



Parkside Primary School

Calculation Policy

Reviewed September 2026

Calculation Policy



Introduction

At Parkside, we want:

- all the children of Parkside to achieve mastery in maths. This means they will be able to calculate quickly, accurately and with confidence. It also means they will have the skills to solve reasoning questions.
- all the children of Parkside to use and apply their mathematical skills confidently, use mathematical language effectively and to be fluent mathematical thinkers.
- all the children of Parkside to have a growth mindset towards mathematics.
- all the children of Parkside to have a positive attitude to mathematics.
- all the children of Parkside to be reflective learners who are resilient and embrace challenge.
- all the children of Parkside to be active learners.
- all the children of Parkside to be in control of their own learning journey.
- all the children of Parkside to leave our school with the skills to meet the demands of everyday life in the modern world.

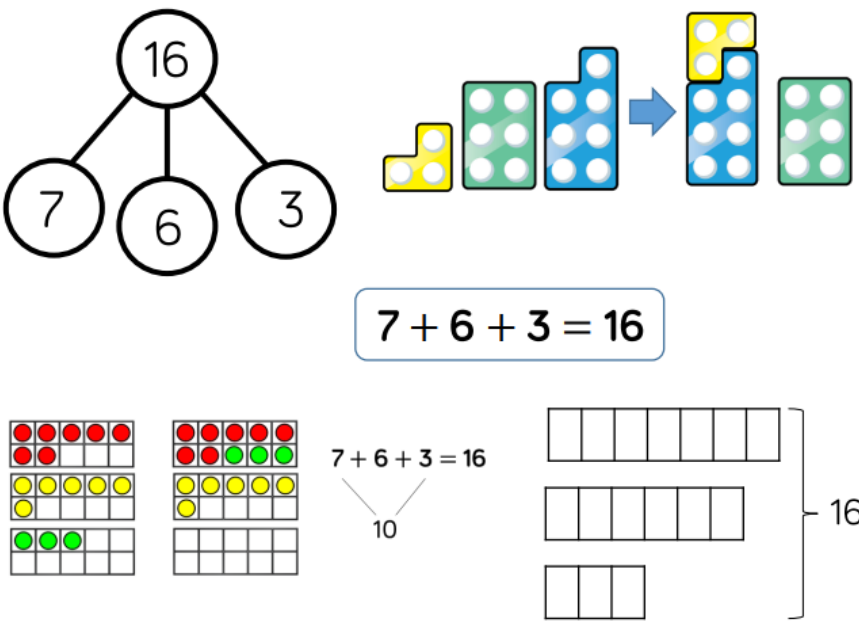
As we have adopted the White Rose Maths programmes of study, we also use the White Rose Calculation policies to provide details of which approaches are most appropriate at each stage. The use of the Concrete, Pictorial, Abstract approach that these policies are based on match with the way we teach maths. Procedures are taught according to this document so they can be seamlessly built upon year after year, as the child moves through school. Please note that early learning in number and calculation in Reception follows the 'Development Matters' which is a non-statutory curriculum guidance for the early years foundation stage.

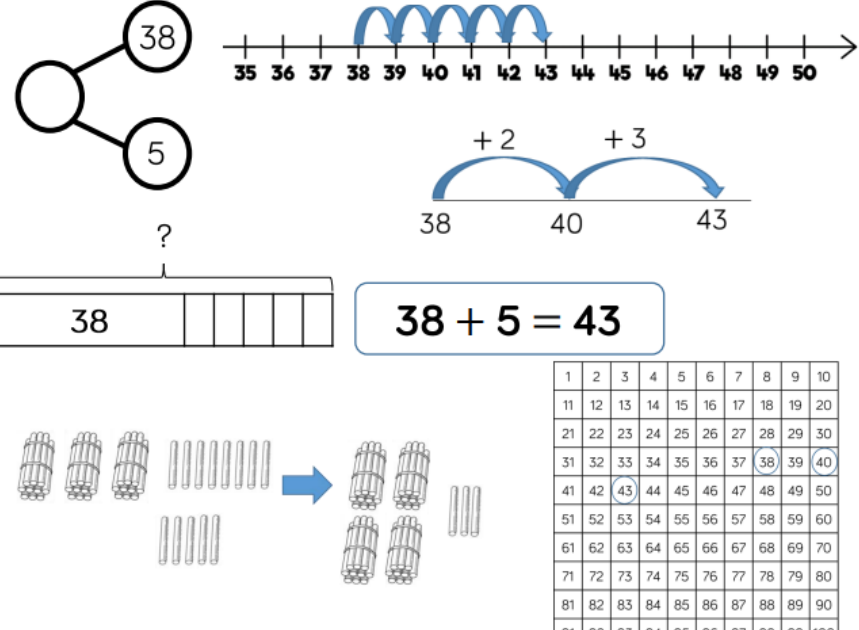
The policies describe approaches and methods for teaching Addition, Subtraction, Multiplication and Division. The policies describe the different skills required to calculate with each operation, and the appropriate time to introduce each method.

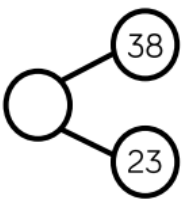
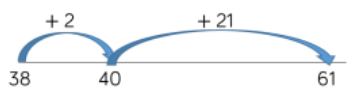
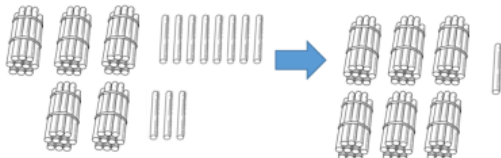
Addition

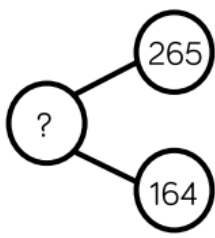
Skill: Add 1-digit numbers within 10	Year: 1
4 + 3 = 7	When adding numbers to 10, children can explore both aggregation and augmentation. The part-whole model, discrete and continuous bar model, number shapes and ten frame support aggregation. The combination bar model, ten frame, bead string and number track all support augmentation.

