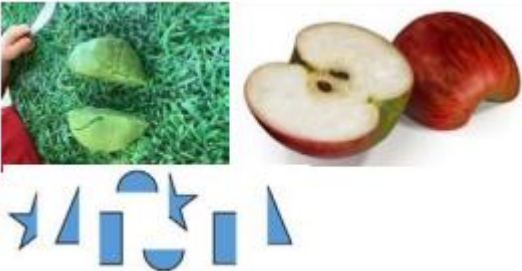
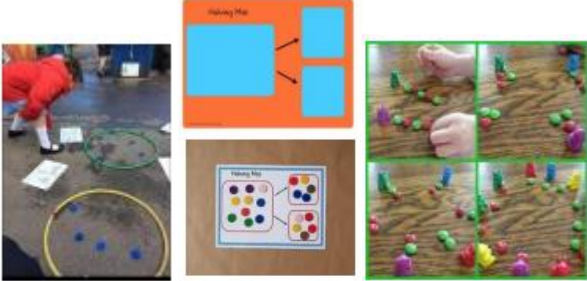
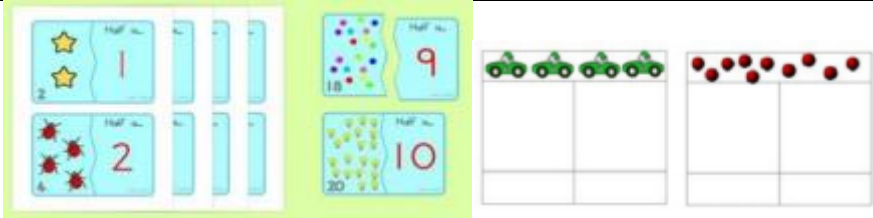
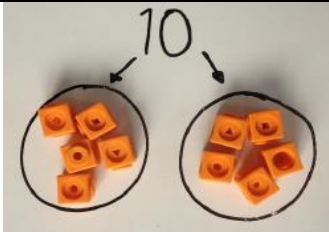
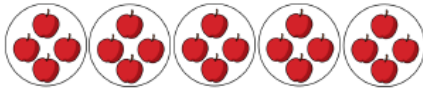


Reception		
Objective / strategy	Concrete	Pictorial
Sharing and grouping Deepening understanding Patterns and relationships	 Children have the opportunity to physically cut objects, food or shapes in half.  Use visual supports such as halving mats and part part whole with the physical objects and resources that can be manipulated.	  Pictures and icons that encourage children to see concept of halving in relation to subitising, addition and subtraction knowledge. i.e. Knowing 4 is made of 2 groups of 2, so half of 4 is 2. Bar model with pictures or icons to support understanding of finding 2 equal parts of a number, to further understand how two halves make a whole. Pictures for children to create and visualise 3 or more.



	Counting and other maths resources for children to explore sharing between 3 or more.		
	Counting and other maths resources for children to share into two equal groups.		
Year 1			
Objective / strategy	Concrete	Pictorial	Abstract
Division known as sharing	 I have 10 cubes, can you share them equally in 2 groups? Children may also wish to use sharing plates.	 Children use pictures or shapes to share quantities. There are 20 apples altogether. They are shared equally between 5 bags. How many apples are in each bag?	In year 1, children see concrete and pictorial representations to solve problems. They are not expected to record division formally.

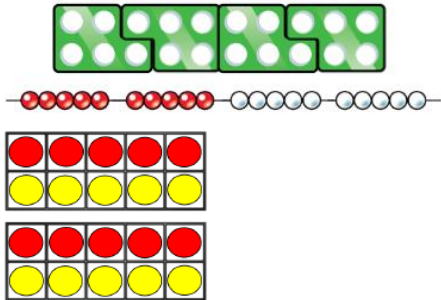
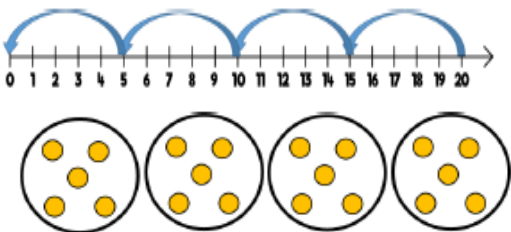
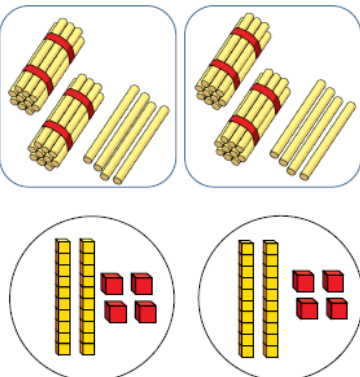
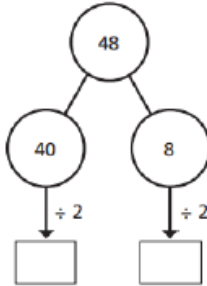


