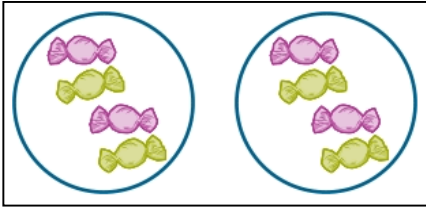
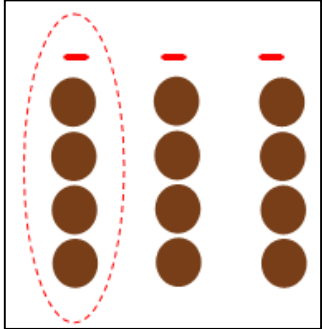


Calculation Policy

Non Statutory Policy	
Policy updated:	September 2019
Adopted by BPP:	October 2019
CoG signature:	
Review date:	September 2020

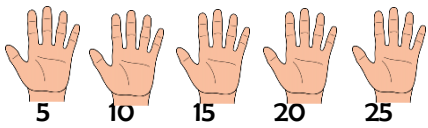
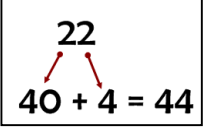
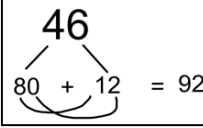
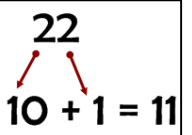
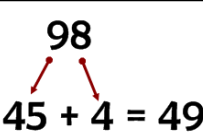
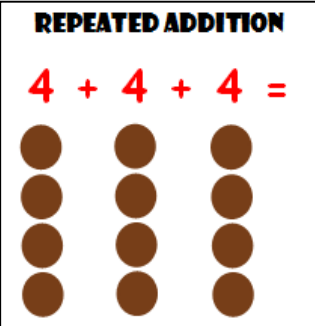
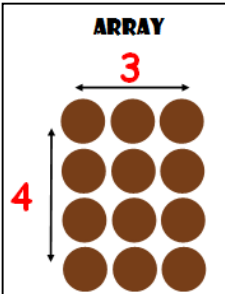
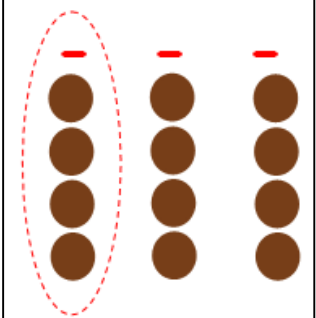
Calculation Policy: F3

Foundation Stage ELG:				
<ul style="list-style-type: none"> • Children 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. • Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. • They solve problems, including doubling, halving and sharing. 				
Addition	Subtraction	Multiplication	Division	
• Know one more for each number to 20.	• Know one less for each number to 20.	• Double each number to 5.	• Half each even number to 10.	
Addition		Subtraction		
Mental Calculation Strategies	<p>Children to find one more than a given number by counting on.</p> <p style="text-align: center;">1 → 2 → 3 → 4 → 5 → 6 → 7 → 8 → 9 → 10</p>	<p>Use fingers as practical apparatus to solve addition calculations.</p> <p style="text-align: center;">$5 + 5 = 10$</p> 	<p>Children to find one less than a given number by counting backwards.</p> <p style="text-align: center;">10 → 9 → 8 → 7 → 6 → 5 → 4 → 3 → 2 → 1</p>	<p>Use fingers as practical apparatus to solve subtraction problems.</p> <p style="text-align: center;">$10 - 5 = 5$</p> 
Written Methods	<p>Solve simple addition problems using objects, pictures or practical apparatus.</p> <p>Combine two sets of objects and count all to find the total.</p>  <p style="text-align: center;">$3 + 3 = 6$</p> <p>Using pictures and marks to illustrate how they have solved an addition problem.</p>  <p style="text-align: center;">$3 + 6 = 9$</p>	<p>Use simplified illustrations (arrays of Maltesers) to create a picture of an addition problem.</p>  <p style="text-align: center;">$7 + 7 = 14$ $14 + 6 = 20$</p> <p>Addition of two numbers horizontally by partitioning into Maltesers and counting all.</p>  <p style="text-align: center;">$27 + 63 = 90$</p>	<p>Solve simple subtraction problems using objects, pictures or practical apparatus.</p> <p>Children to solve subtraction calculations by taking away objects.</p>	<p>Use simplified illustrations (arrays of Maltesers) to create a picture of a subtraction problem.</p>  <p style="text-align: center;">$7 - 4 = 3$ $36 - 5 = 31$</p> <p>Subtraction of two numbers horizontally by partitioning the larger number into Maltesers, crossing out the number to be taken away (beginning at the bottom) and then counting all that are 'left'.</p>  <p style="text-align: center;">$5 - 3 = 2$</p>

