



Brown Clee
C.E. Primary

School:

EYFS & KS1 Calculation
Policy



KS1 Calculation Policy

This document shows the way in which just the use of all four operations are **typically** taught across KS1. It is important to remember that often a mental strategy can be more suitable and efficient when solving a problem.

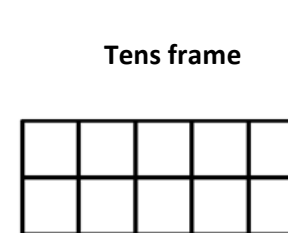
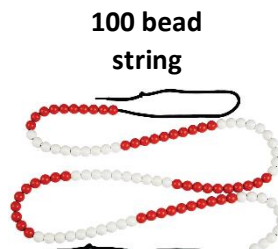
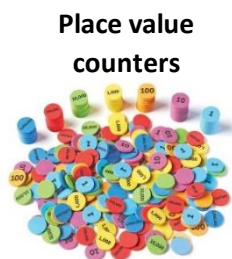
All four operations are separated into 3 different representations: *concrete*, *pictorial* and *abstract*.

Concrete representations are where physical equipment (or “manipulatives”) are used to help understand a mathematical concept. Although specific examples are given throughout the document, a wide range of equipment will be used (some examples are included below). It is important that children experience a range of different representations when learning mathematical concepts.

Pictorial representations are where drawings/pictures are used to help understand a mathematical concept. These can be just picture of a concrete representations (e.g. a drawing of base 10) or it could be strategies such as bar models, par-part-whole models or number lines. Again, it is important that children experience a range of different representations.

Abstract representations are where numbers (or letters) are used to represent a mathematical concept.

This is the representation which is typical thought of as “maths” and is usually the most efficient; however, understanding just an abstract representation (and not pictorial and concrete versions) can suggest that the actual mathematical concept is not completely understood.





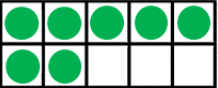

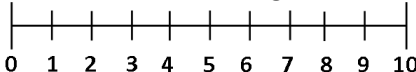


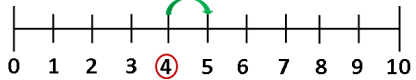
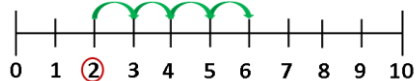

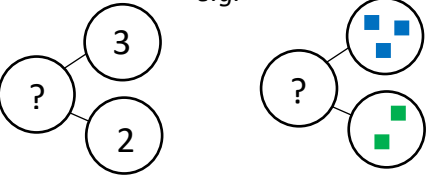
100 square

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



Calculation Policy – Addition – Reception

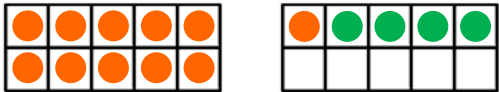
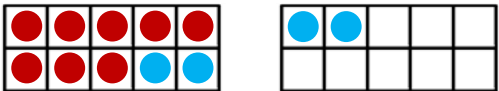
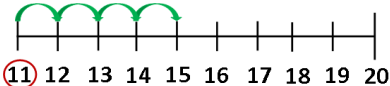
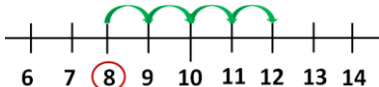
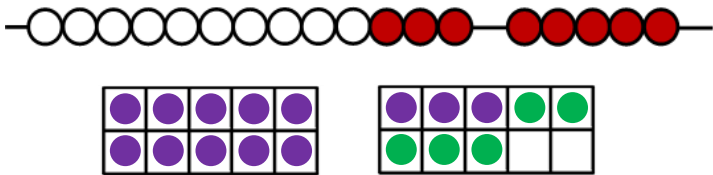
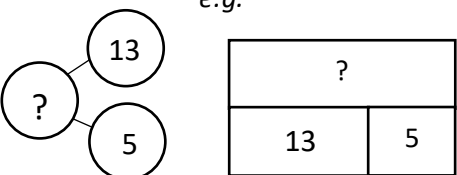
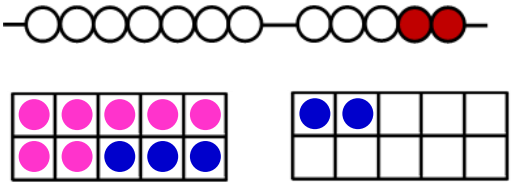
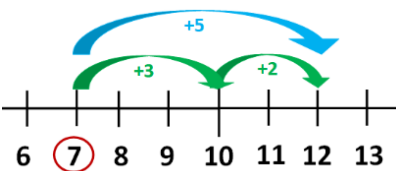


Objective	Concrete	Pictorial	Abstract
<p>Year R – Counting in 1s from 0 (up to 10) (up to 20)</p>	<p>Children to count physical objects:</p> <p><i>e.g. How many teddy bears are there?</i></p>  <p><i>e.g. How many blue counters are there?</i></p>  <p>Children will be introduced to common manipulatives: <i>e.g. Count out 7 beads on the bead strings.</i> <i>How many counters are there in our 10s frame?</i></p> 	<p>Children to count pictures of things: e.g.</p>  <p>Number lines to be introduced as a way of counting.</p> 	<p>Children verbally counting without any objects or pictures: <i>e.g. count to 10.</i></p> <p>Children to write numbers in the correct order</p> <p>Children to move onto filling in missing numbers (verbally and written): <i>e.g. What's the missing number?</i></p> <p>1, 2, 3, 4, __, 6, 7, 8, 9</p>
<p>Year R – Counting in 1s from a number (up to 10) (up to 20)</p>	<p>Children encouraged to count from a given number (rather than zero) by first finding one more. <i>e.g. Child starts with 7 multilink and counts out 1 more.</i> <i>How many multilink do you have now?</i></p>  <p>Children to count from a given number: <i>e.g. Child starts with 4 multilink and counts out 3 more.</i> <i>How many multilink do you have now?</i></p> 	<p>Children to use number lines to help count on from a given number: <i>e.g. What's one more than 4?</i></p>  <p><i>What's four more than 2?</i></p> 	<p>Children beginning to use mathematical sentences to show addition</p> <p>Children to say what is more than a given number by counting on: <i>e.g. 5 + 3?</i></p> <p>Fingers could still be used to help counting; however, it is important to start from the given number – e.g. 5... 6... 7... 8...</p>
<p>Year R - Combining two parts to make a whole (up to 10) (up to 20)</p>	<p>Children to combine two separate values – ideally by counting up from one of the values. Children should begin subitising (instantly recognising the amount) of small quantities.</p> <p><i>e.g. How many counters are there altogether?</i></p>  <p>Children could count on four from 3 (by recognising there are 3 orange counters) or count on three from 4 (by recognising there are 4 purple counters).</p>	<p>Children to use part-part-whole models to show two parts combining to make a whole: <i>e.g.</i></p> 	<p>Children to mentally combine groups: <i>e.g. 3 + 2 = ?</i></p> <p>Children beginning to recognise and recall the number bonds which make 10. <i>i.e. 0+10, 1+9, 2+8, 3+7, 4+6, 5+5</i></p>



