

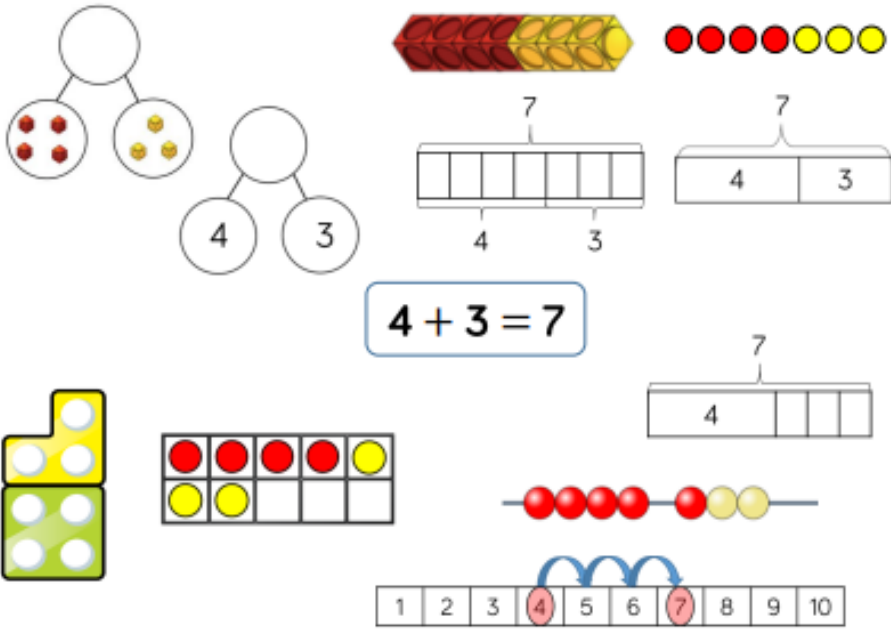
Calculation Policy 2022-23

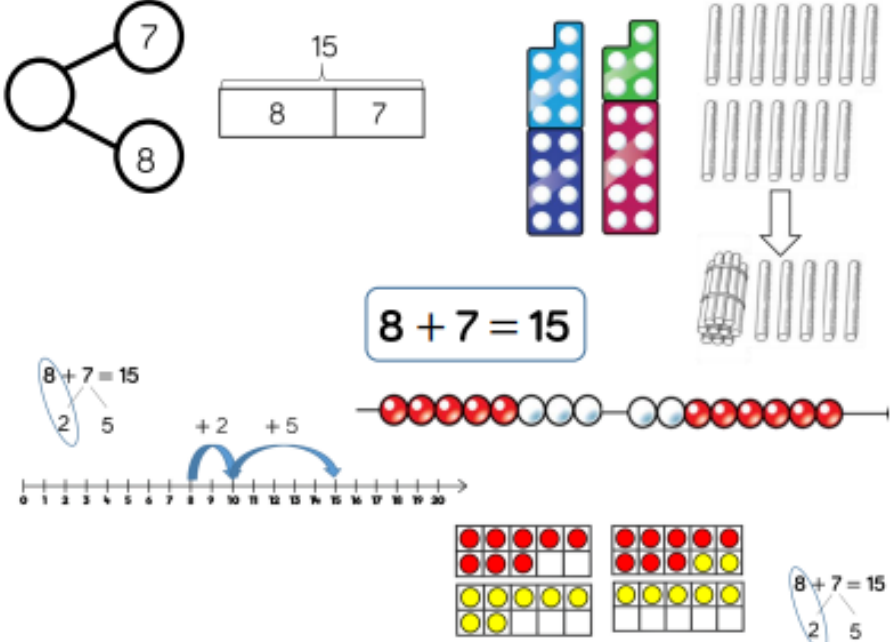
At St Mary and St Peter Catholic Primary, calculation procedures are taught according to this document so that they can be built upon year after year as each child moves up through the school.

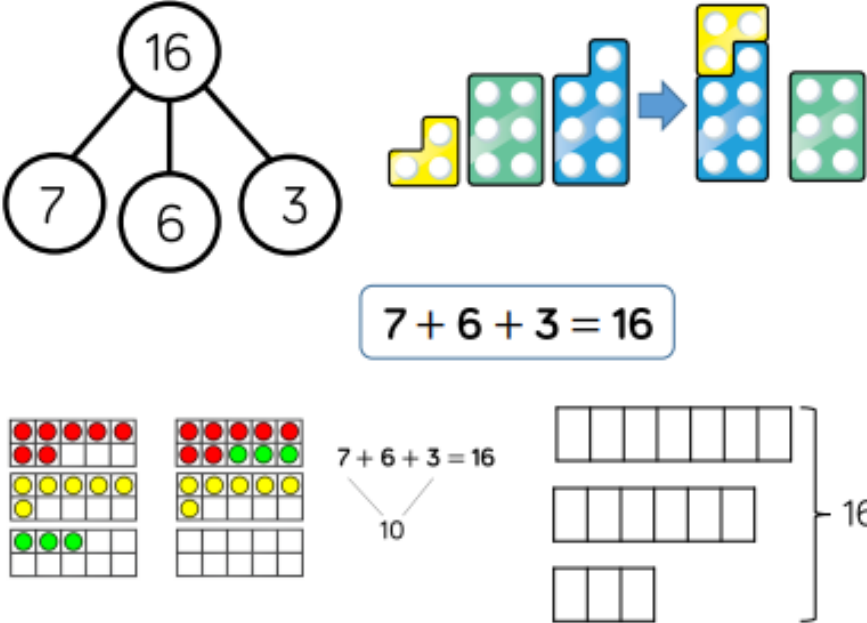
This policy has been adapted from White Rose Maths. We have found their calculation policy suits the needs of our children and the way in which we teach using a mastery approach to learning. We teach using a CPA approach so a variety of concrete resources and visuals can be seen within this policy.

