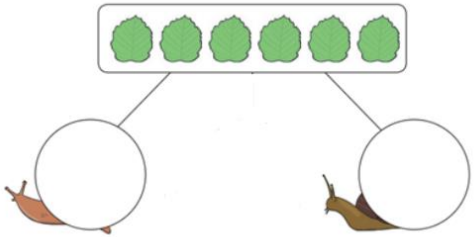
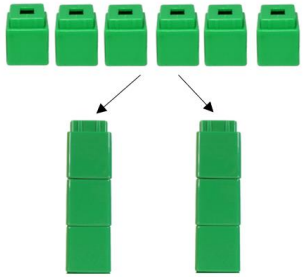
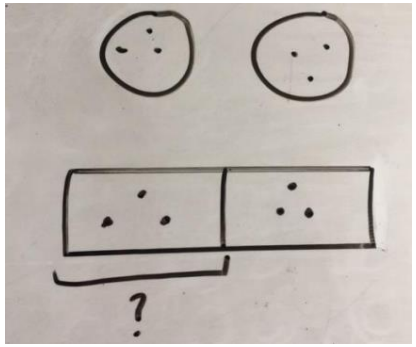
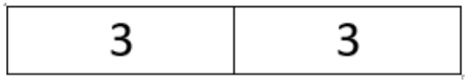
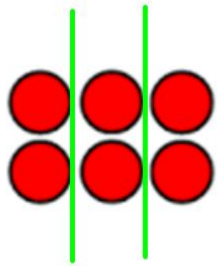
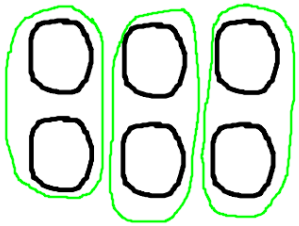
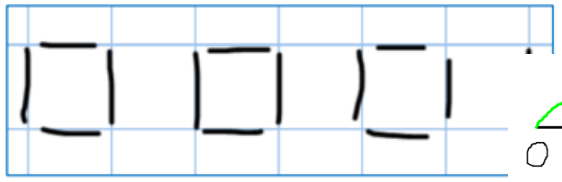
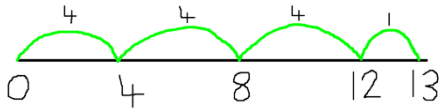