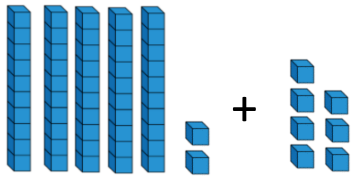
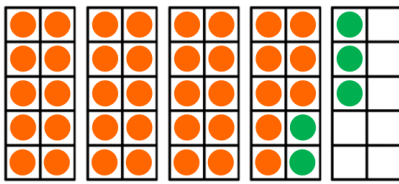
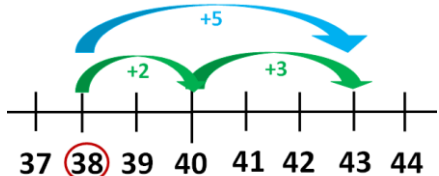
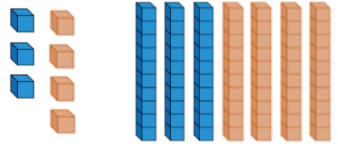
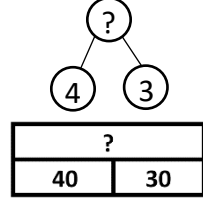
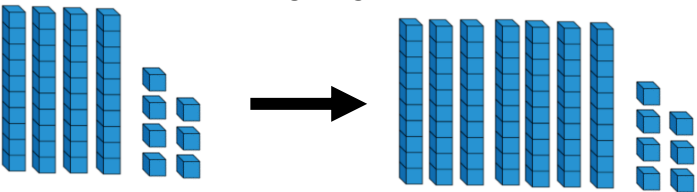
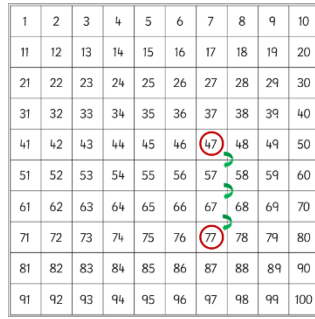
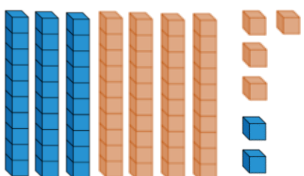
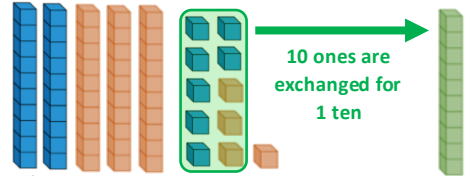
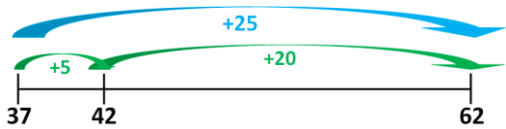
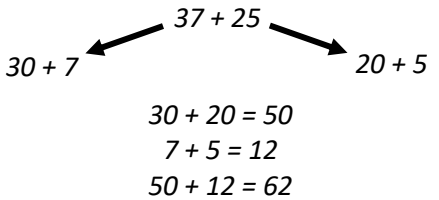
Calculation Policy – Addition – Year 1



Objective	Concrete	Pictorial	Abstract
<p>Year 1 – Counting in 1s from a number (up to 20)</p>	<p>Children to use manipulatives (such as tens frames) to count on from a given number: <i>e.g. What is 4 more than 11?</i></p>  <p>Children will also add values which cross over 10: <i>e.g. What is 4 more than 8?</i></p> 	<p>Children to use number lines to help count on from a given number: <i>e.g. What is 4 more than 11?</i></p>  <p><i>What is 4 more than 8?</i></p> 	<p>Children to say what is several more than a given number by counting on: <i>e.g. What is three more than 13?</i></p> <p>Fingers could still be used to help counting; however, it is important to start from the given number: <i>e.g. 13... 14... 15... 16...</i></p> <p>Children to express counting on as number sentences: <i>e.g. 13 + 3 = 16</i></p>
<p>Year 1 - Combining two parts to make a whole (up to 20)</p>	<p>Children to combine two separate values. Manipulatives (e.g. bead string and 10s frame) will encourage children to recognise 10. <i>e.g. 13 + 5 = ?</i></p> 	<p>Children to use part-part-whole models and bar models to show two parts combining to make a whole: <i>e.g.</i></p> 	<p>As children become more familiar with numbers, they should be able to add smaller amounts together mentally (without counting) - <i>e.g. 2 + 2 = 4.</i></p> <p>Children to recognise and recall the number bonds which make 10. <i>i.e. 0+10, 1+9, 2+8, 3+7, 4+6, 5+5</i></p>
<p>Year 1 - Adding together numbers which bridge 10 by regrouping</p>	<p>Children to combine two amounts which bridge (cross over) 10. With manipulatives, this is the same process as above. <i>e.g. 7 + 5 = ?</i></p>  <p>With the above example, children to recognise that 7 and 3 make 10 and two more than 10 is 12.</p>	<p>Children to use their number bonds to 10 to regroup numbers to make 10.</p>  <p>Children to recognise that 7 and 3 make 10 and two more than 10 is 12.</p>	<p>This is perhaps the most efficient strategy for adding mentally.</p> <p>By using their knowledge of number bonds, children to add numbers (which bridge 10) mentally by regrouping numbers so that they first make 10 - <i>e.g. 4 + 7 = 10 + 1 = 11</i></p>







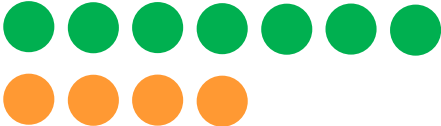
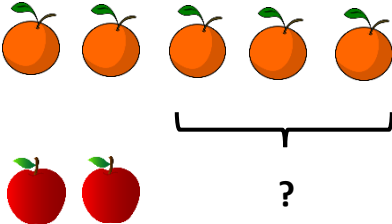
Calculation Policy – Addition – Year 2