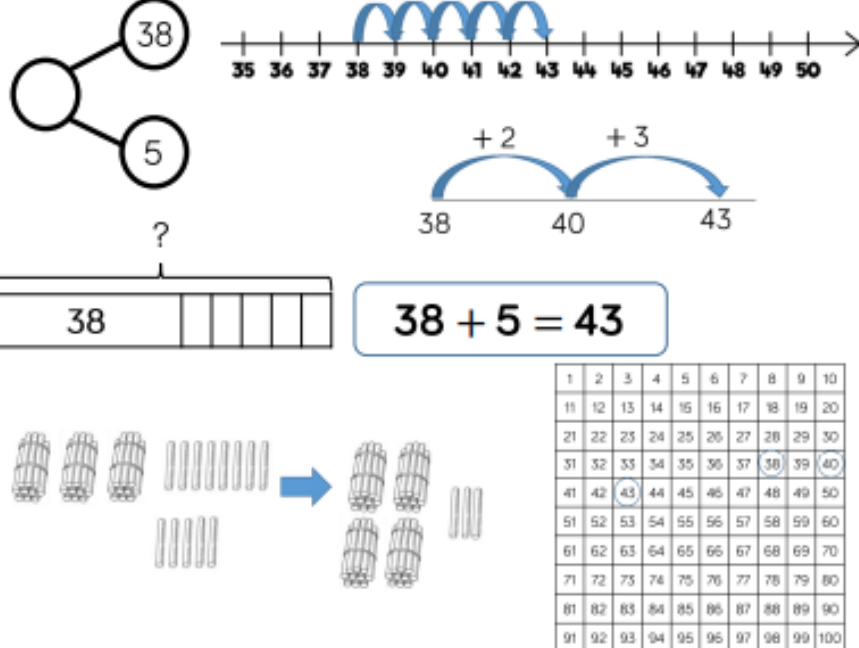
Here you will find each of the four operations (addition, subtraction, multiplication and division) broken down into year group skills and recommended models and visuals to support the teaching of these concepts.

Addition

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

Skill: Add 1 and 2-digit numbers to 20	Year: 1/2
 <p>$8 + 7 = 15$</p>	<p>When adding one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten.</p> <p>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.</p>

Skill: Add three 1-digit numbers	Year: 2
 <p>$7 + 6 + 3 = 16$</p>	<p>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.</p> <p>This supports children in their understanding of commutativity.</p> <p>Manipulatives that highlight number bonds to 10 are effective when adding three 1-digit numbers.</p>

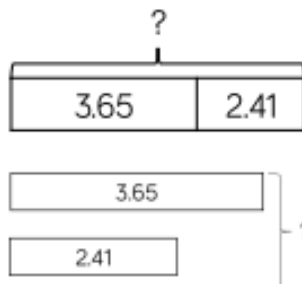
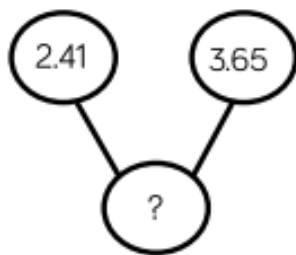
Skill: Add 1-digit and 2-digit numbers to 100	Year: 2/3
 <p>$38 + 5 = 43$</p>	<p>When adding single digits to a two-digit number, children should be encouraged to count on from the larger number.</p> <p>They should also apply their knowledge of number bonds to add more efficiently e.g. $8 + 5 = 13$ so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