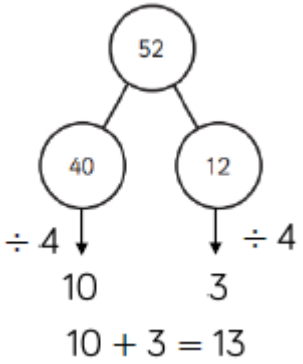
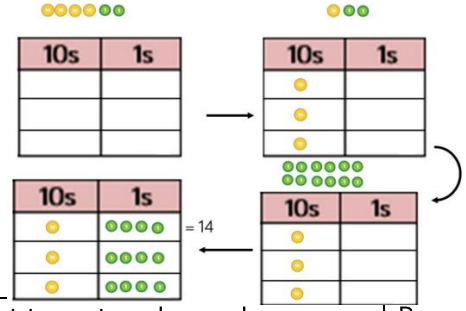
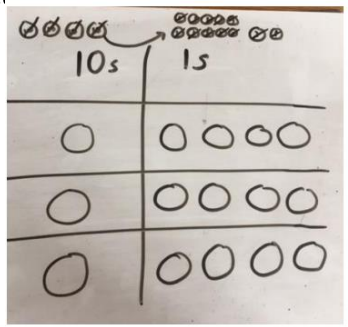
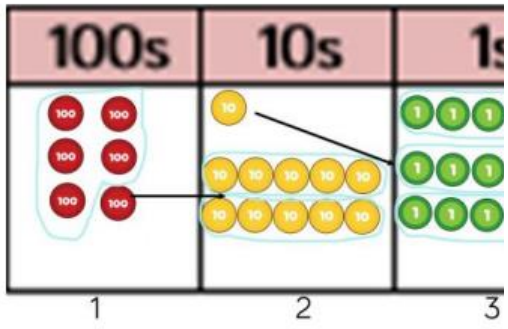
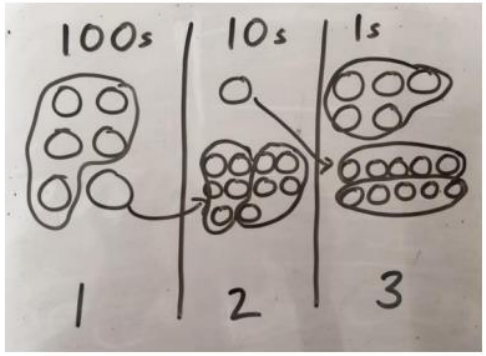
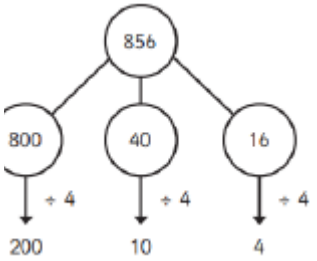
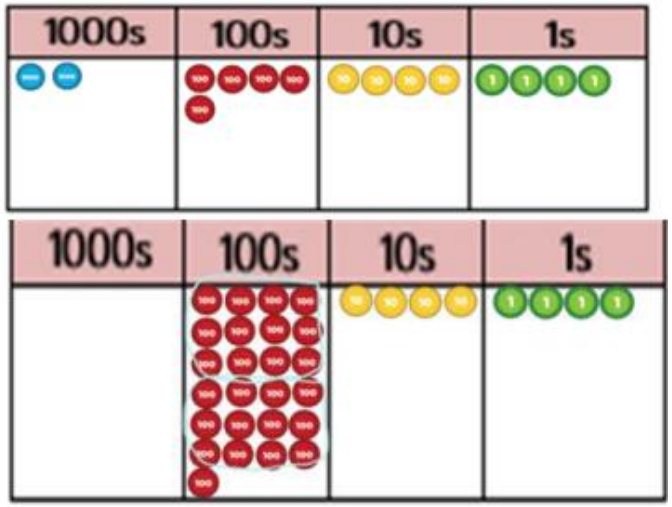
Calculation Policy: Division