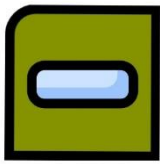
Objective	Concrete		Pictorial	Abstract
Year 2 - Adding a 1-digit number to a 2-digit number (including bridging)	Children to use their understanding a place value to add a 1-digit number to a 2-digit number: e.g. $52 + 7 = ?$ 	If a calculation bridges 10, children need to regroup their numbers to make 10. e.g. $38 + 5 = ?$ 	As well as using pictures of base 10 and tens frames, number lines can be used visually demonstrate an addition: e.g. $38 + 5 = ?$ 	This is perhaps the most efficient strategy for adding mentally. By using their knowledge of number bonds, children to add numbers (which bridge 10) mentally by regrouping numbers so that they first make 10 - e.g. $38 + 5 = 40 + 3 = 43$
Year 2 - using known facts	As children begin to become more familiar with numbers, they should begin to use known facts to help solve questions quicker. e.g. If $3 + 4 = 7$, then $30 + 40 = 70$. 		Bar models and part-part-whole models are useful for visualising calculations 	Through the different representations and use of manipulatives, children should begin to notice the patterns between numbers. e.g. If $3 + 4 = 7$, what is $30 + 40$?
Year 2 - Adding multiples of 10 to a 2-digit number	Children to add tens to a 2-digit number by using place value knowledge: e.g. $47 + 30 = ?$  Children to recognise that the ones value does not change.		As well as using pictures of base 10 and tens frames, number lines or 100 squares can be used: e.g. $47 + 30 = ?$ 	By recognising that when adding multiples of 10, the ones column stays the same, children should begin to add multiples of 10 to 2-digit numbers mentally: e.g. $47 + 30 = 40 + 30 + 7 = 70 + 7 = 77$
Year 2 - adding two 2-digit numbers	Children to combine adding tens and adding ones. e.g. $32 + 44 = ?$  There are 7 tens and 6 ones - which is 76.	e.g. $27 + 34 = ?$  After exchanging, there are 6 tens and 1 ones - which is 61.	As well as using pictures of base 10 and tens frames, number lines or 100 squares can be used: e.g. $37 + 25 = ?$ 	Children to write out their partitioned workings: e.g. 



Calculation Policy – Subtraction – Reception

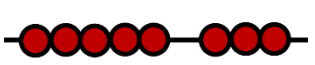
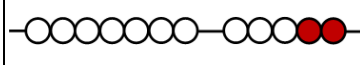
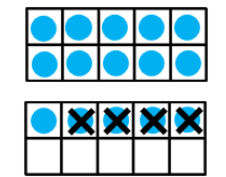
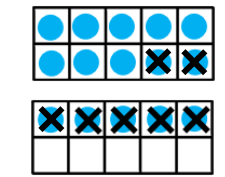
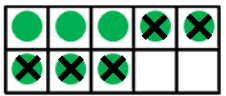
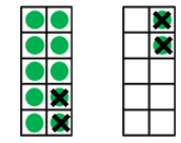
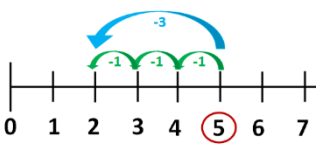
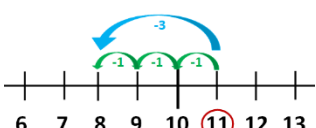

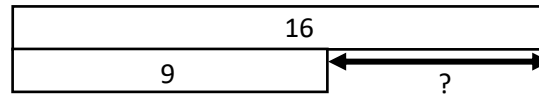
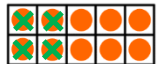


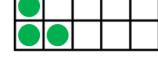
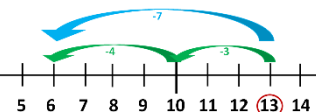
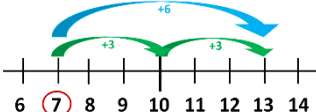


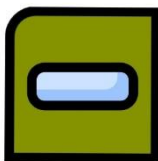
Objective	Concrete	Pictorial	Abstract
<p>Year R - Take away in ones and recount</p>	<p>Children to count the number taken away and recount the remainder: <i>e.g. If I had 9 teddy bears and took three away, how many are left?</i></p>  <p>After counting out and removing three of the teddy bears, children to recount how many are left over.</p>	<p>Children to count out and cross off images when taking away. Then, count the remaining images: <i>e.g. $5 - 3 = ?$</i></p> 	<p>This is a very difficult concept to achieve abstractly at this age; however, with smaller numbers, some children may be able to picture taking away something in their head and counting how many are left.</p>
<p>Year R - Counting backwards in ones from a given number</p>	<p>Children to count backwards from the starting number: <i>e.g. If you took 2 counters away, how many would be left?</i></p>  <p>After removing one each time, children to count backwards from starting value: <i>e.g. 7... 6... 5.</i> Fingers are useful for remember how far has been counted back.</p>	<p>Children to count back from starting number (crossing off each one as they count): <i>e.g. If I took 4 stars away, how many would be left?</i></p>  <p>Children start with starting value and count back: <i>e.g. 6... 5... 4... 3... 2.</i> Again, fingers are useful.</p>	<p>Children to fill in missing numbers with descending numbers: <i>e.g. 10, 9, 8, 7, 6, 5, __, 4, 3, 2, 1</i></p> <p>Children to start with the starting value and count back in their heads (fingers could be used to help track how many they have counted back).</p> <p><i>e.g. $5 - 2 = ?$</i></p> <p><i>5... 4... 3.</i></p>
<p>Year R - Finding the difference between two amounts</p>	<p>Children to compare two amount and see how many more of something there is: <i>e.g. How many more green counters are there than orange ones?</i></p> 	<p>Children to compare images of different amounts: <i>e.g. How many more apples are there than oranges?</i></p> 	<p>Children beginning to use mathematical sentences to show differences: <i>e.g. $5 - 3 = ?$</i></p> <p>Children to compare values mentally. <i>e.g. How much more is 5 than 3?</i></p>



