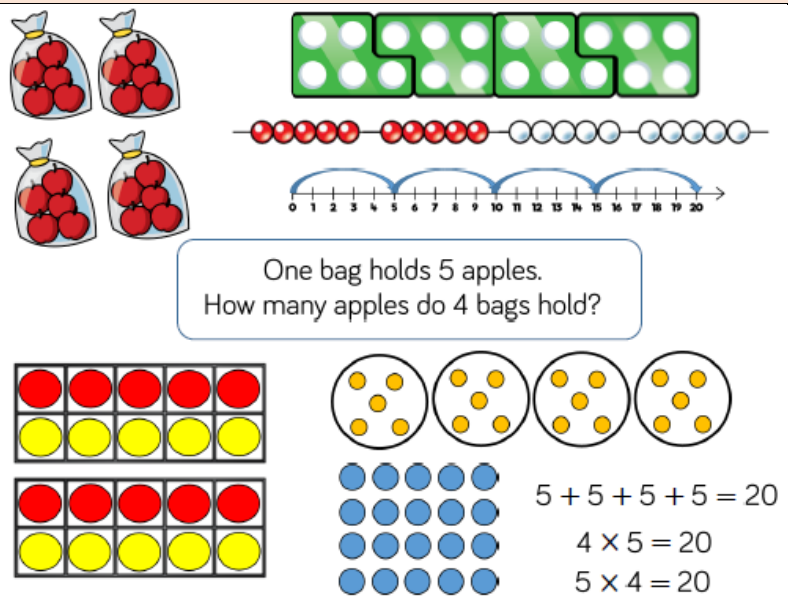
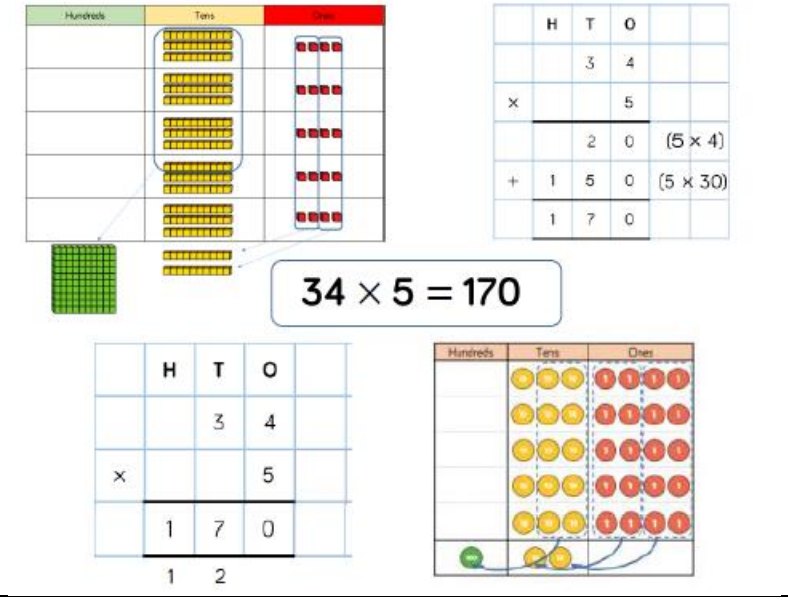
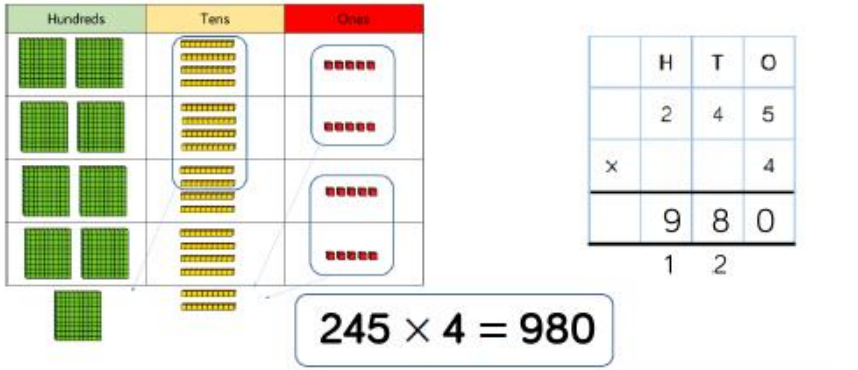
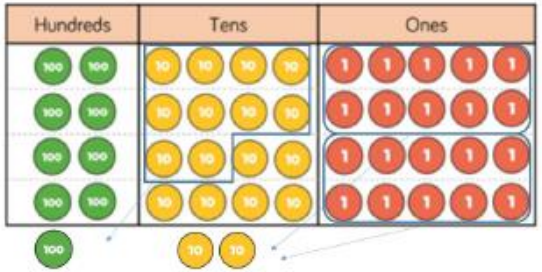
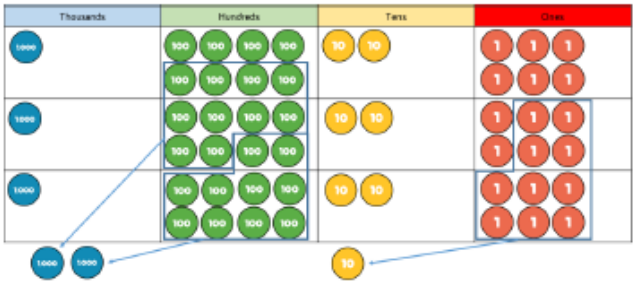