	Multiplication		Division	
Mental Calculation Strategies	<p>Counting by rote: Children can count in 2s and 10s.</p> <p>Children can also count by rote using fingers to count in groups.</p> <p>Times tables: Know by heart the facts for the 2x and 10x tables.</p>	<p>Doubling: Children should be able to double each whole number to 5 (recall).</p> <p>Children can use fingers to double each number to 5 ...</p> <p>Example: $3 + 3 = 6$</p> 		<p>Halving: Children should be able to half each even number to 10 (recall).</p>
	<p>Count repeated sets of object: Combine repeated sets of objects. Count objects by grouping into given amounts.</p>  <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Skip Counting: 2, 4, 6</div> <p>Group pictorial arrays into sets i.e group socks into sets of two.</p> 	<p>Repeated Addition: Solve through repeated addition using simple illustrations (arrays of maltesers).</p> <p>E.g. There are 4 apples in a box. How many apples in 3 boxes?</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>REPEATED ADDITION</p> <p>$4 + 4 + 4 =$</p>  </div>	<p>Share objects equally.</p>  	<p>Sharing: Use simplified illustrations (arrays of Maltesers) to create pictures of a division problems.</p> <p>$12 \div 3 =$</p> 
Written Methods				

Calculation Policy: KS1

Yr 1 - Rapid recall objectives (NC links): <ul style="list-style-type: none"> Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations. Children should be able to count in 2s, 5s and 10s. 		Yr 2 - Rapid recall objectives (NC links): <ul style="list-style-type: none"> Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. 		
Addition	Subtraction	Multiplication	Division	
<ul style="list-style-type: none"> Bonds to 10 Bonds to 20 	<ul style="list-style-type: none"> Subtraction facts from 10 Subtraction facts from 20 	<ul style="list-style-type: none"> Times tables: x2, x5, x10 Double numbers to 20 Double multiples of 10 (up to 100) 	<ul style="list-style-type: none"> Halve even numbers to 20 Halve multiples of 10 (up to 100) 	
Yr 1 - Calculations (NC Links): <ul style="list-style-type: none"> Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Add and subtract one-digit and two-digit numbers to 20, including zero 		Yr 2 - Calculations (NC Links): <ul style="list-style-type: none"> Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <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 Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. 		
Addition		Subtraction		
Mental Calculation Strategies:	<p>Addition of a single digit number by counting on (possibly using fingers for support). Children put the big number in their head and count on the number of places indicated by the smaller number.</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: 150px;"> $17 + 9 = 26$ </div>	<p>Addition of a 2-digit number, using partitioning. First add the tens and then add the units.</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: 150px;"> $26 + 18 =$ $26 + 10 = 36$ $36 + 8 = 44$ </div>	<p>Subtraction of a single digit number by counting back (possibly using fingers for support). Children put the big number in their head and count the number of places indicated by the smaller number.</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 10px auto; width: 150px;"> $18 - 7 = 11$ </div>	
Written Methods:	<p>Addition of two numbers horizontally by partitioning into Maltesers and counting all (two digit + one digit, and two digit + two digit).</p> <div style="display: flex; justify-content: space-around;"> </div>	<p>Addition of two numbers horizontally by partitioning the smaller number into Maltesers and counting 'on' (putting the biggest number first)</p> <div style="display: flex; justify-content: space-around;"> </div>	<p>Subtraction of two numbers horizontally by partitioning the larger number into Maltesers, crossing out the number to be taken away (beginning at the bottom) and then counting all that are 'left'.</p> <div style="text-align: center; margin: 10px auto;"> </div>	<p>Subtraction of two numbers horizontally where a packet of 10 Maltesers needs to be opened - 'split'</p> <div style="display: flex; justify-content: space-around;"> </div>