Calculation Policy – Subtraction – Year 1

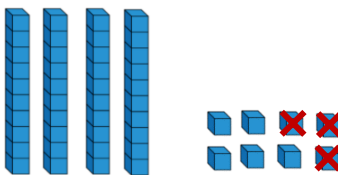
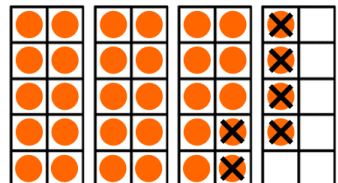
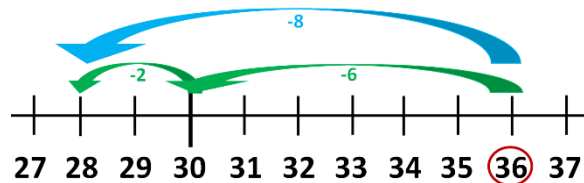
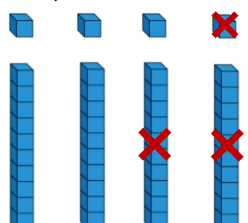
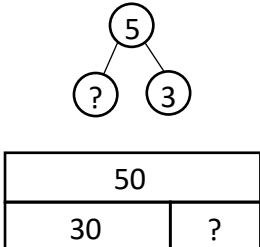
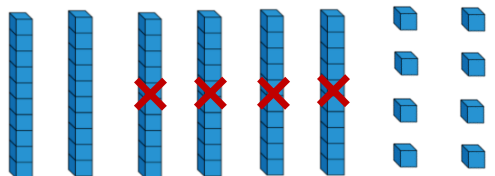
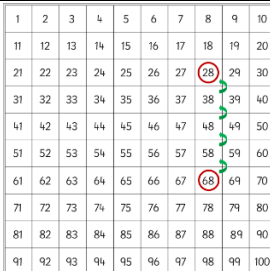
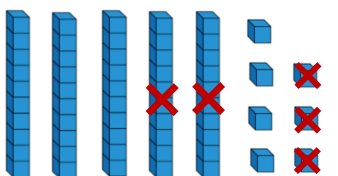
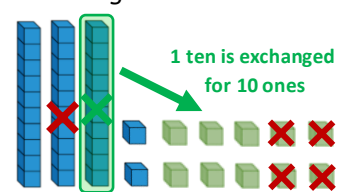
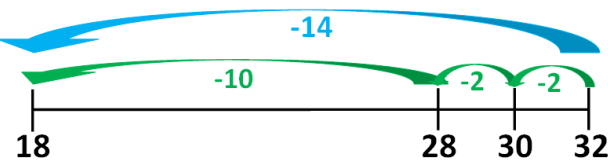


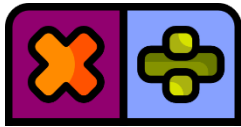
Objective	Concrete	Pictorial	Abstract						
<p>Year 1 - Taking away and recounting remainder</p>	<p>Children to count the number taken away and recount the remainder. Children should be beginning to subitise (recognise amounts instantly) to help with calculations:</p> <p><i>e.g. $8 - 3 = ?$</i></p>  <p><i>e.g. $12 - 5 = ?$</i></p>  <p>With bead strings, children to move beads across and recount remainder.</p>	<p>Children to use images of objects or manipulatives (e.g. 10s frames) to cross off and recount.</p> <p><i>e.g. $15 - 4 = ?$</i></p>  <p><i>e.g. $15 - 7 = ?$</i></p> 	<p>This is a very difficult concept to achieve abstractly; however, with smaller numbers, some children may be able to picture taking away and counting how many are left.</p> <p>Children are more likely to prefer a different strategy when solving abstractly.</p>						
<p>Year 1 - Counting backwards from a given number</p>	<p>Children to count backwards from the starting number, removing an object each time. Fingers are useful for remembering how far has been counted back.</p> <p><i>e.g. $8 - 5 = ?$</i></p>  <p>8... 7... 6... 5... 4... 3.</p> <p><i>e.g. $12 - 4 = ?$</i></p>  <p>12... 11... 10... 9... 8.</p>	<p>As well as using images of objects or manipulatives, children to use number lines or 100 squares to visualise counting backwards.</p> <p><i>e.g. $5 - 3 = ?$</i></p>  <p><i>e.g. $11 - 3 = ?$</i></p> 	<p>Children to start with starting value and count backwards mentally (fingers could be used to help track how many they have counted back).</p> <p><i>e.g. $13 - 5 = ?$</i></p>						
<p>Year 1 - Find the difference between 2 values</p>	<p>Children to compare two amount and see how many more of something there is: <i>e.g. What is the difference between 16 and 9?</i></p> 	<p>Children begin by using images of different amounts and move onto bar models: <i>e.g. What is the difference between 16 and 9?</i></p> 	<p>This is a very difficult concept to achieve abstractly at; however, with smaller numbers, some children may be able to picture the difference.</p>						
<p>Year 1 - Subtracting one number from another by making 10</p>	<p>Children to count back from 1st number: <i>e.g. $13 - 7 = ?$</i></p>   <p>$13 - 3 = 10$ $10 - 4 = 6$</p> <p>Children to count forwards from 2nd: <i>e.g. $13 - 7 = ?$</i></p>   <p>$7 + 3 = 10$ $10 + 3 = 13$ $3 + 3 = 6$</p>	<p>Number lines are an effective way to demonstrate counting back to 10 visually: <i>e.g. $13 - 7 = ?$</i></p>  <p>How far back to 10 = 3 How much further = 4 End up at = <u>6</u></p>  <p>How much to reach 10 = 3 How much further to 13 = 3 How much altogether = <u>6</u></p>	<p>Children to solve mentally or with workings: <i>e.g. $13 - 7 = ?$</i></p> <table border="0"> <tr> <td>Get to 10: $13 - \underline{3} = 10$</td> <td>Get to 10: $7 + \underline{3} = 10$</td> </tr> <tr> <td>How much further: $7 - 3 = \underline{4}$</td> <td>How much further to 13: $10 + \underline{3} = 13$</td> </tr> <tr> <td>End at: $10 - 4 = \underline{6}$</td> <td>Altogether: $3 + 3 = \underline{6}$</td> </tr> </table>	Get to 10: $13 - \underline{3} = 10$	Get to 10: $7 + \underline{3} = 10$	How much further: $7 - 3 = \underline{4}$	How much further to 13: $10 + \underline{3} = 13$	End at: $10 - 4 = \underline{6}$	Altogether: $3 + 3 = \underline{6}$
Get to 10: $13 - \underline{3} = 10$	Get to 10: $7 + \underline{3} = 10$								
How much further: $7 - 3 = \underline{4}$	How much further to 13: $10 + \underline{3} = 13$								
End at: $10 - 4 = \underline{6}$	Altogether: $3 + 3 = \underline{6}$								