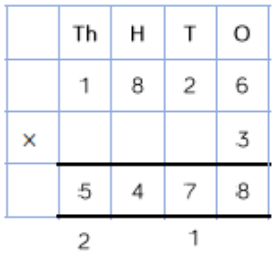
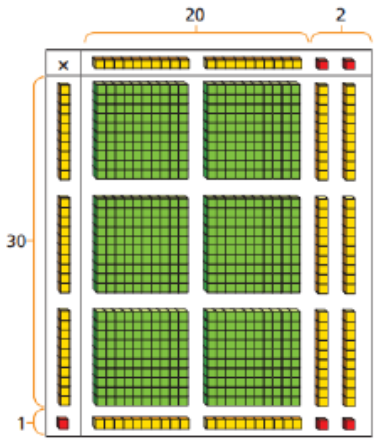
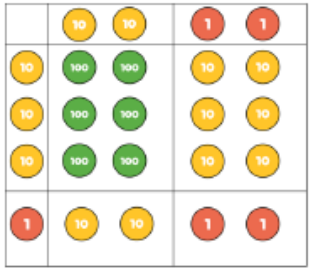
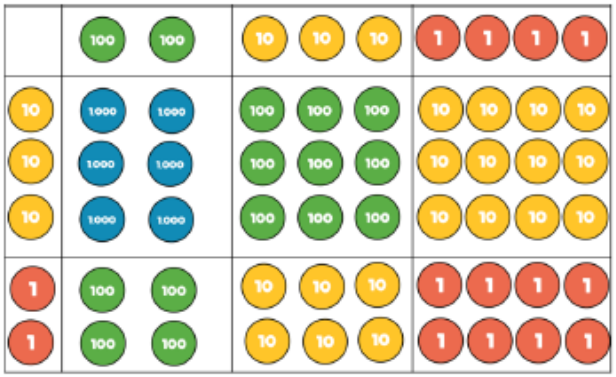
Multiplication