Skill: Add 1 and 2-digit numbers to 20	Year: 1/2
	When adding one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten. Different manipulatives can be used to represent this exchange. Use concrete resources alongside number lines to support children in understanding how to partition their jumps.

Skill: Add three 1-digit numbers	Year: 2
 $7 + 6 + 3 = 16$	When adding three 1-digit numbers, children should be encouraged to look for number bonds to 10 or doubles to add the numbers more efficiently. This supports children in their understanding of commutativity. Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers.

Skill: Add 1-digit and 2-digit numbers to 100	Year: 2/3
 $38 + 5 = 43$	When adding single digits to a two-digit number, children should be encouraged to count on from the larger number. They should also apply their knowledge of number bonds to add more efficiently e.g. $8 + 5 = 13$ so $38 + 5 = 43$. Hundred squares and straws can support children to find the number bond to 10.

Skill: Add two 2-digit numbers to 100	Year: 2/3														
 ? <table border="1" style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="width: 50px; text-align: center;">38</td> <td style="width: 50px; text-align: center;">23</td> </tr> </table>   $38 + 23 = 61$ <table border="1" style="border-collapse: collapse;"> <thead> <tr> <th style="padding: 2px 5px;">Tens</th> <th style="padding: 2px 5px;">Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </tbody> </table> ← $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$ <table border="1" style="border-collapse: collapse;"> <thead> <tr> <th style="padding: 2px 5px;">Tens</th> <th style="padding: 2px 5px;">Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">●●●</td> <td style="text-align: center;">●●●●●</td> </tr> <tr> <td style="text-align: center;">●●●</td> <td style="text-align: center;">●●●●●</td> </tr> </tbody> </table> ←	38	23	Tens	Ones					Tens	Ones	●●●	●●●●●	●●●	●●●●●	At this stage, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient. Children can also use a blank number line to count on to find the total. Encourage them to jump to multiples of 10 to become more efficient.
38	23														
Tens	Ones														
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Skill: Add numbers with up to 3 digits	Year: 3																						
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Skill: Add numbers with up to 4 digits	Year: 4																								
$1,378 + 2,148 = 3,526$ <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr style="background-color: #f2f2f2;"> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr style="background-color: #f2f2f2;"> <th>Thousands</th> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Thousands	Hundreds	Tens	Ones									Thousands	Hundreds	Tens	Ones									Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 4 digits. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. Plain counters on a place value grid can also be used to support learning.
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Skill: Add numbers with more than 4 digits	Year: 5/6																																				
$104,328 + 61,731 = 166,059$ <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr style="background-color: #f2f2f2;"> <th>HTh</th> <th>TTh</th> <th>Th</th> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr style="background-color: #f2f2f2;"> <th>HTh</th> <th>TTh</th> <th>Th</th> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	HTh	TTh	Th	H	T	O													HTh	TTh	Th	H	T	O													Place value counters or plain counters on a place value grid are the most effective concrete resources when adding numbers with more than 4 digits. At this stage, children should be encouraged to work in the abstract, using the column method to add larger numbers efficiently.
HTh	TTh	Th	H	T	O																																
HTh	TTh	Th	H	T	O																																

Skill: Add with up to 3 decimal places	Year: 5
$\begin{array}{r} 3.65 \\ + 2.41 \\ \hline 6.06 \\ 1 \end{array}$ $3.65 + 2.41 = 6.06$	Place value counters and plain counters on a place value grid are the most effective manipulatives when adding decimals with 1, 2 and then 3 decimal places. Ensure children have experience of adding decimals with a variety of decimal places. This includes putting this into context when adding money and other measures.

Subtraction

Skill: Subtract 1-digit numbers within 10

Year: 1

$$7 - 3 = 4$$

Part-whole models, bar models, ten frames and number shapes support partitioning.

Ten frames, number tracks, single bar models and bead strings support reduction.

Cubes and bar models with two bars can support finding the difference.

Skill: Subtract 1 and 2-digit numbers to 20

Year: 1/2

6

14

14

6

8

14 - 6 = 8

14 - 6 = 8

4

2

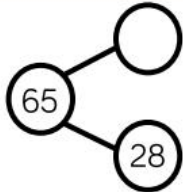
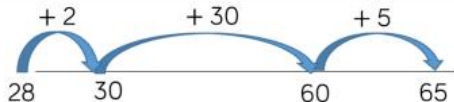
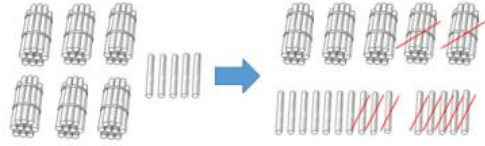
14 - 6 = 8

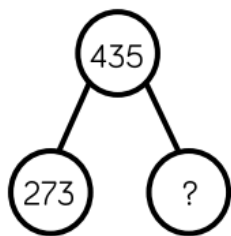
4

2

When subtracting one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten.

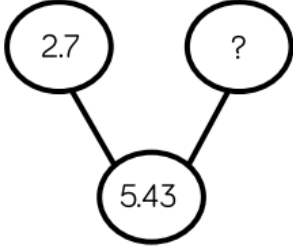
Children should be encouraged to find the number bond to 10 when partitioning the subtracted number. Ten frames, number shapes and number lines are particularly useful for this.