Calculation Policy – Subtraction – Year 2

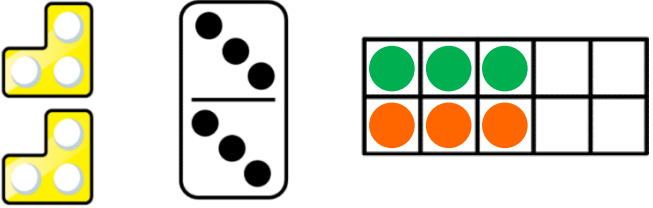
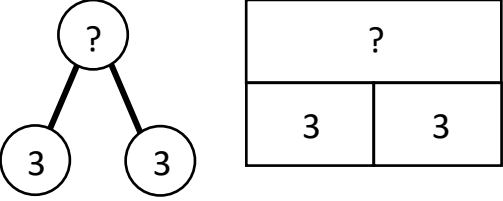
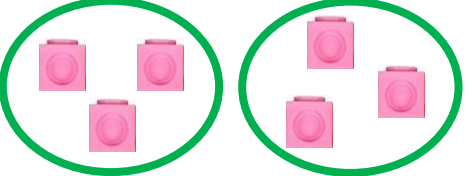
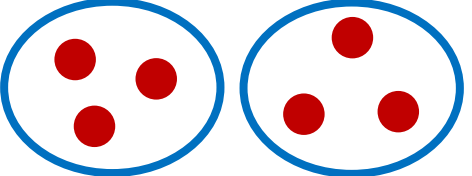
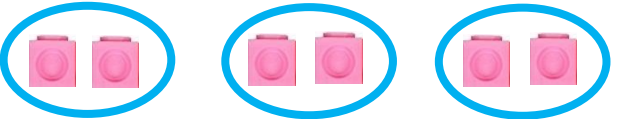

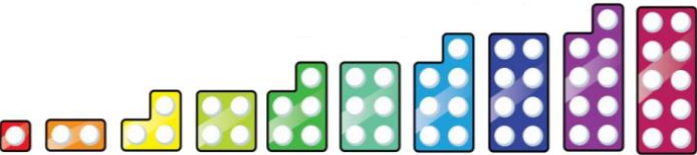
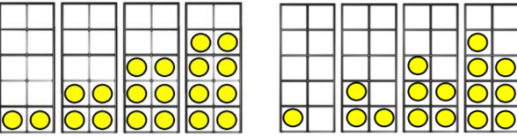


Objective	Concrete	Pictorial	Abstract
<p>Year 2 - Subtracting a 1-digit number from a 2-digit number (including bridging)</p>	<p>Children to take away manipulatives e.g. $58 - 3 = ?$</p>  <p>Children to recognise crossing 10: e.g. $34 - 6 = ?$</p> 	<p>As well as pictures of manipulatives, number lines or 100 squares to be used to show this visually: e.g. $34 - 6 = ?$</p> 	<p>Children to work out how far back it is to the nearest 10 and then how much further they need to go. e.g. $34 - 6 = ?$ $34 - 4 = 30$ $6 - 4 = 2$ $30 - 2 = 28$</p>
<p>Year 2 - using known facts</p>	<p>As children become more familiar with numbers, they should begin to use known facts to help solved questions quicker. e.g. If $5 - 3 = 2$, then $50 - 30 = 20$</p> 	<p>Bar models and part-whole models are useful for visualising calculations</p> 	<p>Through experiencing different representations and the use of manipulatives, children should begin noticing the patterns between numbers. e.g. If $5 - 3 = 2$, what is $50 - 30$?</p>
<p>Year 2 - Subtracting multiples of 10 from a 2-digit number</p>	<p>Children to subtract tens from a 2-digit number by using place value knowledge: e.g. $68 - 40 = ?$</p> 	<p>As well as using pictures of manipulatives, number lines or 100 squares can be used: e.g. $68 - 40 = ?$</p> 	<p>By recognising when subtracting multiples of 10, the ones column stays the same, children should begin adding multiple of 10 mentally e.g. $68 - 40 = 60 - 40 + 8 = 20 + 8 = 28$</p>
<p>Year 2 - Subtracting a 2-digit number from another 2-digit number</p>	<p>Children to combine subtracting tens and ones. e.g. $57 - 23 = ?$</p>  <p>There are 3 tens and 4 ones left – which is 34.</p> <p>e.g. $32 - 14 = ?$</p>  <p>There is 1 ten and 8 ones left – which is 18.</p>	<p>As well as using pictures of base 10 and tens frames, number lines or 100 squares can be used: e.g. $32 - 14 = ?$</p> 	<p>Children to write out their partitioned workings: e.g.</p> $32 - 14 =$ $32 - 10 = 22$ $22 - 4 = 18$