	Strategies:	Guidance:
Year 1/2 Solve 1-step problems using multiplication		Children should represent multiplication as repeated addition in many different ways. Focus on use of concrete and pictorial representations to solve problems. There is no expectation to record formally. In Year 2, children are introduced to the multiplication symbol.
Year 3/4 Multiply 2-digit numbers by 1-digit numbers		In year 3, teachers should begin with the expanded method shown opposite. This will support children to understand the idea of partitioning into 10s and 1s. PV counters should be used to support understanding of the method rather than the multiplication as they should use times table knowledge.

Year 3/4 Multiply 3-digit numbers by 1-digit numbers	 245 × 4 = 980 	When moving to this stage, children should be using the short, formal method. Concrete and pictorial representations can still support understanding of the method. Limit the number of exchanges needed and move children away from resources when multiplying larger numbers.
Year 5 Multiply 4-digit numbers by 1-digit numbers	 1,826 × 3 = 5,478 	Use place value counters to support understanding of the method at this stage. If children are struggling with their times tables, encourage use of multiplication grids so they can focus on the written method.

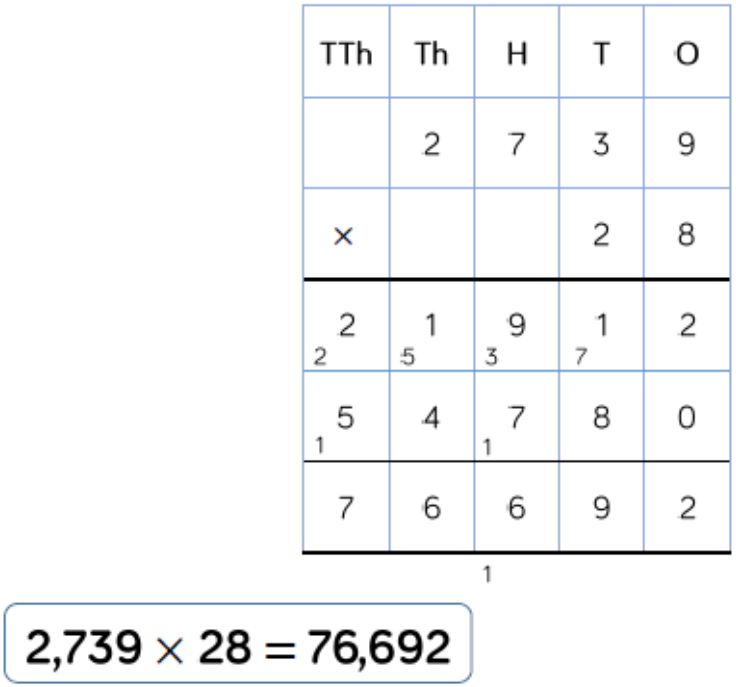
Year 5 Multiply 2-digit numbers by 2-digit numbers	  22 × 31 = 682	Use the area model to help children understand the size of the numbers they are using. This links to finding the area of a rectangle by finding the base covered by the base 10. The grid method can be used as an initial written method before moving on to the formal written method.
Year 5 Multiplying 3 digit numbers by 2 digit numbers	 234 × 32 = 7,488	Continue to use the area model to support understanding. PV counters and be used but base 10 can be used to highlight the size of the numbers. Use of grid method can support with initial understanding before moving to formal method.