Skill: Subtract 1 and 2-digit numbers to 100	Year: 2														
 65 <table border="1" style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="width: 50px; height: 30px; text-align: center; vertical-align: middle;">?</td> <td style="width: 50px; height: 30px; text-align: center; vertical-align: middle;">28</td> </tr> </table>   $65 - 28 = 37$ <table border="1" style="border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th style="padding: 2px 5px;">Tens</th> <th style="padding: 2px 5px;">Ones</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table> $\begin{array}{r} 5 \overset{1}{\cancel{6}}5 \\ - 28 \\ \hline 37 \end{array}$ <table border="1" style="border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th style="padding: 2px 5px;">Tens</th> <th style="padding: 2px 5px;">Ones</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	?	28	Tens	Ones					Tens	Ones					At this stage, encourage children to use the formal column method when calculating alongside straws, base 10 or place value counters. As numbers become larger, straws become less efficient. Children can also use a blank number line to count on to find the difference. Encourage them to jump to multiples of 10 to become more efficient.
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Tens	Ones														
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Skill: Subtract numbers with up to 3 digits	Year: 3																						
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435																							
273 ?																							
Hundreds	Tens	Ones																					
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Skill: Subtract numbers with up to 4 digits	Year: 4																
$\begin{array}{r} 4,357 \\ - 2,735 \\ \hline \end{array}$ $\begin{array}{r} 3 1 \\ 4357 \\ - 2735 \\ \hline 1622 \end{array}$ $4,357 - 2,735 = 1,622$ <table border="1" style="width: 45%; text-align: center; font-size: 0.8em;"> <tr><th>Thousands</th><th>Hundreds</th><th>Tens</th><th>Ones</th></tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="1" style="width: 45%; text-align: center; font-size: 0.8em;"> <tr><th>Thousands</th><th>Hundreds</th><th>Tens</th><th>Ones</th></tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Thousands	Hundreds	Tens	Ones					Thousands	Hundreds	Tens	Ones					Base 10 and place value counters are the most effective manipulatives when subtracting numbers with up to 4 digits. Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method. Plain counters on a place value grid can also be used to support learning.
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Skill: Subtract numbers with more than 4 digits	Year: 5/6																																				
$\begin{array}{r} 294,382 \\ - 182,501 \\ \hline \end{array}$ $294,382 - 182,501 = 111,881$ <table border="1" style="width: 45%; text-align: center; font-size: 0.8em;"> <tr><th>HTh</th><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="1" style="width: 45%; text-align: center; font-size: 0.8em;"> <tr><td></td><td>2</td><td>9</td><td>3</td><td>1</td><td>3</td><td>8</td><td>2</td></tr> <tr><td>-</td><td>1</td><td>8</td><td>2</td><td>5</td><td>0</td><td>1</td><td></td></tr> <tr><td></td><td>1</td><td>1</td><td>1</td><td>8</td><td>8</td><td>1</td><td></td></tr> </table>	HTh	TTh	Th	H	T	O								2	9	3	1	3	8	2	-	1	8	2	5	0	1			1	1	1	8	8	1		Place value counters or plain counters on a place value grid are the most effective concrete resource when subtracting numbers with more than 4 digits. At this stage, children should be encouraged to work in the abstract, using column method to subtract larger numbers efficiently.
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-	1	8	2	5	0	1																															
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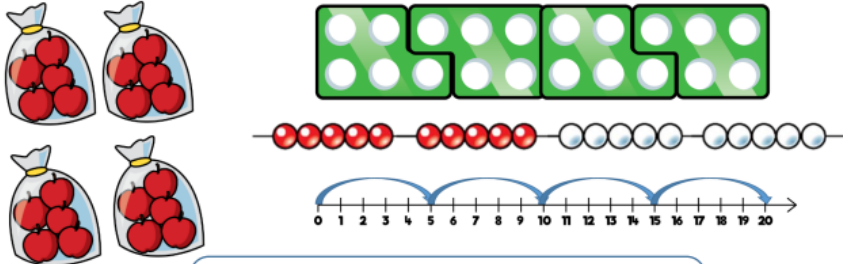
Skill: Subtract with up to 3 decimal places	Year: 5												
 $\begin{array}{r} 5.43 \\ \hline 2.7 \quad ? \\ \hline \end{array}$ $\begin{array}{r} 4 \quad 1 \\ 5.43 \\ - 2.7 \\ \hline 2.73 \end{array}$ $5.43 - 2.7 = 2.73$ <table border="1" style="border-collapse: collapse; width: 150px;"> <thead> <tr style="background-color: #f2f2f2;"> <th style="padding: 2px 5px;">Ones</th> <th style="padding: 2px 5px;">Tenths</th> <th style="padding: 2px 5px;">Hundredths</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 1 1 1 1</td> <td style="text-align: center;">0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1</td> <td style="text-align: center;">0.01 0.01 0.01</td> </tr> </tbody> </table> <table border="1" style="border-collapse: collapse; width: 150px;"> <thead> <tr style="background-color: #f2f2f2;"> <th style="padding: 2px 5px;">Ones</th> <th style="padding: 2px 5px;">Tenths</th> <th style="padding: 2px 5px;">Hundredths</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1 1 1 1 1</td> <td style="text-align: center;">0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1</td> <td style="text-align: center;">0.01 0.01 0.01</td> </tr> </tbody> </table>	Ones	Tenths	Hundredths	1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01	Ones	Tenths	Hundredths	1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01	Place value counters and plain counters on a place value grid are the most effective manipulative when subtracting decimals with 1, 2 and then 3 decimal places. Ensure children have experience of subtracting decimals with a variety of decimal places. This includes putting this into context when subtracting money and other measures.
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1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01											
Ones	Tenths	Hundredths											
1 1 1 1 1	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.01 0.01 0.01											