Calculation Policy – Multiplication/Division – Reception

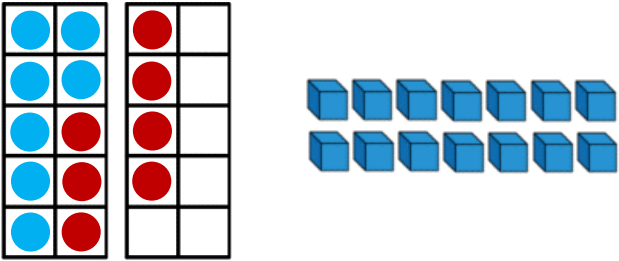
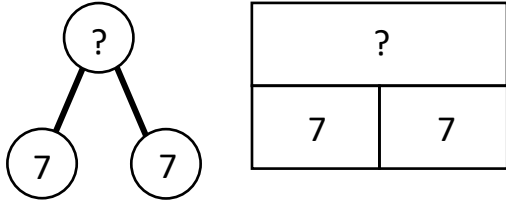
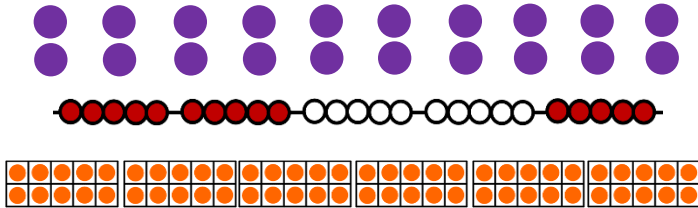
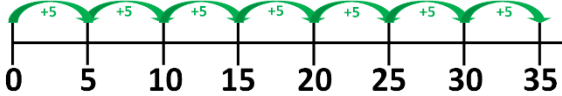
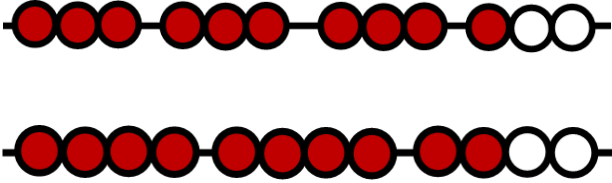
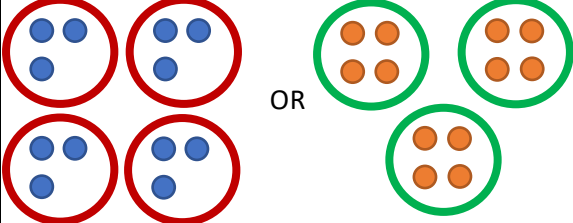
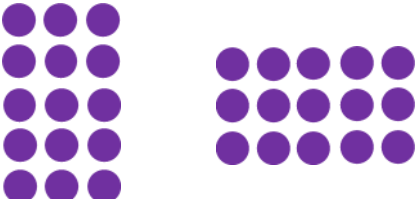
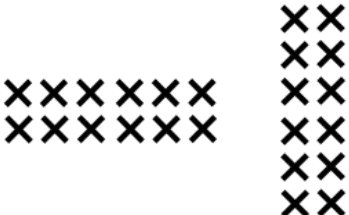


Objective	Concrete	Pictorial	Abstract
<p>Year R - Doubling</p>	<p>Children to recognise the patterns in doubled amounts. Children to use a wide range of manipulatives and equipment to show twice as much: <i>e.g. Double 3 is...</i></p> 	<p>As well as drawing pictures of representations showing doubling, children to use bar models and part-part-whole models: <i>e.g. Double 3 is...</i></p> 	<p>Children to show doubling as repeated addition and solve mentally (using strategies such as counting on): <i>e.g. 3 add 3 equals?</i></p>
<p>Year R - Halving by sharing into 2 group</p>	<p>Children to recognising halving as sharing objects into 2 groups: <i>e.g. What is half of 6?</i></p> 	<p>Children to share amount out into 2 groups by drawing: <i>e.g. What is half of 6?</i></p> 	<p>Children to use knowledge and understanding of grouping and sharing to begin to recall half of an amount:</p> <p><i>e.g. What is half of 6?</i></p>
<p>Year R - Halving by finding groups of 2</p>	<p>Children to recognising halving as splitting objects into groups of 2: <i>e.g. What is half of 6?</i></p> 	<p>Children to share amount out into groups of 2 by drawing: <i>e.g. What is half of 6?</i></p> 	<p><i>e.g. What is half of 6?</i></p>
<p>Year R - Recognise odd and even numbers</p>	<p>Children to recognise odd and even numbers by whether they can be halved.</p> 	<p>Children to halve numbers to recognise whether they are odd or even.</p> 	<p>Children to recall which numbers are odd and even: <i>e.g. Is 3 odd or even?</i></p>



Calculation Policy – Multiplication – Year 1

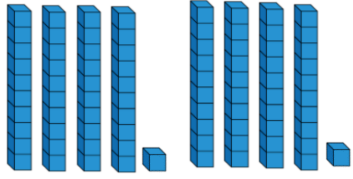
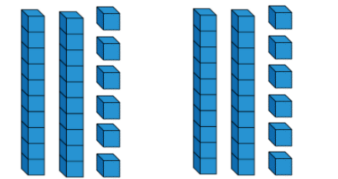
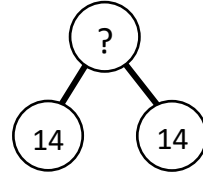
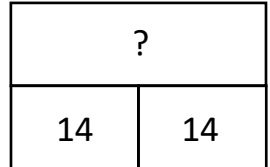
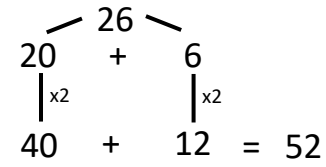
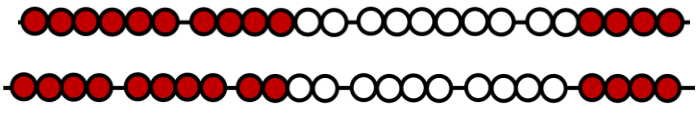
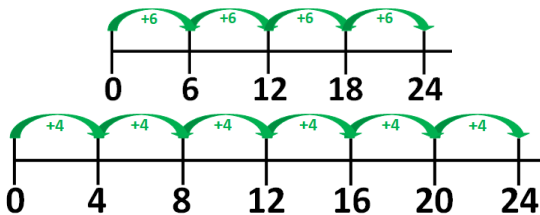
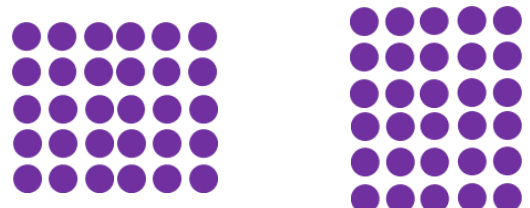
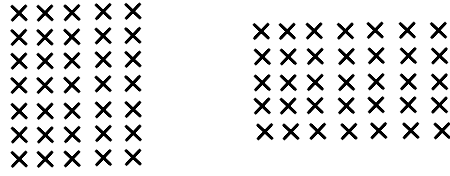
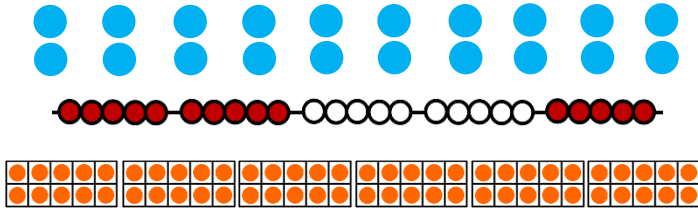
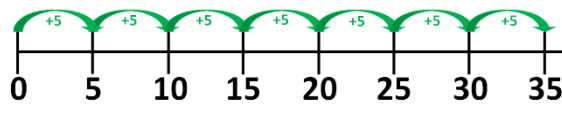