×	20	2
30	600	60
1	20	2

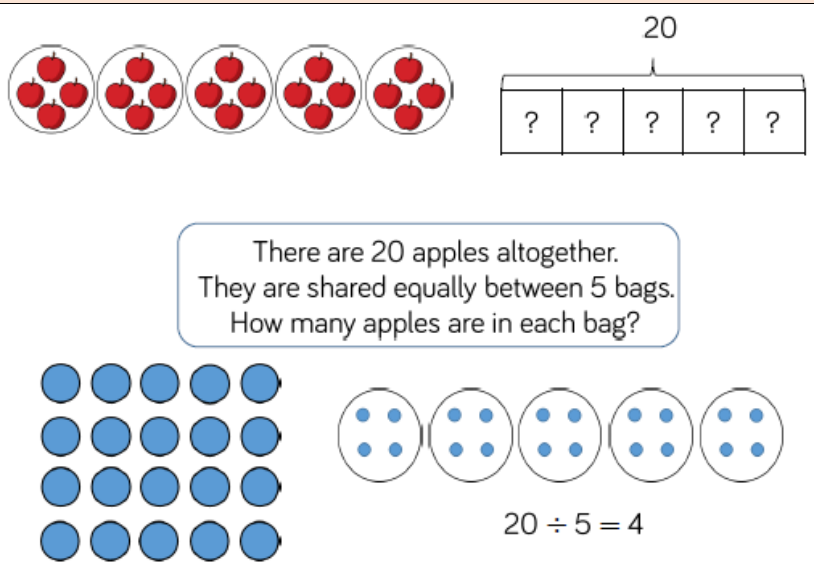
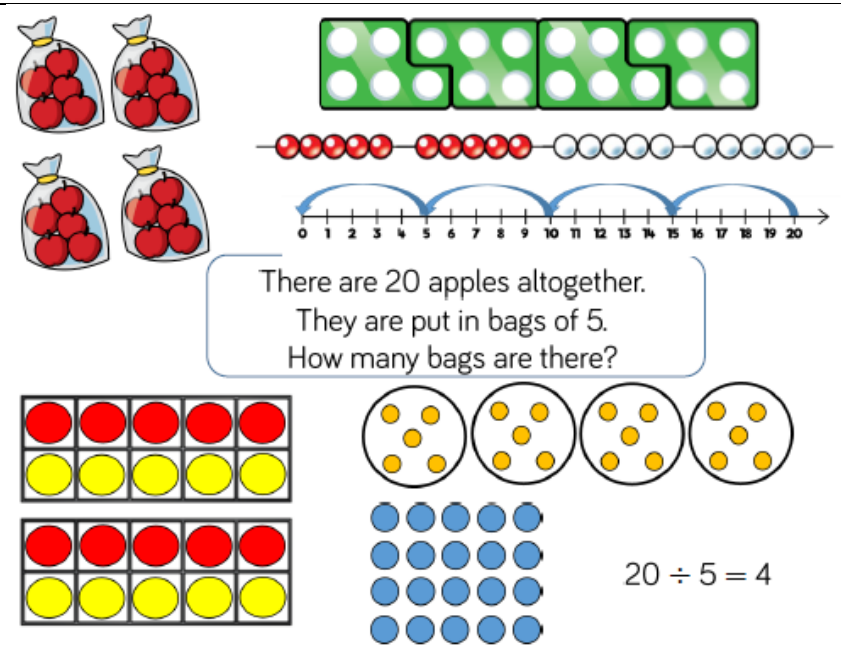
	H	T	O
		2	2
×		3	1
		2	2
	6	6	0
	6	8	2

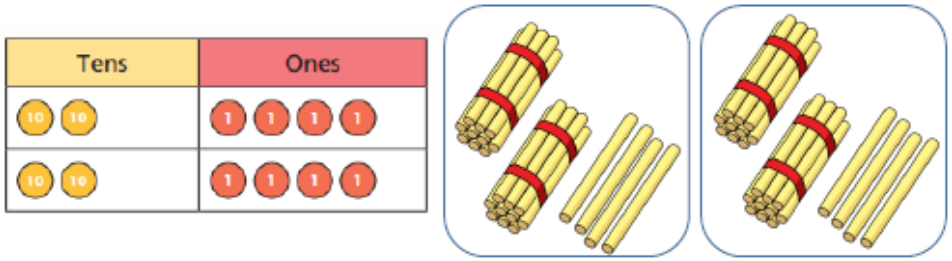
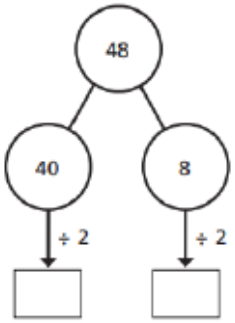
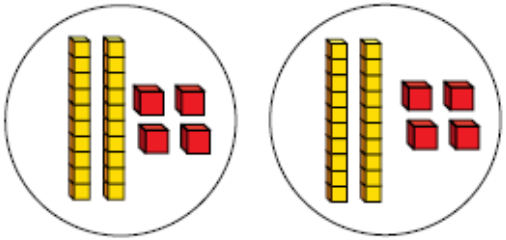
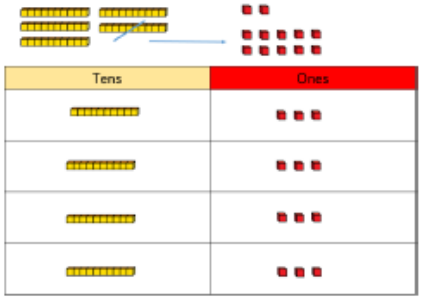
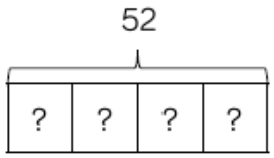
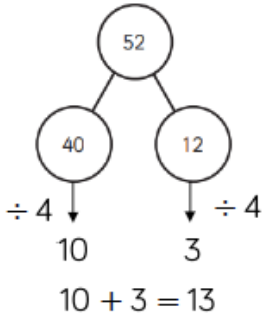
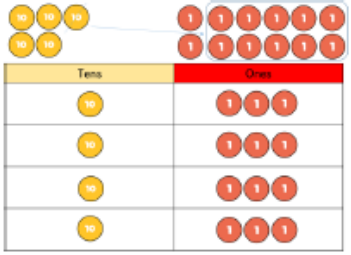
Th	H	T	O
	2	3	4
×		3	2
	4	6	8
$^{1}7$	$^{1}0$	2	0
7	4	8	8