Skill: Add two 2-digit numbers to 100	Year: 2/3												
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <div style="text-align: center; margin: 10px 0;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $38 + 23 = 61$ </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 100px;"> <thead> <tr> <th style="font-size: 0.8em;">Tens</th> <th style="font-size: 0.8em;">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> </div> <div style="text-align: center;"> $\begin{array}{r} 38 \\ + 23 \\ \hline 61 \\ 1 \end{array}$ </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 100px;"> <thead> <tr> <th style="font-size: 0.8em;">Tens</th> <th style="font-size: 0.8em;">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> </div> </div>	Tens	Ones		Tens	Ones	●● ●● ●●	●●●●●●●●	●● ●● ●●	●●●●●●●●	<p>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.</p> <p>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.</p>
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Skill: Add numbers with up to 3 digits	Year: 3																		
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <div style="text-align: center; margin: 10px 0;"> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> $265 + 164 = 429$ </div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 150px;"> <thead> <tr> <th style="font-size: 0.8em;">Hundreds</th> <th style="font-size: 0.8em;">Tens</th> <th style="font-size: 0.8em;">Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">■■■</td> <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> <td style="text-align: center;">.....</td> </tr> </tbody> </table> </div> <div style="text-align: center;"> $\begin{array}{r} 265 \\ + 164 \\ \hline 429 \\ 1 \end{array}$ </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 150px;"> <thead> <tr> <th style="font-size: 0.8em;">Hundreds</th> <th style="font-size: 0.8em;">Tens</th> <th style="font-size: 0.8em;">Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">●●●</td> <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> <td style="text-align: center;">●●●●●●●●</td> </tr> </tbody> </table> </div> </div>	Hundreds	Tens	Ones	■■■		■		Hundreds	Tens	Ones	●●●	●●●●●●	●●●●●●●●	●●●	●●●●●●	●●●●●●●●	<p>Base 10 and place value counters are the most effective manipulatives when adding numbers with up to 3 digits.</p> <p>Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.</p> <p>Plain counters on a place value grid can also be used to support learning.</p>
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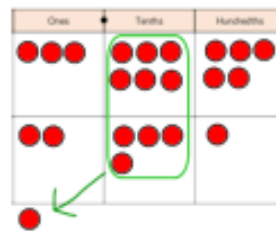
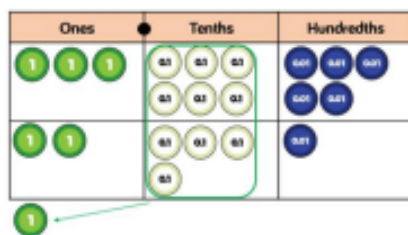
Skill: Add with up to 3 decimal places

Year: 5



$$\begin{array}{r} 3.65 \\ + 2.41 \\ \hline 6.06 \\ 1 \end{array}$$

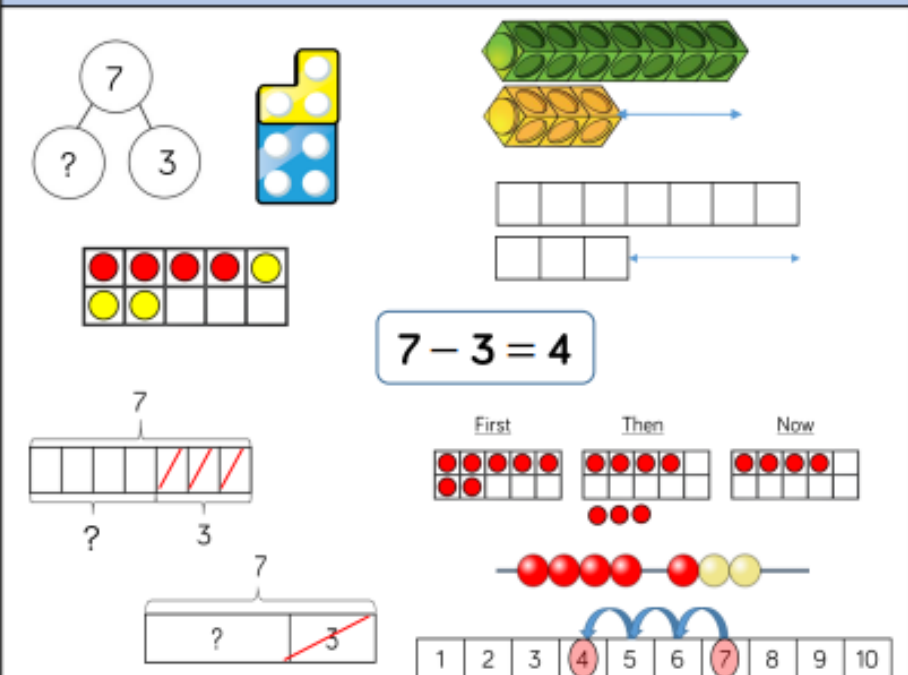
$$3.65 + 2.41 = 6.06$$

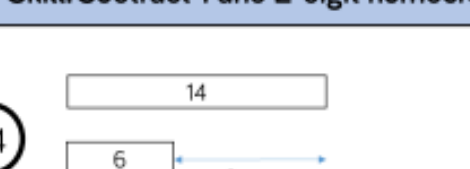


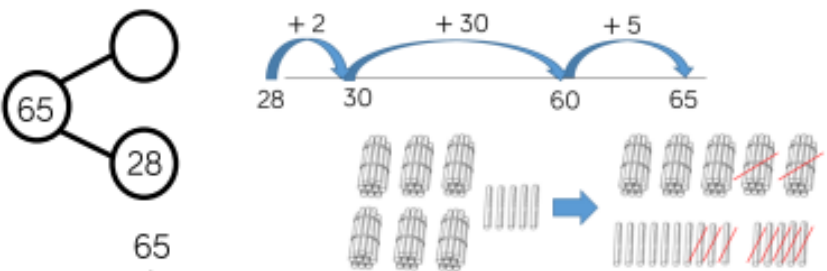
Place value counters and plain counters on a place value grid are the most effective manipulatives when adding decimals with 1, 2 and then 3 decimal places.