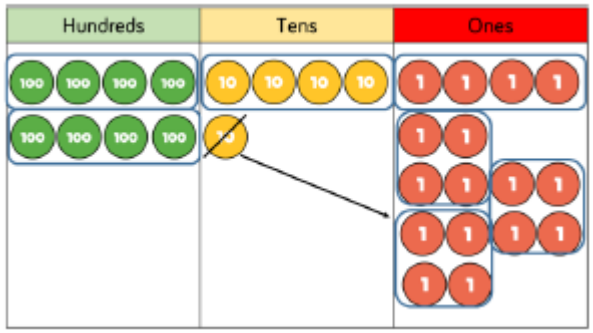
Key language: share, group, divide, divided by, half

	Concrete	Pictorial	Abstract
EYFS	Making equal groups – division as sharing 6 ÷ 2  'Share 6 acorns between you and your friend.'	Children use pictures to support understanding of sharing. 	Share 6 sweets between 2 children. 6 sweets shared between 2 children would give them 3 each.
Year 1	Sharing using a range of objects. 6 ÷ 2  	Children to represent the sharing pictorially. 	6 ÷ 2 = 3  Children should be encouraged to use their 2 times table facts.

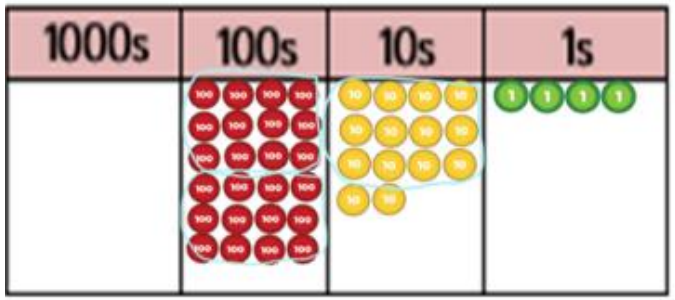
Year 1/2	Use arrays to show link to multiplication. 6 ÷ 2 	Children to represent the arrays pictorally. 	Children to be able to use an array to write a range of calculations. 6 ÷ 2 = 3 6 ÷ 3 = 2 2 x 3 = 6 3 x 2 = 6
Year 2	2 digit ÷ 1 digit with remainders using sticks. 13 ÷ 4 Use sticks to form wholes – squares are made because we are dividing by 4.  There are 3 whole squares, with 1 left over.	Children to represent the sticks pictorially.  whole squares, with 1 left	13 ÷ 4 = 3 remainder 1 Children should be encouraged to use their times table facts. They could represent repeated addition on a number line. 
Year 3 new	Use base 10		

			 Keep of formal methods as long as possible (start this in year 4)
Year 3	Sharing using place value counters. 42 ÷ 3 = 14 	Children to represent the place value counters pictorially. 	Children to be able to use the place value counters and write calculations to show the process. 42 ÷ 3 42 = 30 + 12 30 ÷ 3 = 10 12 ÷ 3 = 4 10 + 4 = 14
Year 4	Short division using place value counters to group. 615 ÷ 5 	Represent the place value counters pictorially. 	Children use short division scaffold to solve the calculation. 

			$5\overline{)615}$ (quotient 123)
Year 5	Long division using place value counters. 2544 ÷ 12  We can't group 2 thousands into groups of 12 so will exchange them. We can group 24 hundreds into groups of 12 which leaves with 1 hundred. $12\overline{)2544}$ (quotient 02; 24; 1) School decision – do we teach long division or not? (probably wouldn't teach the long division in year 5) Would do the same as pictorial in year 4		

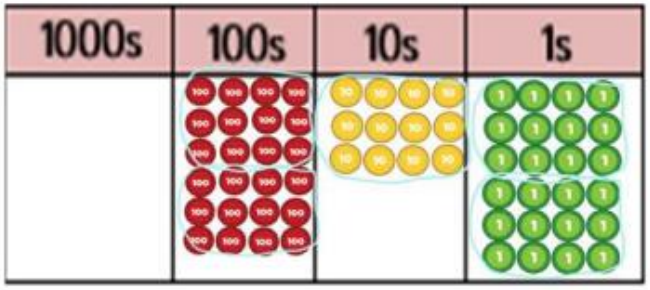


	4	2	6	6
2	8	5	$^{1}3$	$^{1}2$



After exchanging the hundred, we have 14 tens. We can group 12 tens into a group of 12, which leaves 2 tens.

$$\begin{array}{r} 021 \\ 12\overline{)2544} \\ 24 \\ \hline 14 \\ 12 \\ \hline 2 \end{array}$$



After exchanging the 2 tens, we have 24 ones. We can group 24 ones into 2 group of 12, which leaves no remainder.

$$\begin{array}{r} 0212 \\ 12\overline{)2544} \\ 24 \\ \hline 14 \\ 12 \\ \hline 24 \\ 24 \\ \hline 0 \end{array}$$

Year 6			Really need to understand division as grouping before getting onto this point. The column method is easier and neater – children may undertsand this better.

			7,335 ÷ 15 = 489 **7,335 ÷ 15 = 489**

	0	4	8	9	
15	7	3	3	5	
–	6	0	0	0	(×400
	1	3	3	5	
–	1	2	0	0	(×80)
		1	3	5	
–		1	3	5	(×9)
				0	

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

	0	4	8	9
15	7	$^{7}3$	$^{13}3$	$^{13}5$

15	30	45	60	75	90	105	120	135	150