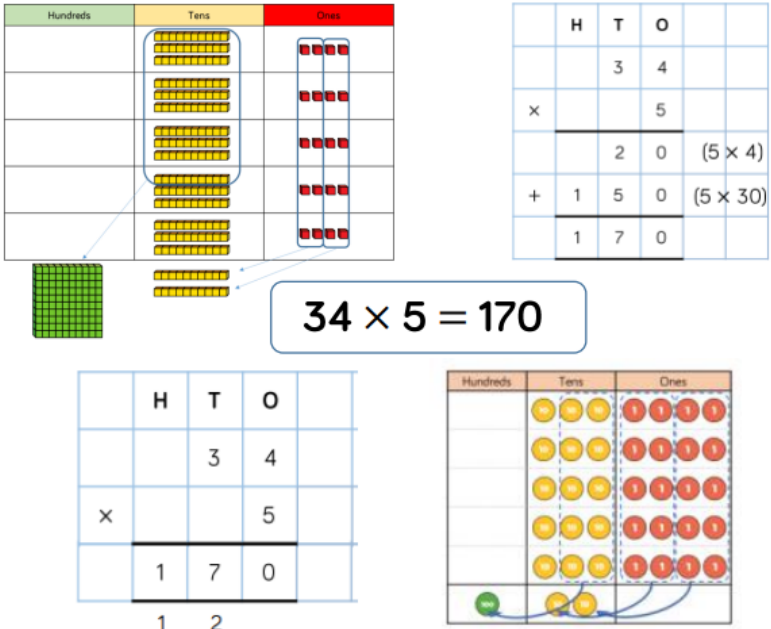
Multiplication

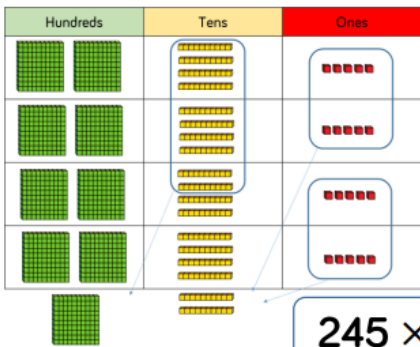
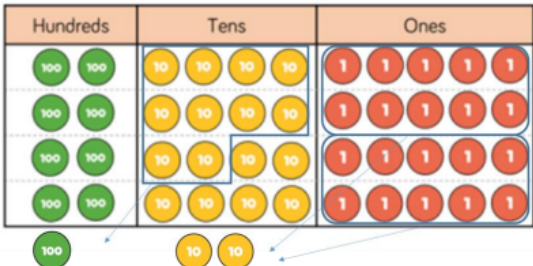
Skill	Year	Representations and models	
Recall and use multiplication and division facts for the 2-times table	2	Bar model Number shapes Counters Money	Ten frames Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 5-times table	2	Bar model Number shapes Counters Money	Ten frames Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 10-times table	2	Hundred square Number shapes Counters Money	Ten frames Bead strings Number lines Base 10

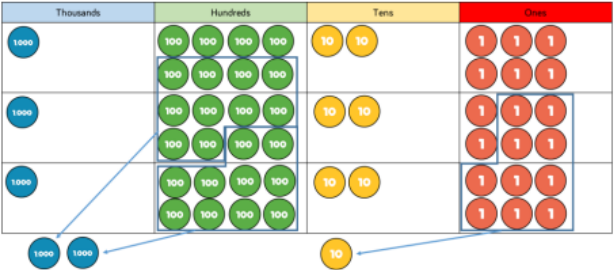
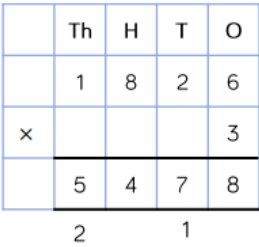
Skill	Year	Representations and models	
Recall and use multiplication and division facts for the 3-times table	3	Hundred square Number shapes Counters	Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 4-times table	3	Hundred square Number shapes Counters	Bead strings Number lines Everyday objects
Recall and use multiplication and division facts for the 8-times table	3	Hundred square Number shapes	Bead strings Number tracks Everyday objects
Recall and use multiplication and division facts for the 6-times table	4	Hundred square Number shapes	Bead strings Number tracks Everyday objects

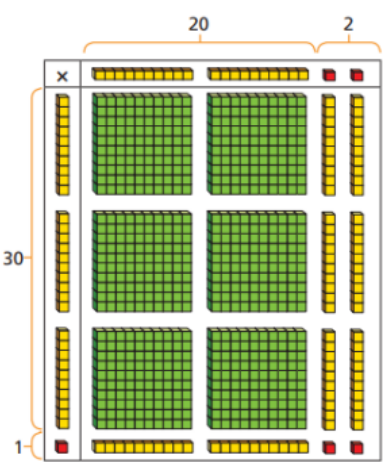
Skill	Year	Representations and models	
Recall and use multiplication and division facts for the 7-times table	4	Hundred square Number shapes	Bead strings Number lines
Recall and use multiplication and division facts for the 9-times table	4	Hundred square Number shapes	Bead strings Number lines
Recall and use multiplication and division facts for the 11-times table	4	Hundred square Base 10	Place value counters Number lines
Recall and use multiplication and division facts for the 12-times table	4	Hundred square Base 10	Place value counters Number lines

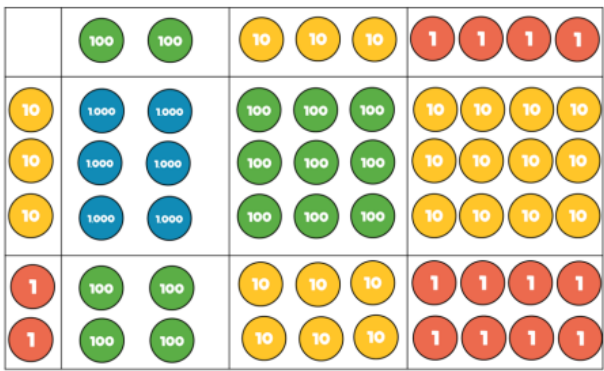
Skill: Solve 1-step problems using multiplication	Year: 1/2
 One bag holds 5 apples. How many apples do 4 bags hold? $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 \times 4 = 20$	Children represent multiplication as repeated addition in many different ways. In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record multiplication formally. In Year 2, children are introduced to the multiplication symbol.

Skill: Multiply 2-digit numbers by 1-digit numbers	Year: 3/4
 $34 \times 5 = 170$	Teachers may decide to first look at the expanded column method before moving on to the short multiplication method. The place value counters should be used to support the understanding of the method rather than supporting the multiplication, as children should use times table knowledge.