Key vocabulary and questions Equal sets, groups Half/halve, double Share, left over			
Year 2			
Objective / strategy	Concrete	Pictorial	Abstract
Division known as sharing (solve 1-step problems using multiplication)			$20 \div 5 = 4$ In year 2 children are introduced to the division symbol.

A	Equipment:	Rose Calculation policy
	Numicon	
	Counters	
	Beadstrings	
	Cubes	
	Numberlines	

Calculation policy

Division

Division known as grouping (solve 1-step problems using division)	 Concrete representations in fixed groups such as numicon helps to show the link between multiplication and division.	 Grouping encourages children to count in multiples and links to repeated subtraction on a number line.	$20 \div 5 = 4$						
Divide 2-digits by 1-digit (sharing with no exchange)	 Use manipulatives that allow children to partition into tens and ones.	<table border="1"><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td>10 10</td><td>1 1 1 1</td></tr><tr><td>10 10</td><td>1 1 1 1</td></tr></tbody></table>	Tens	Ones	10 10	1 1 1 1	10 10	1 1 1 1	 $48 \div 2 = 24$ Part-whole models can provide children with a clear written method that matches the concrete representations.
Tens	Ones								
10 10	1 1 1 1								
10 10	1 1 1 1								



Calculation policy

Division

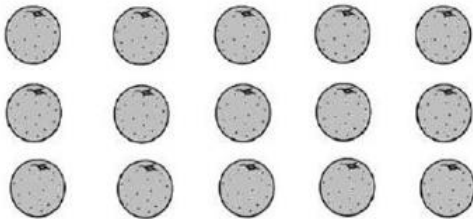
	Straws, Base 10 and place value counters can be used to share numbers into equal groups.		
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Key vocabulary and questions

double, halve, share, share equally, one each, two each, three each...

group in pairs, threes... tens, equal groups of , divide, divided by, divided into
left, left over

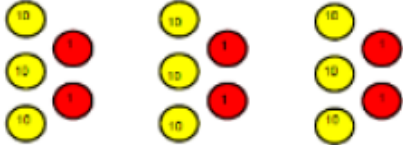
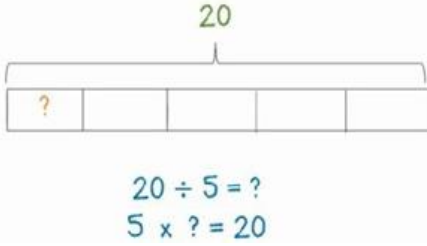
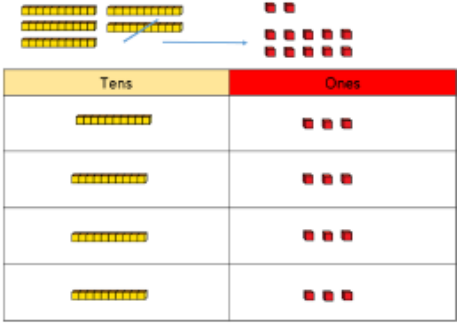
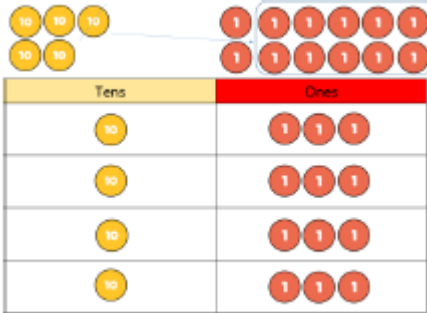
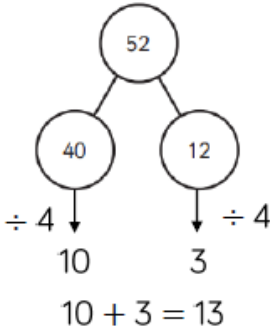
Year 3