	Multiplication		Division	
Mental Calculation Strategies	<p>Counting by rote: Children can count in 2s, 3s, 5s and 10s. E.g. counting fingers in 5s ...</p>  <p>Children can also count by rote using fingers to group in groups.</p> <p>Times tables: Know by heart the facts for the 2x, 5x and 10x tables.</p>	<p>Doubling: Children should be able to double each whole number to 10 (recall). For higher numbers, children should begin to use their knowledge of place value to partition, double each digit and then recombine.</p>  	<p>Counting by rote: Children can use knowledge of the inverse to find division facts. Example: $40 \div 10 = 4$ Use fingers to count in groups of 10 until you reach 40. How many groups did they count?</p> <p><i>This strategy should be used for known tables (2x, 5x and 10x in KS1).</i></p>	<p>Halving: Children should be able to half each even number to 20 (recall). For higher numbers, children should begin to use their knowledge of place value to partition, half each digit and then recombine (focus on even numbers to 100).</p>  
	Written Methods	<p>Repeated Addition: Solve through repeated addition. E.g. There are 4 apples in a box. How many apples in 3 boxes?</p> 	<p>Arrays: Use simplified illustrations (arrays of Maltesers) to create pictures of a multiplication problem. E.g. There are 4 apples in a box. How many apples in 3 boxes?</p> 	<p>Sharing: Use simplified illustrations (arrays of Maltesers) to create pictures of a division problems. $12 \div 3 =$</p> 

Calculation Policy: LKS2

Yr 3 - Rapid recall objectives (NC links): <ul style="list-style-type: none"> Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Through doubling, they connect the 2, 4 and 8 multiplication tables. 		Yr 4 - Rapid recall objectives (NC links): <ul style="list-style-type: none"> Recall multiplication and division facts for multiplication tables up to 12×12 Recognise and use factor pairs and commutativity in mental calculations 		
Addition	Subtraction	Multiplication	Division	
<ul style="list-style-type: none"> Know <u>all</u> bonds to 10 (use these to work out the related multiples of 10 bonds). Know all bonds to 100. 	<ul style="list-style-type: none"> Know all subtraction facts to 10 (use these to work the related multiples of 10 bonds). Know all subtraction facts to 100. 	<ul style="list-style-type: none"> Times tables: 2x, 5x, 10x (from KS1) Times Tables: 3x, 4x, 6x and 8x (new for LKS2) Double numbers to 100 	<ul style="list-style-type: none"> Know related division facts for known times tables (2x, 3x, 4x, 5x, 6x, 8x) Halve all numbers to 100 	
Yr 3 - Calculations (NC Links): <ul style="list-style-type: none"> Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100 when calculating. Pupils should be taught to add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and ones a three-digit number and tens a three-digit number and hundreds Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. 		Yr 4 - Calculations (NC Links): <ul style="list-style-type: none"> By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. 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 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. 		
Addition		Subtraction		
Mental Calculation Strategies	Addition of a single digit number by counting on (possibly using fingers for support). Children put the big number in their head and count on the number of places indicated by the smaller number. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"> </div>	Addition of a 2-digit number, using partitioning. First add the tens and then add the units. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"> $26 + 18 =$ </div>	Subtraction of a single digit number by counting back (possibly using fingers to support). Children put the big number in their head and count the number of places indicated by the smaller number. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"> </div>	Subtraction of a 2-digit number, using partitioning. First subtract the tens and then subtract the units. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"> $26 - 14 =$ </div>
Written Methods	Addition of two numbers horizontally by partitioning the smaller number into Maltesers and counting 'on' (putting the biggest number first) <div style="text-align: center; margin: 10px 0;"> </div>	Column Addition: add the numbers by organising in columns. Top tips: <ol style="list-style-type: none"> 1) Line up your digits. 2) Carry your digits at the top. 3) Line up your decimals. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"> $\begin{array}{r} 1 \\ 721 \\ + 209 \\ \hline 930 \end{array}$ </div>	Subtraction of two numbers horizontally by partitioning the larger number into Maltesers, crossing out the number to be taken away (beginning at the bottom) and then counting all that are 'left'. <div style="text-align: center; margin: 10px 0;"> </div>	Column Subtraction: subtract the numbers by organising in columns. Top tips: <ol style="list-style-type: none"> 1) Line up your digits. 2) Borrow from your Neighbor. 3) Line up your decimals. <div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px 0;"> $\begin{array}{r} 6 \\ 729 \\ - 569 \\ \hline 160 \end{array}$ </div>