Skill: Multiply 3-digit numbers by 1-digit numbers				Year: 3/4																		
 $245 \times 4 = 980$ 	<table border="1" style="margin: auto; border-collapse: collapse; text-align: center;"> <tr><th></th><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td>2</td><td>4</td><td>5</td></tr> <tr><td>x</td><td></td><td></td><td>4</td></tr> <tr style="border-top: 1px solid black;"><td></td><td>9</td><td>8</td><td>0</td></tr> <tr><td></td><td>1</td><td>2</td><td></td></tr> </table>		H	T	O		2	4	5	x			4		9	8	0		1	2		When moving to 3-digit by 1-digit multiplication, encourage children to move towards the short, formal written method. Base 10 and place value counters continue to support the understanding of the written method. Limit the number of exchanges needed in the questions and move children away from resources when multiplying larger numbers.
	H	T	O																			
	2	4	5																			
x			4																			
	9	8	0																			
	1	2																				

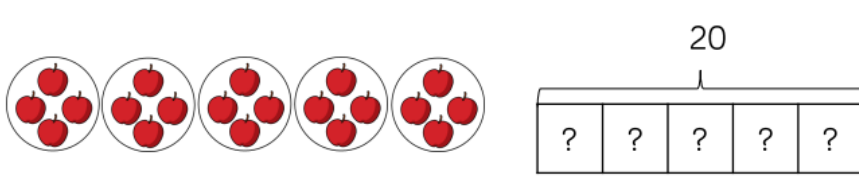
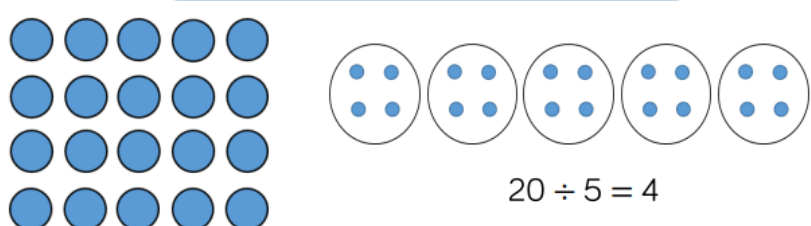
Skill: Multiply 4-digit numbers by 1-digit numbers				Year: 5																							
 $1,826 \times 3 = 5,478$ 	<table border="1" style="margin: auto; border-collapse: collapse; text-align: center;"> <tr><th></th><th>Th</th><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td>1</td><td>8</td><td>2</td><td>6</td></tr> <tr><td>x</td><td></td><td></td><td></td><td>3</td></tr> <tr style="border-top: 1px solid black;"><td></td><td>5</td><td>4</td><td>7</td><td>8</td></tr> <tr><td></td><td>2</td><td></td><td>1</td><td></td></tr> </table>		Th	H	T	O		1	8	2	6	x				3		5	4	7	8		2		1		When multiplying 4-digit numbers, place value counters are the best manipulative to use to support children in their understanding of the formal written method. If children are multiplying larger numbers and struggling with their times tables, encourage the use of multiplication grids so children can focus on the use of the written method.
	Th	H	T	O																							
	1	8	2	6																							
x				3																							
	5	4	7	8																							
	2		1																								

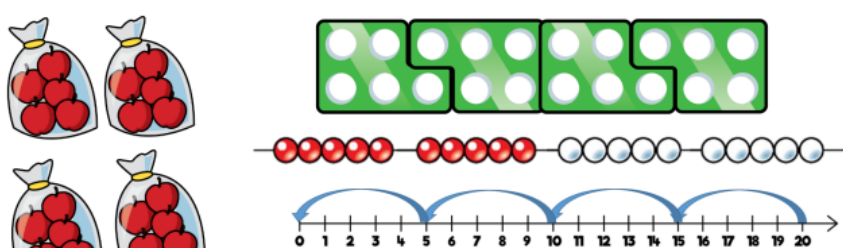
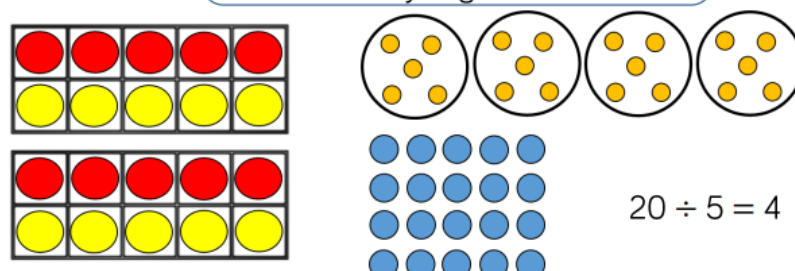
Skill: Multiply 2-digit numbers by 2-digit numbers	Year: 5																																	
 <table border="1" style="border-collapse: collapse;"> <tr><td>×</td><td>20</td><td>2</td></tr> <tr><td>30</td><td>600</td><td>60</td></tr> <tr><td>1</td><td>20</td><td>2</td></tr> </table> <table border="1" style="border-collapse: collapse;"> <tr><td></td><td>H</td><td>T</td><td>O</td></tr> <tr><td></td><td></td><td>2</td><td>2</td></tr> <tr><td>×</td><td></td><td>3</td><td>1</td></tr> <tr><td></td><td></td><td>2</td><td>2</td></tr> <tr><td></td><td>6</td><td>6</td><td>0</td></tr> <tr><td></td><td>6</td><td>8</td><td>2</td></tr> </table> $22 \times 31 = 682$	×	20	2	30	600	60	1	20	2		H	T	O			2	2	×		3	1			2	2		6	6	0		6	8	2	When multiplying a multi-digit number by 2-digits, 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 space covered by the Base 10. The grid method matches the area model as an initial written method before moving on to the formal written multiplication method.
×	20	2																																
30	600	60																																
1	20	2																																
	H	T	O																															
		2	2																															
×		3	1																															
		2	2																															
	6	6	0																															
	6	8	2																															