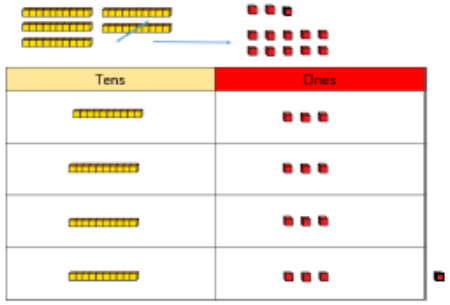
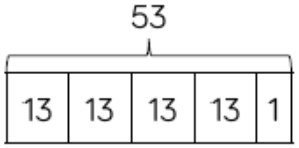
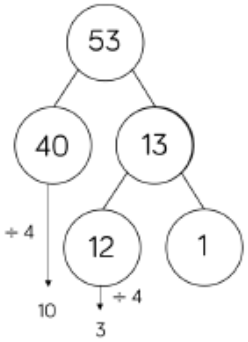
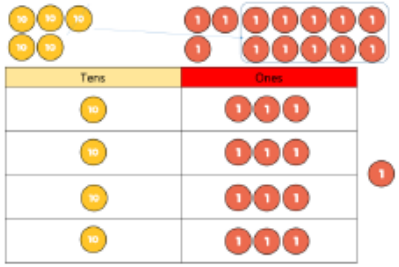
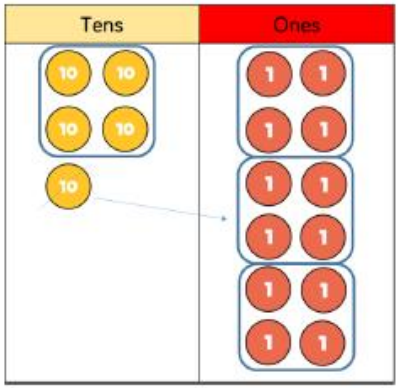
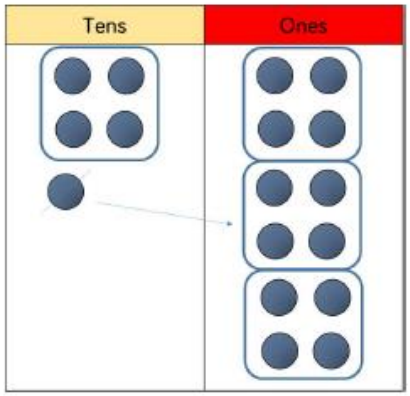
×	200	30	4
30	6,000	900	120
2	400	60	8