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
	<p>Part-whole models, bar models, ten frames and number shapes support partitioning.</p> <p>Ten frames, number tracks, single bar models and bead strings support reduction.</p> <p>Cubes and bar models with two bars can support finding the difference.</p>

Skill: Subtract 1 and 2-digit numbers to 20	Year: 1/2
	<p>When subtracting one-digit numbers that cross 10, it is important to highlight the importance of ten ones equalling one ten.</p> <p>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.</p>

Skill: Subtract 1 and 2-digit numbers to 100	Year: 2												
 <div data-bbox="231 604 526 683"> <table border="1"> <tr><td colspan="2">65</td></tr> <tr><td>?</td><td>28</td></tr> </table> </div> <div data-bbox="566 616 877 683"> $65 - 28 = 37$ </div> <div data-bbox="239 750 582 929"> <table border="1"> <thead> <tr><th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr><td></td><td></td></tr> </tbody> </table> </div> <div data-bbox="598 761 710 907"> $\begin{array}{r} 5 1 \\ 65 \\ - 28 \\ \hline 37 \end{array}$ </div> <div data-bbox="726 750 1069 929"> <table border="1"> <thead> <tr><th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr><td></td><td></td></tr> </tbody> </table> </div>	65		?	28	Tens	Ones			Tens	Ones			<p>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.</p> <p>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.</p>
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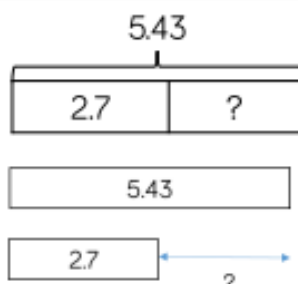
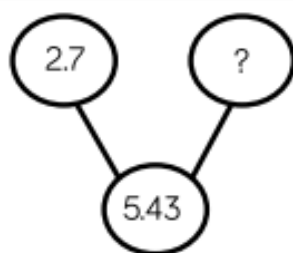
Skill: Subtract numbers with up to 3 digits	Year: 3											
<div><div><div><div>435</div><div>273</div><div>?</div></div><div><div>435</div><div><div>273</div><div>?</div></div></div><div><div>435</div><div>273</div><div>?</div></div></div><div><div><div>435 - 273 = 262</div></div></div><div><div><table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td></tr></table><div><div><div>3</div><div>1</div></div><div>435</div><div>- 273</div><div>-----</div><div>262</div></div><div><table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td></tr></table></div></div></div><div><p>Base 10 and place value counters are the most effective manipulative when subtracting numbers with up to 3 digits.</p><p>Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.</p><p>Plain counters on a place value grid can also be used to support learning.</p></div></div>	Hundreds	Tens	Ones				Hundreds	Tens	Ones			
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Skill: Subtract numbers with up to 4 digits	Year: 4																
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> $\begin{array}{r} 4,357 \\ - 2,735 \\ \hline \end{array}$ </div> </div> <div style="text-align: center; margin-top: 10px;"> $4,357 - 2,735 = 1,622$ </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <table border="1" style="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="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> </div>	Thousands	Hundreds	Tens	Ones					Thousands	Hundreds	Tens	Ones					<p>Base 10 and place value counters are the most effective manipulatives when subtracting numbers with up to 4 digits.</p> <p>Ensure children write out their calculation alongside any concrete resources so they can see the links to the written column method.</p> <p>Plain counters on a place value grid can also be used to support learning.</p>
Thousands	Hundreds	Tens	Ones														
Thousands	Hundreds	Tens	Ones														

Skill: Subtract numbers with more than 4 digits	Year: 5/6																				
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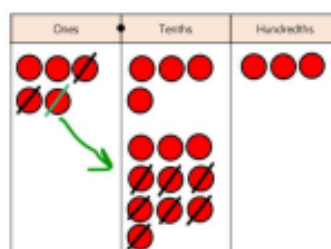
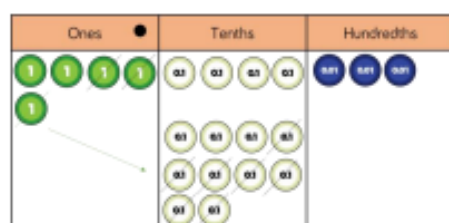
Skill: Subtract with up to 3 decimal places

Year: 5



$$\begin{array}{r} 4 \quad 1 \\ \cancel{5}.43 \\ - 2.7 \\ \hline 2.73 \end{array}$$

$$5.43 - 2.7 = 2.73$$



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.