Skill: Multiply 3-digit numbers by 2-digit numbers	Year: 5																																				
 <table border="1" style="border-collapse: collapse;"> <tr><td>×</td><td>200</td><td>30</td><td>4</td></tr> <tr><td>30</td><td>6,000</td><td>900</td><td>120</td></tr> <tr><td>2</td><td>400</td><td>60</td><td>8</td></tr> </table> <table border="1" style="border-collapse: collapse;"> <tr><td>Th</td><td>H</td><td>T</td><td>O</td></tr> <tr><td></td><td>2</td><td>3</td><td>4</td></tr> <tr><td>×</td><td></td><td>3</td><td>2</td></tr> <tr><td></td><td>4</td><td>6</td><td>8</td></tr> <tr><td>17</td><td>10</td><td>2</td><td>0</td></tr> <tr><td>7</td><td>4</td><td>8</td><td>8</td></tr> </table> $234 \times 32 = 7,488$	×	200	30	4	30	6,000	900	120	2	400	60	8	Th	H	T	O		2	3	4	×		3	2		4	6	8	17	10	2	0	7	4	8	8	Children can continue to use the area model when multiplying 3-digits by 2-digits. Place value counters become more efficient to use but Base 10 can be used to highlight the size of numbers. Encourage children to move towards the formal written method, seeing the links with the grid method.
×	200	30	4																																		
30	6,000	900	120																																		
2	400	60	8																																		
Th	H	T	O																																		
	2	3	4																																		
×		3	2																																		
	4	6	8																																		
17	10	2	0																																		
7	4	8	8																																		

Skill: Multiply 4-digit numbers by 2-digit numbers	Year: 5/6																																								
<table><tr><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>2</td><td>7</td><td>3</td><td>9</td></tr><tr><td>×</td><td></td><td></td><td>2</td><td>8</td></tr><tr><td>2</td><td>1</td><td>9</td><td>1</td><td>2</td></tr><tr><td>2</td><td>5</td><td>3</td><td>7</td><td></td></tr><tr><td>5</td><td>4</td><td>7</td><td>8</td><td>0</td></tr><tr><td>1</td><td></td><td>1</td><td></td><td></td></tr><tr><td>7</td><td>6</td><td>6</td><td>9</td><td>2</td></tr></table> 1 2,739 × 28 = 76,692	TTh	Th	H	T	O		2	7	3	9	×			2	8	2	1	9	1	2	2	5	3	7		5	4	7	8	0	1		1			7	6	6	9	2	When multiplying 4-digits by 2-digits, children should be confident in the written method. If they are still struggling with times tables, provide multiplication grids to support when they are focusing on the use of the method. Consider where exchanged digits are placed and make sure this is consistent.
TTh	Th	H	T	O																																					
	2	7	3	9																																					
×			2	8																																					
2	1	9	1	2																																					
2	5	3	7																																						
5	4	7	8	0																																					
1		1																																							
7	6	6	9	2																																					

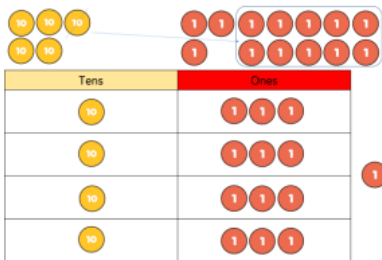
Division

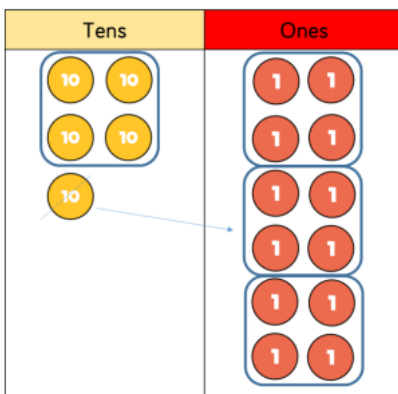
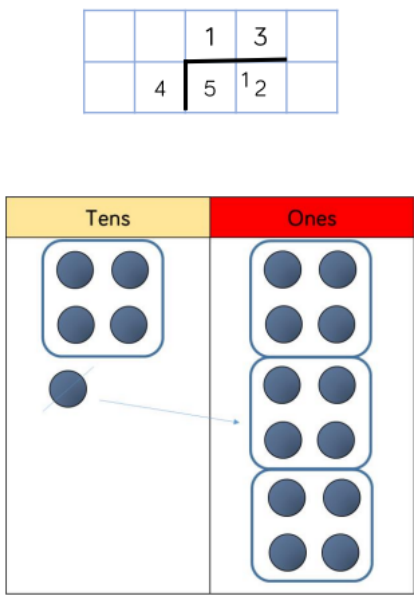
Skill: Solve 1-step problems using multiplication (sharing)	Year: 1/2
 There are 20 apples altogether. They are shared equally between 5 bags. How many apples are in each bag?  $20 \div 5 = 4$	Children solve problems by sharing amounts into equal groups. In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record division formally. In Year 2, children are introduced to the division symbol.

Skill: Solve 1-step problems using division (grouping)	Year: 1/2
 There are 20 apples altogether. They are put in bags of 5. How many bags are there?  $20 \div 5 = 4$	Children solve problems by grouping and counting the number of groups. Grouping encourages children to count in multiples and links to repeated subtraction on a number line. They can use concrete representations in fixed groups such as number shapes which helps to show the link between multiplication and division.

Skill: Divide 2-digits by 1-digit (sharing with no exchange)	Year: 1/2						
<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> <pre> graph TD 48((48)) --> 40((40)) 48 --> 8((8)) 40 -- "÷ 2" --> Box1[] 8 -- "÷ 2" --> Box2[] </pre> $48 \div 2 = 24$	Tens	Ones	10 10	1 1 1 1	10 10	1 1 1 1	When dividing larger numbers, children can use manipulatives that allow them to partition into tens and ones. Straws, Base 10 and place value counters can all be used to share numbers into equal groups. Part-whole models can provide children with a clear written method that matches the concrete representation.
Tens	Ones						
10 10	1 1 1 1						
10 10	1 1 1 1						

Skill: Divide 2-digits by 1-digit (sharing with exchange)	Year: 3/4																																		
 <table><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> 52 <table><tr><td>?</td><td>?</td><td>?</td><td>?</td></tr></table> 52 40 12 ÷ 4 10 3 10 + 3 = 13 52 ÷ 4 = 13 <table><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table> <table><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></tbody></table>	Tens	Ones									?	?	?	?	Tens	Ones									Tens	Ones									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.
Tens	Ones																																		
																																			
																																			
																																			
																																			
?	?	?	?																																
Tens	Ones																																		
																																			
																																			
																																			
																																			
Tens	Ones																																		
																																			
																																			
																																			
																																			

Skill: Divide 2-digits by 1-digit (sharing with remainders)	Year: 3/4
 53 40 13 ÷ 4 10 12 1 3 $53 \div 4 = 13 \text{ r}1$ 	When dividing numbers with remainders, children can use Base 10 and place value counters to exchange one ten for ten ones. Starting with the 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.