Objective / strategy	Concrete	Pictorial	Abstract
Division with arrays			Find the inverse of multiplication and division sentences by creating eight linking number sentences. $7 \times 4 = 28$ $4 \times 7 = 28$ $28 \div 7 = 4$ $28 \div 4 = 7$ $28 = 7 \times 4$

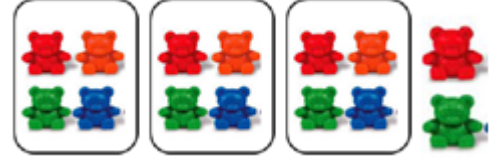
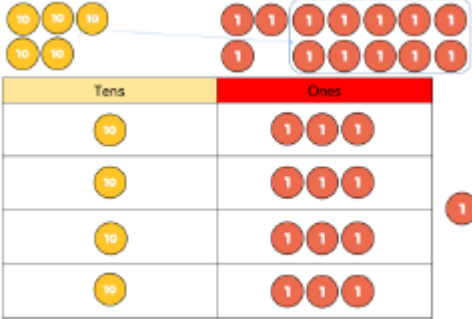


Calculation policy

Division

	Link division to multiplication by creating an array and thinking about the number sentences that can be created. E.g. $15 \div 3 = 5$ $5 \times 3 = 15$ $15 \div 5 = 3$ $3 \times 5 = 15$	Draw an array and use lines to split the array into groups to make multiplication and division sentences	$28 = 4 \times 7$ $4 = 28 \div 7$ $7 = 28 \div 4$ Include missing number questions to ensure children have a depth of understanding.
Division as grouping with larger numbers	 $96 \div 3 = 32$ Use cubes, counters, objects or place value counters to aid understanding.	 Continue to use bar modelling to aid solving division problems.	How many groups of 6 in 24? $24 \div 6 = 4$
Divide 2-digit by 1-digit (sharing with exchange)	 When dividing numbers involving an exchange, children can use Base 10 and		



	place value counters to exchange one ten for ten ones.	Children should start with the equipment outside the place value grid before sharing the tens and ones equally between the rows.	Flexible partitioning in a part-whole model supports this method.
Divide 2-digits by 1-digit (sharing with remainders)	  Divide objects between groups and see how many are left over.	  Jump forward in equal jumps on a number line then see how many more you need.	$53 \div 4 = 13 \text{ r}1$ Complete written division and show the remainder using r.



Key vocabulary and questions

double, halve

share, share equally

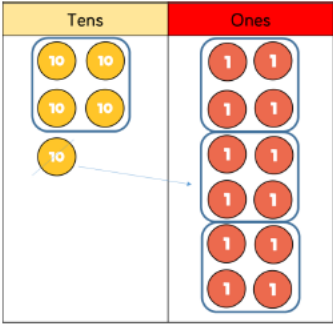
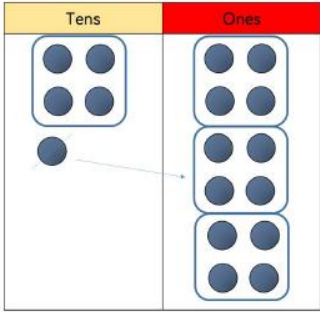
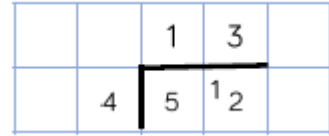
one each, two each, three each... group in pairs, threes... tens

equal groups of

, divide, division, divided by, divided into

left, left over, remainder

Year 4

Objective / strategy	Concrete	Pictorial	Abstract
Divide 2-digits by 1-digits (grouping)	 Remainders can also be seen as they are left ungrouped.	 Use drawn diagrams with dots or circles to help divide numbers into equal groups.	 When using the short division method, children use grouping. Starting with the largest place value, they group by the divisor.