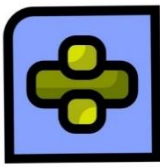
Objective	Concrete	Pictorial	Abstract
<p>Year 1 - Doubling</p>	<p>Children to recognise doubling as multiplying by 2: <i>e.g. $7 \times 2 = ?$</i></p> 	<p>As well as drawing pictures of representations showing doubling, children to use bar models and part-part-whole models: <i>e.g. Double 3 is...</i></p> 	<p>Children to show doubling as repeated addition and solve mentally (using strategies such as counting on): <i>e.g. $7 \times 2 = ?$</i></p> <p style="text-align: center;">$7 + 7 = 14$</p>
<p>Year 1 - Counting in 2s, 5s and 10s</p>	<p>Children to use a wide range of equipment and manipulatives to count in 2s, 5s and 10s: <i>e.g.</i></p> 	<p>As well as drawing pictures of objects and manipulatives, children to use number lines or 100 squares to show counting in 2s, 5s and 10s: <i>e.g.</i></p> 	<p>Children to count forwards and backwards from any given multiple of 2s, 5s, 10s verbally or written: <i>e.g.</i></p> <p style="text-align: center;"> $2... 4... 6... 8... 10...$ $50... 40... 30... 20... 10... 0.$ $25... 30... 35... 40...$ </p>
<p>Year 1 - Multiply numbers by using repeated addition</p>	<p>Children to find groups of numbers using manipulatives: <i>e.g. $4 \times 3 = ?$</i></p> 	<p>Children to draw pictures of groups of numbers: <i>e.g. $4 \times 3 = ?$</i></p> 	<p>Children to use repeated addition to multiply numbers: <i>e.g. $4 \times 3 = ?$</i></p> <p style="text-align: center;">$3 + 3 + 3 + 3 = 12$</p> <p style="text-align: center;">$4 + 4 + 4 = 12$</p>
<p>Year 1 - Using arrays to show multiplication</p>	<p>Children to use objects (e.g. counters) to show an array of a multiplication: <i>e.g. $3 \times 5 = ?$</i></p> 	<p>Children to draw arrays (e.g. with dots or crosses) to show multiplication: <i>e.g. $6 \times 2 = ?$</i></p> 	<p>Children to visualise arrays and complete multiplication by repeated addition: <i>e.g. $6 \times 2 = ?$</i></p> <p style="text-align: center;">$6 + 6 = 12$</p> <p style="text-align: center;">$2 + 2 + 2 + 2 + 2 + 2 = 12$</p>



Calculation Policy – Multiplication – Year 2

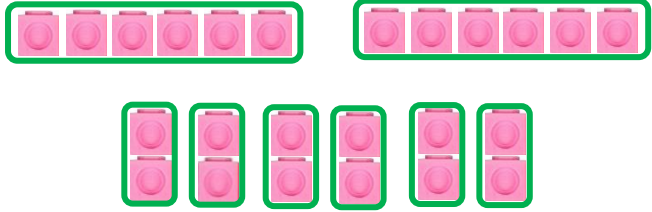
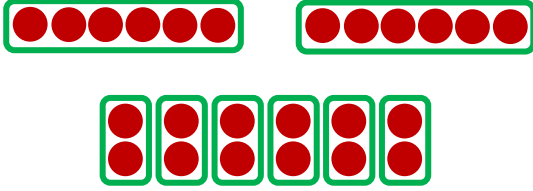
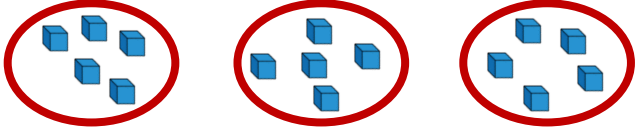
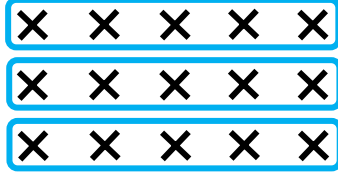

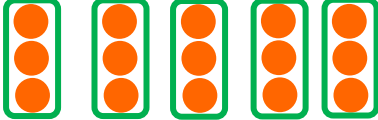
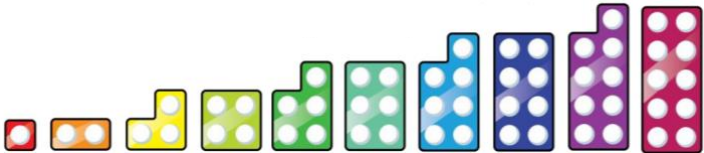
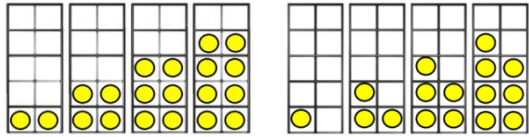


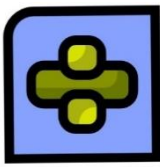
Objective	Concrete	Pictorial	Abstract
<p>Year 2 - Doubling (including numbers bigger than 10)</p>	<p>Children to use manipulatives to double a number:</p> <p>$41 \times 2 = ?$</p>  <p>$80 + 2 = 82$</p> <p>$e.g. 26 \times 2 = ?$</p>  <p>$40 + 12 = 52$</p>	<p>As well as drawing pictures of representations showing doubling, children to use bar models and part-part-whole models: <i>e.g. Double 3 is...</i></p>  	<p>Children to partition number and then double: <i>e.g. $26 \times 2 = ?$</i></p>  <p>$20 + 40 = 60$ $6 + 12 = 18$ $60 + 18 = 78$</p>
<p>Year 2 - Multiply numbers by using repeated addition</p>	<p>Children to find groups of numbers using manipulatives: <i>e.g. $6 \times 4 = ?$</i></p> 	<p>As well as drawing pictures of manipulatives, children to use number lines: <i>e.g. $6 \times 4 = ?$</i></p> 	<p>Children to use repeated addition to multiply numbers: <i>e.g. $6 \times 4 = ?$</i></p> <p>$6 + 6 + 6 + 6 = 24$</p> <p>$4 + 4 + 4 + 4 + 4 + 4 = 24$</p>
<p>Year 2 - Using arrays to show multiplication</p>	<p>Children to use objects (e.g. counters) to show an array of a multiplication: <i>e.g. $6 \times 5 = ?$</i></p> 	<p>Children to draw arrays (e.g. with dots or crosses) to show multiplication: <i>e.g. $5 \times 7 = ?$</i>.</p> 	<p>Children to visualise arrays and complete multiplication by repeated addition: <i>e.g. $5 \times 7 = ?$</i></p> <p>$7 + 7 + 7 + 7 + 7 = 35$</p> <p>$5 + 5 + 5 + 5 + 5 + 5 + 5 = 35$</p>
<p>Year 2 - Recall the 2, 5 and 10 times tables</p>	<p>Children to use their knowledge of repeated addition and arrays of the 2s, 5s and 10s to help with their recall.</p> 	<p>As well as drawing pictures of objects and manipulatives, children to use number lines or 100 squares to show counting in 2s, 5s and 10s: <i>e.g.</i></p> 	<p>Children to begin to instantly recall their times tables knowledge for the 2s, 5s and 10s: <i>e.g. $3 \times 5 = 15$</i></p> <p>Children to also recognise associated division facts: <i>e.g. $15 \div 3 = 5$</i></p>