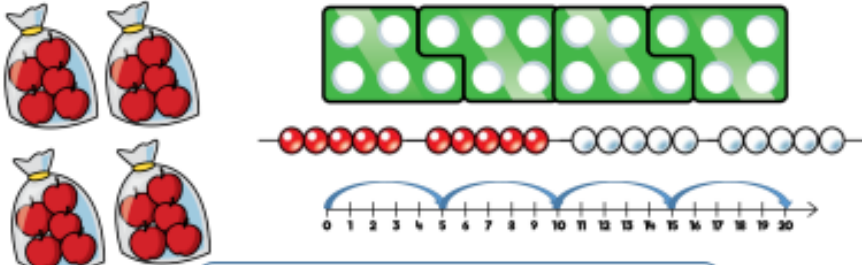
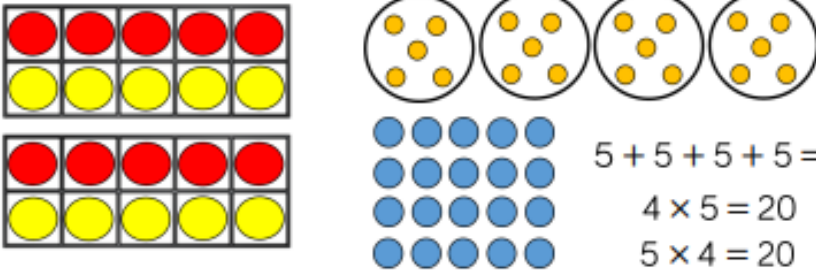
Multiplication

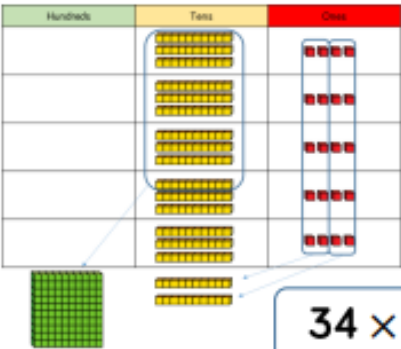

A key factor for success in multiplication and division units is a secure knowledge and understanding of times tables. At the end of Year 4, all children take part in a multiplication tables check.

At St Mary and St Peter, we teach times tables in the following order as we have found that the children can apply previously taught knowledge to help them succeed in new learning.

Year 1	In Year 1, children learn to count in 2's, 5's and 10's but do not explicitly learn times tables.
Year 2	In Year 2, children learn their 2, 5 and 10 times tables. They also begin counting in 3's.
Year 3	In Year 3, children learn their 3, 4 and 8 times tables.
Year 4	In Year 4, children learn their 6, 7, 9, 11 and 12 times tables. They also take part in the multiplication check.
Years 5 and 6	No new times tables are taught in Year 5 or Year 6. However, children who are not secure in previously taught times tables receive support and times table questions are revisited within retrieval sessions.

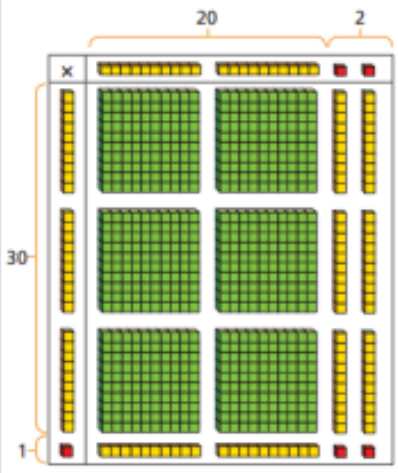
We teach times tables through the use of regular counting practice supported by either a number line or hundred square, spotting patterns and making links between times tables, i.e. seeing how the 2's, 4's and 8's are connected. We use manipulatives to delve deeper into how times tables work and have regular practice of mental strategies to recall facts quickly.

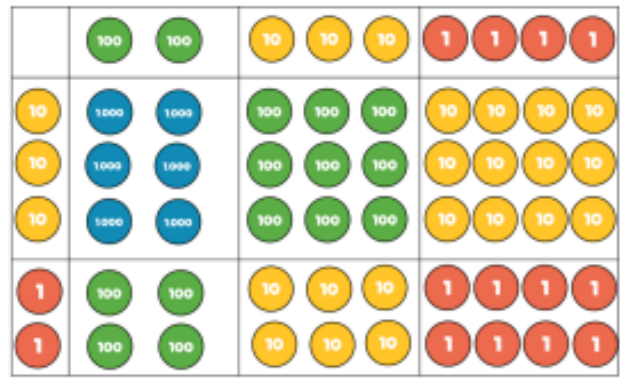
Skill: Solve 1-step problems using multiplication	Year: 1/2
 <p data-bbox="414 616 941 728">One bag holds 5 apples. How many apples do 4 bags hold?</p>  <p data-bbox="821 884 1093 1019"> $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$ $5 \times 4 = 20$ </p>	<p data-bbox="1133 369 1380 515">Children represent multiplication as repeated addition in many different ways.</p> <p data-bbox="1133 548 1380 795">In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record multiplication formally.</p> <p data-bbox="1133 828 1380 940">In Year 2, children are introduced to the multiplication symbol.</p>

Skill: Multiply 2-digit numbers by 1-digit numbers	Year: 3/4
 <p data-bbox="526 1612 845 1680">$34 \times 5 = 170$</p> 	<p data-bbox="1133 1310 1380 1556">Teachers may decide to first look at the expanded column method before moving on to the short multiplication method.</p> <p data-bbox="1133 1568 1380 1915">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.</p>