	Multiplication		Division	
Mental Calculation Strategies	<p>Counting by rote:</p> <p>Children can count from 0 in 4s, 8s, 50s and 100s (Yr3) and count from 0 in 6s, 7s, 9s, 25s and 1000 (Yr4).</p> <p>Children can also count by rote using fingers to group in groups.</p> <p>Times tables:</p> <p>Know by heart the facts for the 2x, 3x, 4x, 5x, 8x and 10x tables (Yr3).</p> <p>By the end of Yr4, children should know by heart the facts for all tables up to x12.</p>	<p>Doubling:</p> <p>Children should be able to double each whole number to 100.</p> <p>For higher numbers, children should begin to use their knowledge of place value to partition, double each digit and then recombine.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 22 \\ \swarrow \quad \searrow \\ 40 + 4 = 44 \end{array}$ </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 46 \\ \swarrow \quad \searrow \\ 80 + 12 = 92 \end{array}$ </div> </div>	<p>Counting by rote:</p> <p>Children can use knowledge of the inverse to find division facts.</p> <p>Example: $40 \div 10 = 4$</p> <p>Use fingers to count in groups of 10 until you reach 40. How many groups did they count?</p> <p><i>This strategy should be used for known tables (2x, 3x, 4x, 5x, 8x and 10x in Yr3). It should be used for all tables to x12 in Yr4.</i></p>	<p>Halving:</p> <p>Children should be able to half each number to 100.</p> <p>For higher numbers, children should begin to use their knowledge of place value to partition, half each digit and then recombine (focus on even numbers to 100).</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 22 \\ \swarrow \quad \searrow \\ 10 + 1 = 11 \end{array}$ </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 98 \\ \swarrow \quad \searrow \\ 45 + 4 = 49 \end{array}$ </div> </div>
	Written Methods	<p>Arrays:</p> <p>Use simplified illustrations (arrays of Maltesers) to create pictures of a multiplication problem.</p> <p>E.g. There are 4 apples in a box. How many apples in 3 boxes?</p> <div style="text-align: center;"> <p>ARRAY</p> </div>	<p>Short Multiplication: children need to use the multiplication tables they know to solve 2/3-digit numbers times 1-digit numbers. <i>(They should progress from mental methods to formal written methods).</i></p> <div style="text-align: center; border: 1px solid black; padding: 10px;"> $\begin{array}{r} \cancel{3} \\ 28 \\ \times 4 \\ \hline 112 \end{array}$ </div>	<p>Arrays and Grouping:</p> <p>Use simplified illustrations (arrays of Maltesers) to create pictures of a division problems.</p> <p>Array – sharing: $12 \div 3 =$</p> <p>Grouping: $363 \div 3 =$</p>