Skill: Divide 2-digits by 1-digit (grouping)	Year: 4/5
 $52 \div 4 = 13$ 	When using the short division method, children use grouping. Starting with the largest place value, they group by the divisor. 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?' Remainders can also be seen as they are left ungrouped.

Skill: Divide 3-digits by 1-digit (sharing)	Year: 4																							
$844 \div 4 = 211$ 844 <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="height: 20px;"></td><td style="height: 20px;"></td><td style="height: 20px;"></td><td style="height: 20px;"></td></tr> <tr><td style="text-align: center;">?</td><td style="text-align: center;">?</td><td style="text-align: center;">?</td><td style="text-align: center;">?</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 150px;"> <thead> <tr style="background-color: #d9e1f2;"> <th style="width: 33%;">H</th> <th style="width: 33%;">T</th> <th style="width: 33%;">O</th> </tr> </thead> <tbody> <tr><td>100 100</td><td>10</td><td>1</td></tr> <tr><td>100 100</td><td>10</td><td>1</td></tr> <tr><td>100 100</td><td>10</td><td>1</td></tr> <tr><td>100 100</td><td>10</td><td>1</td></tr> </tbody> </table>					?	?	?	?	H	T	O	100 100	10	1	100 100	10	1	100 100	10	1	100 100	10	1	Children can continue to use place value counters to share 3-digit numbers into equal groups. Children should start with the equipment outside the place value grid before sharing the hundreds, tens and ones equally between the rows. This method can also help to highlight remainders. Flexible partitioning in a part-whole model supports this method.
?	?	?	?																					
H	T	O																						
100 100	10	1																						
100 100	10	1																						
100 100	10	1																						
100 100	10	1																						
$844 \div 4 = 211$ 856 <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="height: 20px;"></td><td style="height: 20px;"></td><td style="height: 20px;"></td><td style="height: 20px;"></td></tr> <tr><td style="text-align: center;">?</td><td style="text-align: center;">?</td><td style="text-align: center;">?</td><td style="text-align: center;">?</td></tr> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 150px;"> <thead> <tr style="background-color: #d9e1f2;"> <th style="width: 33%;">Hundreds</th> <th style="width: 33%;">Tens</th> <th style="width: 33%;">Ones</th> </tr> </thead> <tbody> <tr><td>100 100</td><td>10</td><td>1 1 1 1</td></tr> <tr><td>100 100</td><td>10</td><td>1 1 1 1</td></tr> <tr><td>100 100</td><td>10</td><td>1 1 1 1</td></tr> <tr><td>100 100</td><td>10</td><td>1 1 1 1</td></tr> </tbody> </table>					?	?	?	?	Hundreds	Tens	Ones	100 100	10	1 1 1 1	100 100	10	1 1 1 1	100 100	10	1 1 1 1	100 100	10	1 1 1 1	
?	?	?	?																					
Hundreds	Tens	Ones																						
100 100	10	1 1 1 1																						
100 100	10	1 1 1 1																						
100 100	10	1 1 1 1																						
100 100	10	1 1 1 1																						

Skill: Divide 3-digits by 1-digit (grouping)	Year: 5																									
<table border="1" style="border-collapse: collapse; text-align: center; width: 150px;"> <thead> <tr style="background-color: #d9e1f2;"> <th style="width: 33%;">Hundreds</th> <th style="width: 33%;">Tens</th> <th style="width: 33%;">Ones</th> </tr> </thead> <tbody> <tr><td>100 100 100 100</td><td>10 10 10 10</td><td>1 1 1 1</td></tr> <tr><td>100 100 100 100</td><td>10 10 10 10</td><td>1 1 1 1</td></tr> <tr><td>100 100 100 100</td><td>10 10 10 10</td><td>1 1 1 1</td></tr> <tr><td>100 100 100 100</td><td>10 10 10 10</td><td>1 1 1 1</td></tr> </tbody> </table> <table border="1" style="border-collapse: collapse; text-align: center; width: 100px;"> <tr><td style="width: 25px;"></td><td style="width: 25px;"></td><td style="width: 25px;">2</td><td style="width: 25px;">1</td><td style="width: 25px;">4</td></tr> <tr><td style="border-right: 1px solid black; width: 25px;"></td><td style="border-right: 1px solid black; width: 25px;">4</td><td style="border-right: 1px solid black; width: 25px;">8</td><td style="border-right: 1px solid black; width: 25px;">5</td><td style="border-right: 1px solid black; width: 25px;">16</td></tr> </table>	Hundreds	Tens	Ones	100 100 100 100	10 10 10 10	1 1 1 1	100 100 100 100	10 10 10 10	1 1 1 1	100 100 100 100	10 10 10 10	1 1 1 1	100 100 100 100	10 10 10 10	1 1 1 1			2	1	4		4	8	5	16	Children can continue to use grouping to support their understanding of short division when dividing a 3-digit number by a 1-digit number.
Hundreds	Tens	Ones																								
100 100 100 100	10 10 10 10	1 1 1 1																								
100 100 100 100	10 10 10 10	1 1 1 1																								
100 100 100 100	10 10 10 10	1 1 1 1																								
100 100 100 100	10 10 10 10	1 1 1 1																								
		2	1	4																						
	4	8	5	16																						
$856 \div 4 = 214$	Place value counters or plain counters can be used on a place value grid to support this understanding. Children can also draw their own counters and group them through a more pictorial method.																									