Skill: Multiply 3-digit numbers by 1-digit numbers	Year: 3/4																																																		
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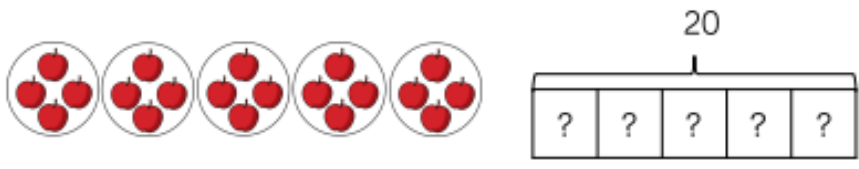
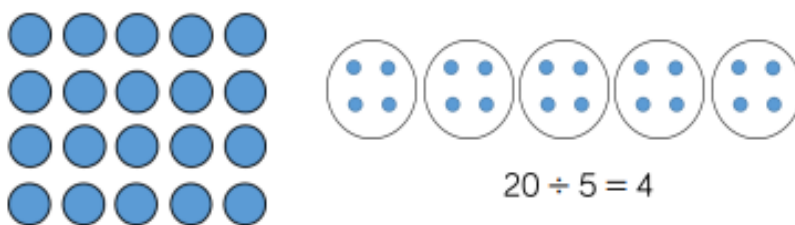
Skill: Multiply 4-digit numbers by 1-digit numbers	Year: 5																																													
<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 250px;"> <thead> <tr style="background-color: #d9e1f2;"> <th style="padding: 2px;">Thousands</th> <th style="padding: 2px;">Hundreds</th> <th style="padding: 2px;">Tens</th> <th style="padding: 2px;">Ones</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">100 100 100</td><td style="text-align: center;">10 10</td><td style="text-align: center;">1 1 1</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">100 100 100</td><td style="text-align: center;">10 10</td><td style="text-align: center;">1 1 1</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">100 100 100</td><td style="text-align: center;">10 10</td><td style="text-align: center;">1 1 1</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">100 100 100</td><td style="text-align: center;">10 10</td><td style="text-align: center;">1 1 1</td></tr> </tbody> </table> </div> <div style="text-align: center;"> <table border="1" style="border-collapse: collapse; width: 150px;"> <thead> <tr> <th></th> <th>Th</th> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <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> </tbody> </table> </div> </div> <div style="text-align: center; margin: 10px 0;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; display: inline-block;"> $1,826 \times 3 = 5,478$ </div> </div>	Thousands	Hundreds	Tens	Ones	1000	100 100 100	10 10	1 1 1	1000	100 100 100	10 10	1 1 1	1000	100 100 100	10 10	1 1 1	1000	100 100 100	10 10	1 1 1		Th	H	T	O		1	8	2	6	x				3		5	4	7	8		2		1		<p>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.</p> <p>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.</p>
Thousands	Hundreds	Tens	Ones																																											
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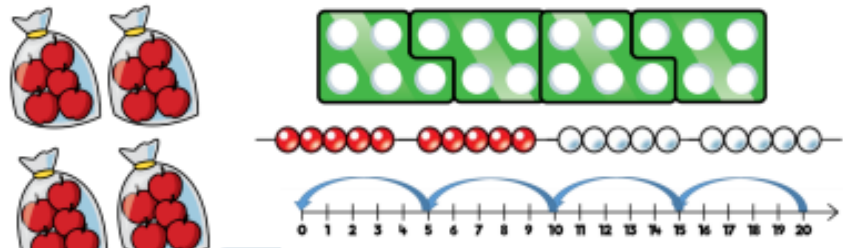
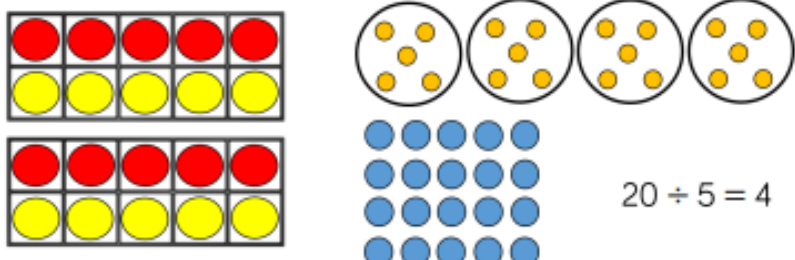
Skill: Multiply 2-digit numbers by 2-digit numbers	Year: 5																																																