Calculation Policy: UK\$2

Yr 5 - Rapid recall objectives (NC links): <ul style="list-style-type: none"> • Multiply and divide numbers mentally drawing upon known facts 		Yr 6 - Rapid recall objectives (NC links): <ul style="list-style-type: none"> • Pupils continue to use all the multiplication tables to calculate mathematical statements. 	
Addition	Subtraction	Multiplication	Division
•	•	<ul style="list-style-type: none"> • All tables to x12 • Double numbers to 1000 • Recall prime numbers to 19 	<ul style="list-style-type: none"> • Know related division facts for all tables to x12 • Halve numbers to 1000 • Divide numbers by 10/100/1000
Yr 5 - Calculations (NC Links): <ul style="list-style-type: none"> • Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). • Add and subtract numbers mentally with increasingly large numbers. • 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. • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 		Yr 6 - Calculations (NC Links): <ul style="list-style-type: none"> • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • 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 number using the formal written method of short division where appropriate, interpreting remainders according to the context 	
	Addition	Subtraction	
Mental Calculation Strategies	Addition of a 2/3-digit number, using partitioning. First add the hundred, tens and then add the units. <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $125 + 132 = 257$ $100 + 100 = 200$ $20 + 30 = 50$ $5 + 2 = 7$ </div>	Subtraction of a 2/3-digit number, using partitioning. First subtract the hundreds, then the tens and then the units. <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $145 + 132 = 13$ $100 - 100 = 0$ $40 - 30 = 10$ $5 - 2 = 3$ </div>	
Written Methods	Column Addition: add the numbers by organising in columns. Top tips: 1) Line up your digits. 2) Carry your digits at the top. 3) Line up your decimals. <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\begin{array}{r} 1 \\ 721 \\ + 209 \\ \hline 930 \end{array}$ </div>	Column Subtraction: subtract the numbers by organising in columns. Top tips: 1) Line up your digits. 2) Borrow from your Neighbor. 3) Line up your decimals. <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> $\begin{array}{r} 6 \\ \cancel{7}29 \\ + 569 \\ \hline 160 \end{array}$ </div>	

	Multiplication		Division	
Mental Calculation Strategies	<p>Doubling:</p> <p>Children should be able to double each whole number to 1000.</p> <p>For higher numbers, children should begin to use their knowledge of place value to partition, double each digit and then recombine.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 22 \\ \swarrow \quad \searrow \\ 40 + 4 = 44 \end{array}$ </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 46 \\ \swarrow \quad \searrow \\ 80 + 12 = 92 \end{array}$ </div> </div>	<p>Mental multiplication using partitioning:</p> $17 \times 5 =$ $10 \times 5 = 50$ $7 \times 5 = 35$ $50 + 35 = 85$	<p>Halving:</p> <p>Children should be able to half each number to 1000.</p> <p>For higher numbers, children should begin to use their knowledge of place value to partition, half each digit and then recombine (focus on even numbers to 100).</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 22 \\ \swarrow \quad \searrow \\ 10 + 1 = 11 \end{array}$ </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> $\begin{array}{c} 98 \\ \swarrow \quad \searrow \\ 45 + 4 = 49 \end{array}$ </div> </div>	
Written Methods	<p>Short Multiplication: children need to use the multiplication tables they know to solve 2-digit numbers times 1-digit numbers <i>(they should progress from mental methods to formal written methods).</i></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> $\begin{array}{r} \cancel{3} \\ 28 \\ \times 4 \\ \hline 112 \end{array}$ </div>	<p>Long Multiplication: Use long multiplication to multiply up to 4-digits by a 2-digit number.</p> <p>Top Tips: Line up the digits Carry at the top – cross out the digits you have carried to avoid adding them twice.</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> $\begin{array}{r} 1 \\ \cancel{1} \cancel{2} \\ 124 \\ \times 35 \\ \hline 620 \\ 3720 \\ \hline 4340 \end{array}$ </div>	<p>Short Division (bus stop): Children should use known multiplication tables to solve 2/3-digit numbers divided by 1 digit. <i>(They should progress from mental methods to formal written methods).</i></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> $\begin{array}{r} 56 \\ \overline{4 \mid 22^2} \\ 4 \\ \hline 22 \\ 4 \\ \hline 2 \\ 4 \\ \hline 0 \end{array}$ </div>	

National Curriculum Aims:

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Mathematics Appendix 1: Examples of formal written methods for addition, subtraction, multiplication and division

This appendix sets out some examples of formal written methods for all four operations to illustrate the range of methods that could be taught. It is not intended to be an exhaustive list, nor is it intended to show progression in formal written methods. For example, the exact position of intermediate calculations (superscript and subscript digits) will vary depending on the method and format used.