Calculation Policy – Division – Year 1

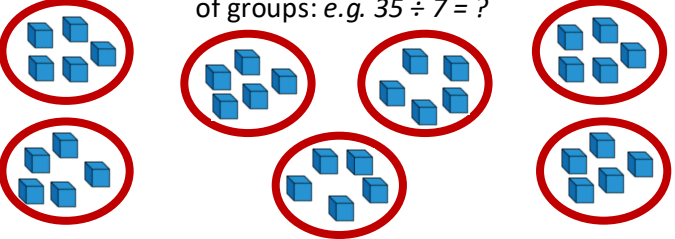
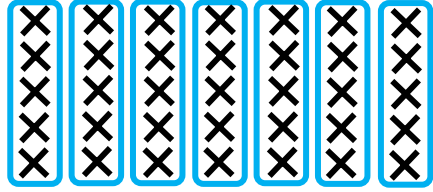



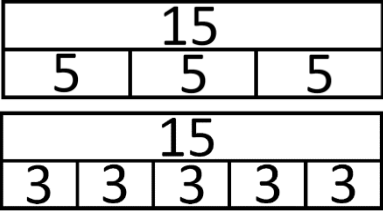
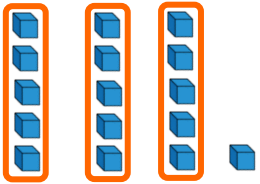
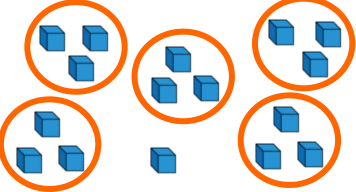
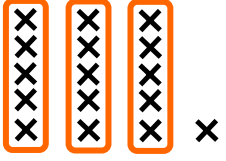
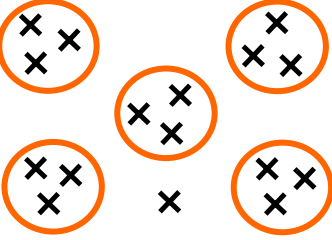


Objective	Concrete	Pictorial	Abstract
<p>Year 1 - Halving by sharing or splitting</p>	<p>Children to recognising halving as sharing or splitting: <i>e.g. What is half of 12?</i></p> 	<p>Children to share/split amounts in half by drawing: <i>e.g. What is half of 12?</i></p> 	<p>Children to use knowledge of halving and doubling to recall half of an amount: <i>e.g. What is half of 12?</i></p>
<p>Year 1 - Divide numbers by sharing them into groups</p>	<p>Children to share a number of objects into a certain number of groups: <i>e.g. $15 \div 3 = ?$</i></p>  <p>15 divided into 3 groups.</p>	<p>Children to share amounts into a certain number of groups by drawing: <i>e.g. $15 \div 3 = ?$</i></p> 	<p>Children to use knowledge of grouping, sharing and arrays to recall division facts: <i>e.g. $15 \div 3 = ?$</i></p>
<p>Year 1 - Divide numbers by splitting them into groups of.</p>	<p>Children to split a number of objects into groups of a certain number: <i>e.g. $15 \div 3 = ?$</i></p>  <p>15 divided into groups of 3</p>	<p>Children to share amount out into groups of a certain number by drawing: <i>e.g. $15 \div 3 = ?$</i></p> 	
<p>Year 1 - Recognise odd and even (including those over 10)</p>	<p>Children to recognise odd and even numbers by whether they can be halved.</p> 	<p>Children to halve numbers to recognise whether they are odd or even.</p> 	<p>Children to recall which numbers are odd and even: <i>e.g. Is 13 odd or even?</i></p>



Calculation Policy – Division – Year 2



Objective	Concrete	Pictorial	Abstract
Year 2 - Divide numbers by sharing them into groups	Children to share a number of objects into a certain number of groups: <i>e.g.</i> $35 \div 7 = ?$  35 divided into 7 groups.	Children to share amounts into a certain number of groups by drawing: <i>e.g.</i> $35 \div 7 = ?$ 	Children to use knowledge of grouping, sharing and arrays to recall division facts: <i>e.g.</i> $35 \div 3 = ?$
Year 2 - Divide numbers by splitting them into groups of.	Children to split a number of objects into groups of a certain number: <i>e.g.</i> $35 \div 7 = ?$  35 divided into groups of 5	Children to share amount out into groups of a certain number by drawing: <i>e.g.</i> $15 \div 7 = ?$ 	Children to recall multiplication and division facts: <i>e.g.</i> $3 \times 5 = 15$ $5 \times 3 = 15$ $15 \div 5 = 3$ $15 \div 3 = 5$
Year 2 - Understand the inverse relationship between division and multiplication	Children to use arrays to visualise the inverse relationship between multiplication and division.  $3 \times 5 = 15$ $5 \times 3 = 15$ $15 \div 5 = 3$ $15 \div 3 = 5$	Children to use bar models to show the inverse relationship between \times and \div . 	Children to divide numbers in context <i>e.g.</i> If Alice has 16 sweets and shares them evenly between her 5 friends, how many will they get each?
Year 1 - Recognise when amounts can be divided evenly	Children to recognise when amounts can be divided evenly by sharing or splitting: <i>e.g.</i> $16 \div 5 = ?$  There are 3 groups of 5 in 16 with 1 left over.  There 3 in each of the groups with 1 left over	Children to recognise when amounts can be divided evenly: <i>e.g.</i> $16 \div 5 = ?$  	Children to divide numbers in context <i>e.g.</i> If Alice has 16 sweets and shares them evenly between her 5 friends, how many will they get each?