Skill: Divide 4-digits by 1-digit (grouping)	Year: 5																																										
<table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d9e1f2;"> <th style="width: 12.5%;">Th</th> <th style="width: 12.5%;">H</th> <th style="width: 12.5%;">T</th> <th style="width: 12.5%;">O</th> </tr> </thead> <tbody> <tr> <td>1,000 1,000</td> <td>100 100</td> <td>10 10</td> <td>1 1</td> </tr> <tr> <td>1,000 1,000</td> <td>100 100</td> <td>10 →</td> <td>1 1</td> </tr> <tr> <td>1,000 1,000</td> <td>100 →</td> <td>10 10</td> <td>1 1</td> </tr> <tr> <td>1,000 1,000</td> <td></td> <td>10 10</td> <td>1 1</td> </tr> <tr> <td></td> <td></td> <td>10 10</td> <td>1 1</td> </tr> <tr> <td></td> <td></td> <td>10 10</td> <td>1 1</td> </tr> <tr> <td></td> <td></td> <td>10 10</td> <td>1 1</td> </tr> </tbody> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">4</td> <td style="width: 20px;">2</td> <td style="width: 20px;">6</td> <td style="width: 20px;">6</td> </tr> <tr> <td style="border-right: 1px solid black;">2</td> <td>8</td> <td>5</td> <td>¹3</td> <td>¹2</td> </tr> </table>	Th	H	T	O	1,000 1,000	100 100	10 10	1 1	1,000 1,000	100 100	10 →	1 1	1,000 1,000	100 →	10 10	1 1	1,000 1,000		10 10	1 1			10 10	1 1			10 10	1 1			10 10	1 1		4	2	6	6	2	8	5	¹ 3	¹ 2	Place value counters or plain counters can be used on a place value grid to support children to divide 4-digits by 1-digit. Children can also draw their own counters and group them through a more pictorial method. Children should be encouraged to move away from the concrete and pictorial when dividing numbers with multiple exchanges.
Th	H	T	O																																								
1,000 1,000	100 100	10 10	1 1																																								
1,000 1,000	100 100	10 →	1 1																																								
1,000 1,000	100 →	10 10	1 1																																								
1,000 1,000		10 10	1 1																																								
		10 10	1 1																																								
		10 10	1 1																																								
		10 10	1 1																																								
	4	2	6	6																																							
2	8	5	¹ 3	¹ 2																																							
$8,532 \div 2 = 4,266$																																											

Skill: Divide multi digits by 2-digits (short division)	Year: 6																														
<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;"></td> <td style="width: 20px;"></td> <td style="width: 20px;">0</td> <td style="width: 20px;">3</td> <td style="width: 20px;">6</td> </tr> <tr> <td style="border-right: 1px solid black;">12</td> <td>4</td> <td>⁴3</td> <td>⁷2</td> <td></td> </tr> </table> $432 \div 12 = 36$ $7,335 \div 15 = 489$ <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">0</td> <td style="width: 20px;">4</td> <td style="width: 20px;">8</td> <td style="width: 20px;">9</td> </tr> <tr> <td style="border-right: 1px solid black;">15</td> <td>7</td> <td>⁷3</td> <td>¹³3</td> <td>¹³5</td> </tr> </table> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">15</td> <td style="width: 20px;">30</td> <td style="width: 20px;">45</td> <td style="width: 20px;">60</td> <td style="width: 20px;">75</td> <td style="width: 20px;">90</td> <td style="width: 20px;">105</td> <td style="width: 20px;">120</td> <td style="width: 20px;">135</td> <td style="width: 20px;">150</td> </tr> </table>			0	3	6	12	4	⁴ 3	⁷ 2			0	4	8	9	15	7	⁷ 3	¹³ 3	¹³ 5	15	30	45	60	75	90	105	120	135	150	When children begin to divide up to 4-digits by 2-digits, written methods become the most accurate as concrete and pictorial representations become less effective. Children can write out multiples to support their calculations with larger remainders. Children will also solve problems with remainders where the quotient can be rounded as appropriate.
		0	3	6																											
12	4	⁴ 3	⁷ 2																												
	0	4	8	9																											
15	7	⁷ 3	¹³ 3	¹³ 5																											
15	30	45	60	75	90	105	120	135	150																						

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

Year: 6

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

(x30)

(x6)

12 x 1 = 12

12 x 2 = 24

12 x 3 = 36

12 x 4 = 48

12 x 5 = 60

12 x 6 = 72

12 x 7 = 84

12 x 8 = 96

12 x 9 = 108

12 x 10 = 120

432 ÷ 12 = 36

	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

(x400)

(x80)

(x9)

1 x 15 = 15

2 x 15 = 30

3 x 15 = 45

4 x 15 = 60

5 x 15 = 75

10 x 15 = 150

7,335 ÷ 15 = 489

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

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

Children will also solve problems with remainders where the quotient can be rounded as appropriate.

Skill: Divide multi digits by 2-digits (long division)		Year: 6																																																																														
$372 \div 15 = 24 \text{ r}12$ <table><tr><td></td><td></td><td></td><td>2</td><td>4</td></tr><tr><td>1</td><td>5</td><td>3</td><td>7</td><td>2</td></tr><tr><td></td><td>-</td><td>3</td><td>0</td><td>0</td></tr><tr><td></td><td></td><td></td><td>7</td><td>2</td></tr><tr><td></td><td>-</td><td></td><td>6</td><td>0</td></tr><tr><td></td><td></td><td></td><td>1</td><td>2</td></tr></table>				2	4	1	5	3	7	2		-	3	0	0				7	2		-		6	0				1	2	<table><tr><td></td><td></td><td></td><td>2</td><td>4</td><td>r</td><td>1</td><td>2</td></tr><tr><td>1</td><td>5</td><td>3</td><td>7</td><td>2</td><td></td><td></td><td></td></tr><tr><td></td><td>-</td><td>3</td><td>0</td><td>0</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>7</td><td>2</td><td></td><td></td><td></td></tr><tr><td></td><td>-</td><td></td><td>6</td><td>0</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td>1</td><td>2</td><td></td><td></td><td></td></tr></table> $372 \div 15 = 24 \frac{4}{5}$				2	4	r	1	2	1	5	3	7	2					-	3	0	0							7	2					-		6	0							1	2				When a remainder is left at the end of a calculation, children can either leave it as a remainder or convert it to a fraction. This will depend on the context of the question. Children can also answer questions where the quotient needs to be rounded according to the context.
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