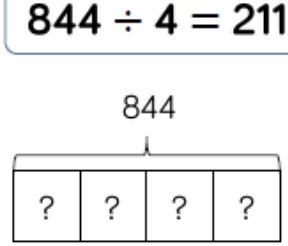
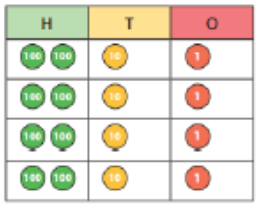
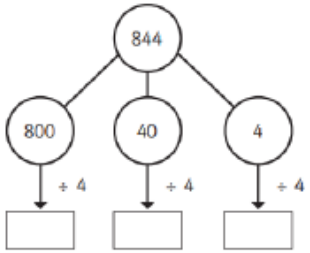
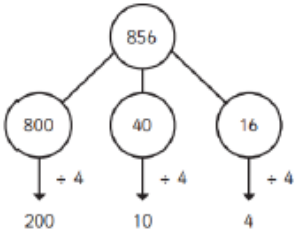
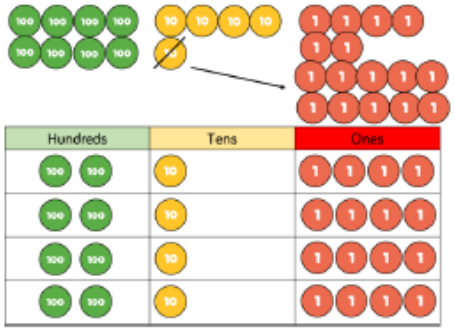
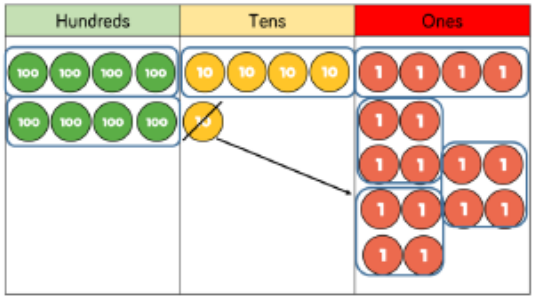
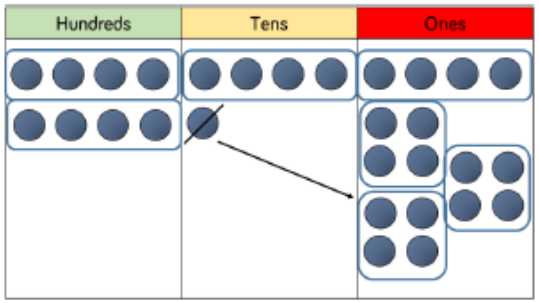
Year 5/6 Multiplying 4-digit by 2-digit numbers		Children at this stage should be confident in the written method. Children still struggling with times tables should use multiplication grids and focus on the method. Consider where exchanged digits are placed and make sure this is consistent.

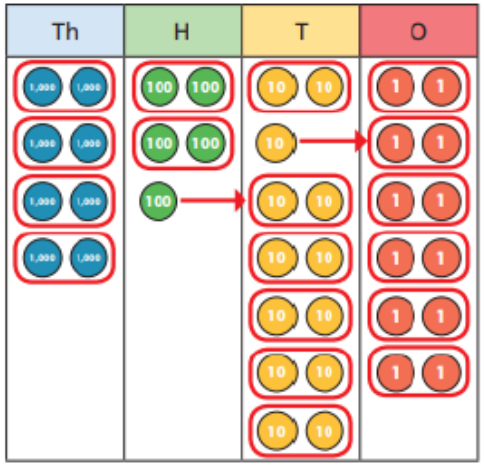
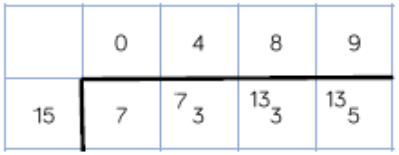
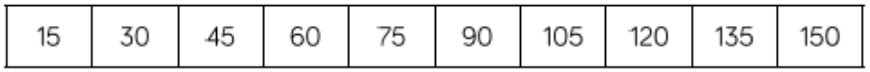
Division

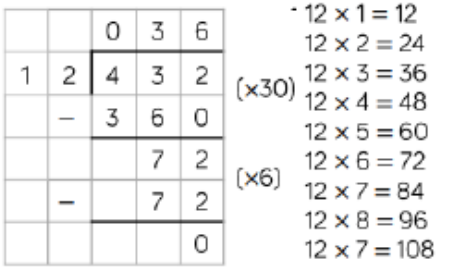
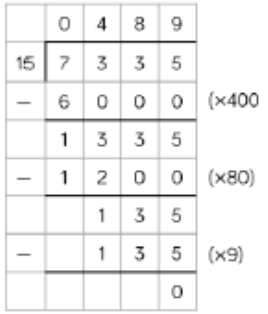
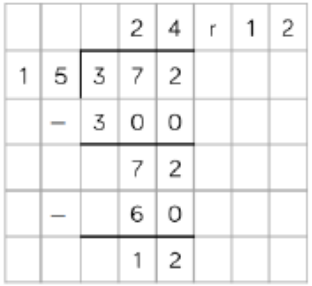
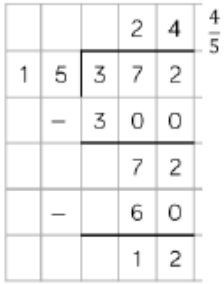
	Strategies:	Guidance:
Year 1/2 Solve 1-step problems using division (sharing)		Children solve problems by sharing amounts into equal groups. In Year 1, children use concrete and pictorial representations. They are not expected to record formally. In Year 2, children are introduced to the division symbol.
Year 1/2 Solve 1-step problems using division (grouping)		Children solve by grouping and counting the number of groups. This links with repeated subtraction on a number line and encourage children to count in multiples.