Calculation policy

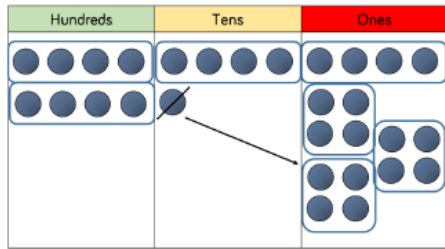
Division

Divide 3-digit numbers by a 1-digit number using short division.	Use place value counters to divide using the bus stop method alongside.	Use drawn diagrams with dots or circles to help them divide numbers into equal groups.	Begin with divisions that divide equally, with no remainders. Move onto division with a remainder.
<u>Key vocabulary and questions</u> Language is important here. Children should consider 'How many groups of 4 tens can we make?' and 'How many groups of 4 ones can we make?' double, halve, share, share equally, one each, two each, three each... group in pairs, threes... tens equal groups of, divide, division, divided by, divided into, remainder factor, quotient, divisible by inverse			
Year 5			
Objective / strategy	Concrete	Pictorial	Abstract

Calculation policy

Division

Divide numbers up to 4-digits by a 1-digit number including remainders



Place value counters can be used to on a place value grid to support this understanding of short division.



Children can also draw their own counters and group them through a more pictorial method.

		2	1	4
	4	8	5	16

The same method applies for a 4-digit number.

	4	2	6	6
2	8	5	13	12

Move from remainders to fractional remainders.

$$142 \div 4 = 35.5$$

$$\begin{array}{r} 035.5 \\ 4 \overline{)142.0} \end{array} \quad \begin{array}{l} r2 \\ 2/4 = 1/2 = 0.5 \end{array}$$



Key vocabulary and questions

row, column

double, halve

share, share equally

Year 6

Objective / strategy	Concrete	Pictorial	Abstract										
Divide multi digits by 2-digits (short division)	<table><tr><td></td><td></td><td>0</td><td>3</td><td>6</td></tr><tr><td></td><td>12</td><td>4</td><td>⁴3</td><td>⁷2</td></tr></table>			0	3	6		12	4	⁴ 3	⁷ 2	432 ÷ 12 = 36	
			0	3	6								
		12	4	⁴ 3	⁷ 2								
	7,335 ÷ 15 = 489	<table><tr><td></td><td>0</td><td>4</td><td>8</td><td>9</td></tr><tr><td>15</td><td>7</td><td>⁷3</td><td>¹³3</td><td>¹³5</td></tr></table>		0	4	8	9	15	7	⁷ 3	¹³ 3	¹³ 5	
	0	4	8	9									
15	7	⁷ 3	¹³ 3	¹³ 5									
<table><tr><td>15</td><td>30</td><td>45</td><td>60</td><td>75</td><td>90</td><td>105</td><td>120</td><td>135</td><td>150</td></tr></table>	15	30	45	60	75	90	105	120	135	150			
15	30	45	60	75	90	105	120	135	150				
When children begin to divide up to 4-digit by 2-digit, writtem methods become the most accuarte as concrete and pictoral representations become less effective. Children can write out multiples to support their calculations with larger remainders.													



Calculation policy

Division

Divide multi-digits
by 2-digits (long
division)

		0	3	6
1	2	4	3	2
	-	3	6	0
			7	2
	-		7	2
				0

($\times 30$)

($\times 6$)

$12 \times 1 = 12$
 $12 \times 2 = 24$
 $12 \times 3 = 36$
 $12 \times 4 = 48$
 $12 \times 5 = 60$
 $12 \times 6 = 72$
 $12 \times 7 = 84$
 $12 \times 8 = 96$
 $12 \times 9 = 108$
 $12 \times 10 = 120$

$$432 \div 12 = 36$$

$$7,335 \div 15 = 489$$

	0	4	8	9
15	7	3	3	5
-	6	0	0	0
	1	3	3	5
-	1	2	0	0
		1	3	5
-		1	3	5
				0

($\times 400$)

($\times 80$)

($\times 9$)

$1 \times 15 = 15$
 $2 \times 15 = 30$
 $3 \times 15 = 45$
 $4 \times 15 = 60$
 $5 \times 15 = 75$
 $10 \times 15 = 150$

Children can also divide by 2-digit numbers using long division.

Children can write out multiplies to support their calculations with larger remainders.

When a remainder is left at the end of the calculation, children can either leave it as a remainder, convert into a fraction or a decimal answer.



Calculation policy

Division

			2	4	$\frac{4}{5}$
1	5	3	7	2	
	-	3	0	0	
			7	2	
	-		6	0	
			1	2	

This will depend on the context of the question.

Key vocabulary and questions

double, halve

share, share equally

one each, two each, three each..

group in pairs, threes... tens

equal groups of

divide, division, divided by, divided into

remainder

factor, quotient, divisible by

inverse



Calculation policy

Division

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