<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td></td><td>10</td><td>10</td></tr> <tr><td>10</td><td>100</td><td>100</td></tr> <tr><td>10</td><td>100</td><td>100</td></tr> <tr><td>10</td><td>100</td><td>100</td></tr> <tr><td>1</td><td>10</td><td>10</td></tr> </table> </div> </div> <div style="margin-top: 20px; text-align: center;"> <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> </div> <div style="margin-top: 20px; text-align: center;"> <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> </div> <div style="margin-top: 20px; border: 1px solid black; padding: 5px; display: inline-block;"> $22 \times 31 = 682$ </div>		10	10	10	100	100	10	100	100	10	100	100	1	10	10	×	20	2	30	600	60	1	20	2		H	T	O			2	2	×		3	1			2	2		6	6	0		6	8	2	<p>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.</p> <p>The grid method matches the area model as an initial written method before moving on to the formal written multiplication method.</p>
	10	10																																															
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Skill: Multiply 3-digit numbers by 2-digit numbers	Year: 5																																																						
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	100	100																																																					
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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> <p>1</p> <div>2,739 × 28 = 76,692</div>	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	<p>When multiplying 4-digits by 2-digits, children should be confident in the written method.</p> <p>If they are still struggling with times tables, provide multiplication grids to support when they are focusing on the use of the method.</p> <p>Consider where exchanged digits are placed and make sure this is consistent.</p>
TTh	Th	H	T	O																																					
	2	7	3	9																																					
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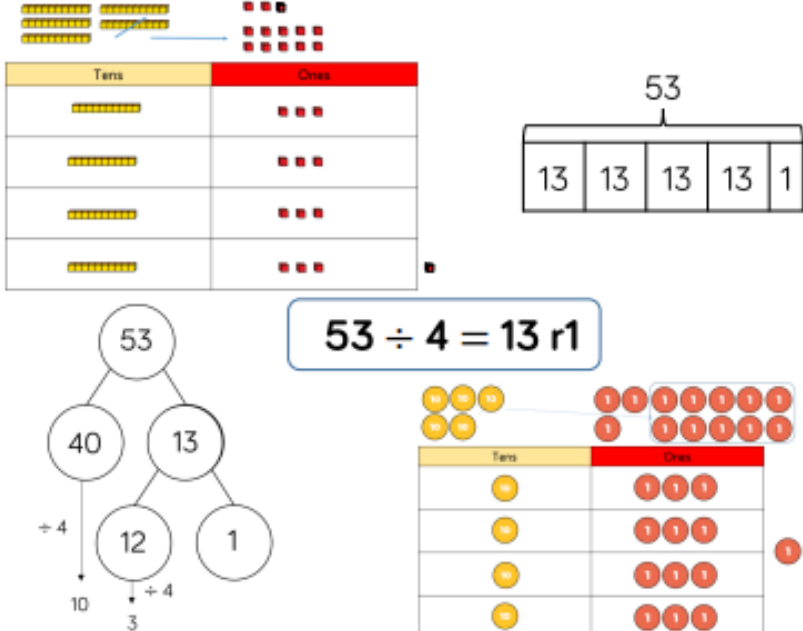
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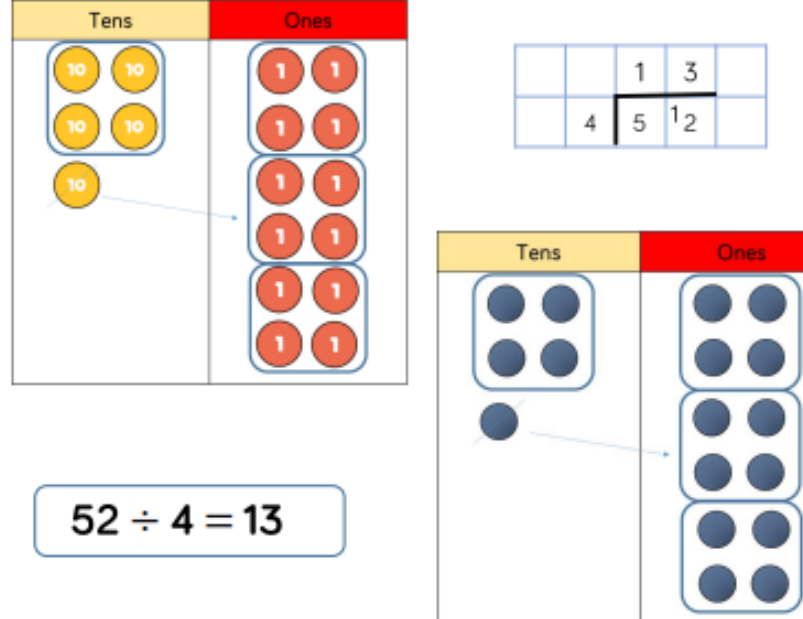
Skill: Solve 1-step problems using multiplication (sharing)	Year: 1/2
 <p>There are 20 apples altogether. They are shared equally between 5 bags. How many apples are in each bag?</p>  $20 \div 5 = 4$	<p>Children solve problems by sharing amounts into equal groups.</p> <p>In Year 1, children use concrete and pictorial representations to solve problems. They are not expected to record division formally.</p> <p>In Year 2, children are introduced to the division symbol.</p>