For multiplication, some pupils may include an addition symbol when adding partial products. For division, some pupils may include a subtraction symbol when subtracting multiples of the divisor.

Addition and subtraction

789 + 642 becomes

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \\ \hline 1 \quad 1 \end{array}$$

Answer: 1431

874 - 523 becomes

$$\begin{array}{r} 874 \\ - 523 \\ \hline 351 \end{array}$$

Answer: 351

932 - 457 becomes

$$\begin{array}{r} 8 \quad 12 \quad 1 \\ 932 \\ - 457 \\ \hline 475 \end{array}$$

Answer: 475

932 - 457 becomes

$$\begin{array}{r} 1 \quad 1 \\ 932 \\ - 457 \\ \hline 475 \end{array}$$

Answer: 475

Short multiplication

24 × 6 becomes

$$\begin{array}{r} 24 \\ \times 6 \\ \hline 144 \\ \hline 2 \end{array}$$

Answer: 144

342 × 7 becomes

$$\begin{array}{r} 342 \\ \times 7 \\ \hline 2394 \\ \hline 2 \quad 1 \end{array}$$

Answer: 2394

2741 × 6 becomes

$$\begin{array}{r} 2741 \\ \times 6 \\ \hline 16446 \\ \hline 4 \quad 2 \end{array}$$

Answer: 16446

Long multiplication

24 × 16 becomes

$$\begin{array}{r} 2 \\ 24 \\ \times 16 \\ \hline 240 \\ 144 \\ \hline 384 \end{array}$$

Answer: 384

124 × 26 becomes

$$\begin{array}{r} 1 \quad 2 \\ 124 \\ \times 26 \\ \hline 2480 \\ 744 \\ \hline 3224 \\ \hline 1 \quad 1 \end{array}$$

Answer: 3224

124 × 26 becomes

$$\begin{array}{r} 1 \quad 2 \\ 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \\ \hline 1 \quad 1 \end{array}$$

Answer: 3224

Short division

98 ÷ 7 becomes

$$\begin{array}{r} 14 \\ 7 \overline{) 98} \end{array}$$

Answer: 14

432 ÷ 5 becomes

$$\begin{array}{r} 86 \text{ r}2 \\ 5 \overline{) 432} \end{array}$$

Answer: 86 remainder 2

496 ÷ 11 becomes

$$\begin{array}{r} 45 \text{ r}1 \\ 11 \overline{) 496} \end{array}$$

Answer: 45 $\frac{1}{11}$

Long division

432 ÷ 15 becomes

$$\begin{array}{r} 28 \text{ r}12 \\ 15 \overline{) 432} \\ \underline{300} \\ 132 \\ \underline{120} \\ 12 \end{array}$$

Answer: 28 remainder 12

432 ÷ 15 becomes

$$\begin{array}{r} 28 \\ 15 \overline{) 432} \\ \underline{300} \\ 132 \\ \underline{120} \\ 12 \end{array} \begin{array}{l} 15 \times 20 \\ 15 \times 8 \end{array}$$

$$\frac{12}{15} = \frac{4}{5}$$

Answer: 28 $\frac{4}{5}$

432 ÷ 15 becomes

$$\begin{array}{r} 28 \cdot 8 \\ 15 \overline{) 432 \cdot 0} \\ \underline{30} \downarrow \\ 132 \\ \underline{120} \downarrow \\ 120 \\ \underline{120} \\ 0 \end{array}$$

Answer: 28.8

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