Year 1/2 Divide 2-digit by 1-digit (sharing with no exchange)	  48 ÷ 2 = 24 	With larger numbers, children should use manipulatives to allow them to partition into tens and ones. Straws, base 10 and counters can be used to share numbers into equal groups. Part whole models can provide children with a clear written method that matches the concrete representation
Year 3/4 Divide 2-digit by 1-digit (sharing with an exchange)	  52 ÷ 4 = 13   	When representing an exchange, children should use base 10 and PV counters to exchange one ten for ten ones. Use equipment initially outside the place value grid before sharing the tens and ones equally into rows. Flexible partitioning in a part whole model supports this method.

Year 3/4 Divide 2 digit by 1 digit (sharing with remainders)	   **53 ÷ 4 = 13 r1** 	When dividing with remainders, children can use base 10 and place value counters to exchange one ten for ten ones. Starting with equipment outside the place value grid will highlight remainders, as they will be left outside the grid once the equal groups have been made Flexible partitioning in a part whole model supports this method.
Year 4/5 Divide 2 digits by 1 digits (grouping)	   **52 ÷ 4 = 13**	The short division method should be introduced in Year 4. When using this method, children use grouping. Language is important here. They should consider "how many groups of 4 tens can we make?" and "How many groups of 4 ones ca we make?" Remainders can also be seen as they are left ungrouped.

Year 4 Divide 3 digit by 1 digit (sharing)	**844 ÷ 4 = 211**    **844 ÷ 4 = 211**  	Consider guidance above. Children continue to use place value counters to sharing into equal groups.
Year 5 Divide 3-digits by 1-digit (grouping)	   **856 ÷ 4 = 214**	Children can continue to use grouping to support their understanding of short division. Place value counters on a grid can help to support understanding. Children can also draw their own counters and group them in a more pictorial method.

Year 5 Divide 4 digits by 1 digit	  8,532 ÷ 2 = 4,266	Build on guidance above. Children should be encouraged to move away from concrete and pictorial when dividing numbers with multiple exchanges
Year 6 Divide multi digits by 2 digits (short division)	 432 ÷ 12 = 36 7,335 ÷ 15 = 489   	Pictorial and concrete methods are less effective at this stage so written method should be used as it is the most accurate. Children can write out multiples to support their calculations with larger remainders. Rounding the quotient can be appropriate at this stage.

Year 6 Divide multi digits by 2 digits (long division)	 (×30) (×6) · 12 × 1 = 12 12 × 2 = 24 12 × 3 = 36 12 × 4 = 48 12 × 5 = 60 12 × 6 = 72 12 × 7 = 84 12 × 8 = 96 12 × 7 = 108 12 × 10 = 120 **432 ÷ 12 = 36** **7,335 ÷ 15 = 489**  (×400 (×80) (×9) 1 × 15 = 15 2 × 15 = 30 3 × 15 = 45 4 × 15 = 60 5 × 15 = 75 10 × 15 = 150	This method should also be used to support understanding. Children can write out multiples to support their calculations.
	372 ÷ 15 = 24 r12  1 × 15 = 15 2 × 15 = 30 3 × 15 = 45 4 × 15 = 60 5 × 15 = 75 10 × 15 = 150  **372 ÷ 15 = 24 $\frac{4}{5}$**	When a remainder is left at the end of a calculation, children can leave it as a remainder or convert it to a fraction. This depends on context.