Skill: Solve 1-step problems using division (grouping)	Year: 1/2
 <p>There are 20 apples altogether. They are put in bags of 5. How many bags are there?</p>  $20 \div 5 = 4$	<p>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.</p>

Skill: Divide 2-digits by 1-digit (sharing with no exchange)	Year: 1/2						
<div data-bbox="252 392 635 555"> <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> </div> <div data-bbox="651 365 1098 593"> </div> <div data-bbox="260 660 467 952"> <div>48</div> <div>40 8</div> <div>÷ 2 ÷ 2</div> <div></div> </div> <div data-bbox="523 656 837 728"> $48 \div 2 = 24$ </div> <div data-bbox="595 761 1045 974"> </div>	Tens	Ones	10 10	1 1 1 1	10 10	1 1 1 1	<p>When dividing larger numbers, children can use manipulatives that allow them to partition into tens and ones.</p> <p>Straws, Base 10 and place value counters can all be used to share numbers into equal groups.</p> <p>Part-whole models can provide children with a clear written method that matches the concrete representation.</p>
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										
<div data-bbox="247 1321 558 1377"> </div> <div data-bbox="231 1384 646 1612"> <table border="1"> <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> </div> <div data-bbox="750 1384 1013 1534"> <div>52</div> <div>?</div> </div> <div data-bbox="239 1635 502 1948"> <div>52</div> <div>40 12</div> <div>÷ 4 ÷ 4</div> <div>10 3</div> <div>10 + 3 = 13</div> </div> <div data-bbox="518 1619 829 1691"> $52 \div 4 = 13$ </div> <div data-bbox="686 1702 1029 1948"> </div>	Tens	Ones									<p>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.</p> <p>Flexible partitioning in a part-whole model supports this method.</p>
Tens	Ones										

Skill: Divide 2-digits by 1-digit (sharing with remainders)	Year: 3/4
 <p>$53 \div 4 = 13 \text{ r}1$</p>	<p>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.</p>

Skill: Divide 2-digits by 1-digit (grouping)	Year: 4/5
 <p>$52 \div 4 = 13$</p>	<p>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.</p>

Skill: Divide 3-digits by 1-digit (sharing)	Year: 4																			
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-bottom: 10px; display: inline-block;"> $844 \div 4 = 211$ </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>844</p> <table border="1" style="border-collapse: collapse; width: 100px;"> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> <tr><td style="height: 20px;"></td></tr> </table> </div> <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> <div style="text-align: center;"> <p>844</p> <div style="display: flex; justify-content: space-around;"> <div>800 ↓ ÷ 4 □</div> <div>40 ↓ ÷ 4 □</div> <div>4 ↓ ÷ 4 □</div> </div> </div> </div>					H	T	O	100 100	10	1	100 100	10	1	100 100	10	1	100 100	10	1	<p>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.</p>
H	T	O																		
100 100	10	1																		
100 100	10	1																		
100 100	10	1																		
100 100	10	1																		
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin-bottom: 10px; display: inline-block;"> $844 \div 4 = 211$ </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>856</p> <div style="display: flex; justify-content: space-around;"> <div>800 ↓ ÷ 4 200</div> <div>40 ↓ ÷ 4 10</div> <div>16 ↓ ÷ 4 4</div> </div> </div> <div style="text-align: center;"> <p>856</p> <table border="1" style="border-collapse: collapse; text-align: center; width: 200px;"> <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> </div> </div>	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																		
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Skill: Divide 3-digits by 1-digit (grouping)	Year: 5																																														
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Hundreds	Tens	Ones																																													
100 100 100 100	10 10 10 10	1 1 1 1																																													
100 100 100 100	10	1 1 1 1 1 1 1 1																																													
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		● ● ● ●																																													

Skill: Divide 4-digits by 1-digit (grouping)	Year: 5																														
<div style="display: flex; align-items: center; justify-content: center; margin-bottom: 20px;"> <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></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <div style="margin-left: 10px;"> </div> </div> <div style="display: flex; align-items: center; justify-content: center; margin-bottom: 20px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="width: 12.5%;"></td> <td style="width: 12.5%;">4</td> <td style="width: 12.5%;">2</td> <td style="width: 12.5%;">6</td> <td style="width: 12.5%;">6</td> </tr> <tr> <td style="border-right: 1px solid black;">2</td> <td style="border-right: 1px solid black;">8</td> <td style="border-right: 1px solid black;">5</td> <td style="border-right: 1px solid black;">¹3</td> <td>¹2</td> </tr> </table> </div> <div style="border: 1px solid #d9e1f2; border-radius: 10px; padding: 5px; display: inline-block;"> $8,532 \div 2 = 4,266$ </div>	Th	H	T	O																		4	2	6	6	2	8	5	¹ 3	¹ 2	<p>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.</p> <p>Children should be encouraged to move away from the concrete and pictorial when dividing numbers with multiple exchanges.</p>
Th	H	T	O																												
	4	2	6	6																											
2	8	5	¹ 3	¹ 2																											

Skill: Divide multi digits by 2-digits (short division)	Year: 6																														
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		0	3	6																											
12	4	⁴ 3	⁷ 2	²																											
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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)

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 × 9 = 108

12 × 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)

1 × 15 = 15

2 × 15 = 30

3 × 15 = 45

4 × 15 = 60

5 × 15 = 75

10 × 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

$$372 \div 15 = 24 \text{ r}12$$

			2	4	r	1	2
1	5	3	7	2			
-		3	0	0			
			7	2			
-			6	0			
			1	2			

$$1 \times 15 = 15$$

$$2 \times 15 = 30$$

$$3 \times 15 = 45$$

$$4 \times 15 = 60$$

$$5 \times 15 = 75$$

$$10 \times 15 = 150$$

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.

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

$$372 \div 15 = 24\frac{4}{5}$$