



Calculation Policy

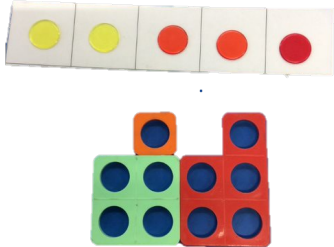

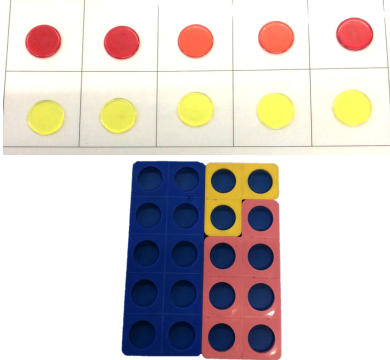
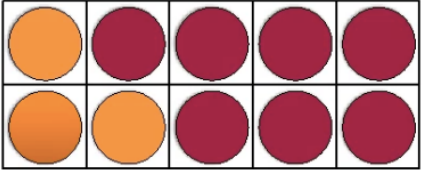


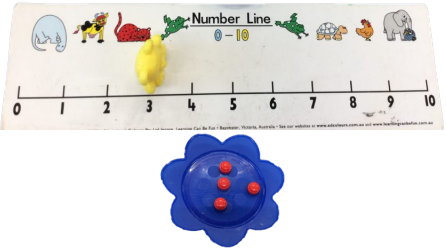
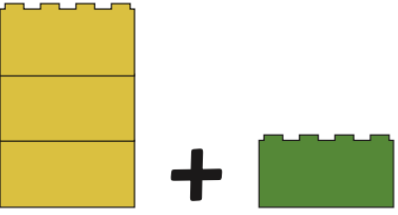
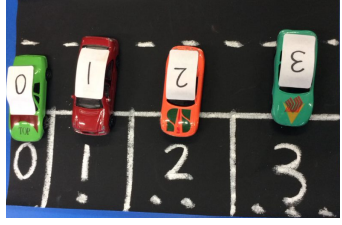
April 2023



Addition

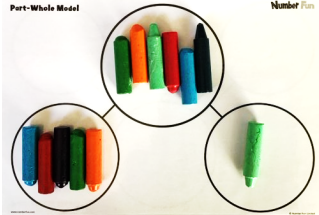

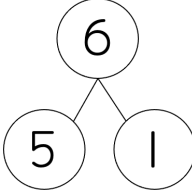

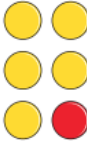
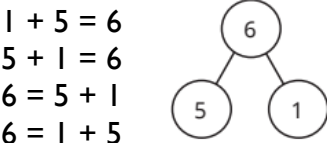
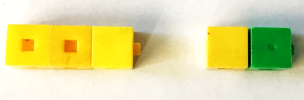

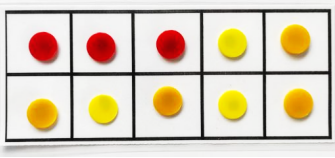
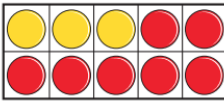
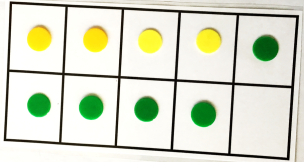
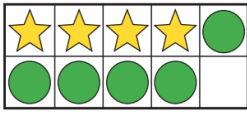


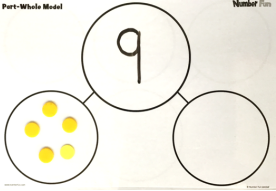
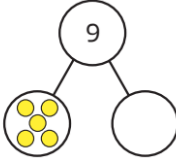
Addition

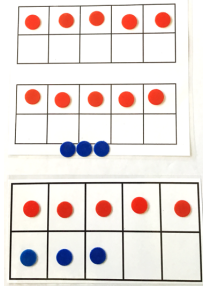
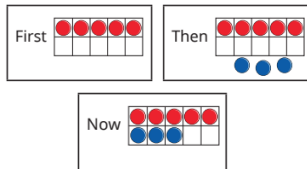
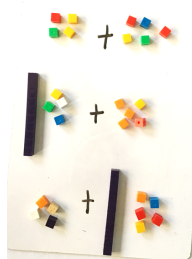
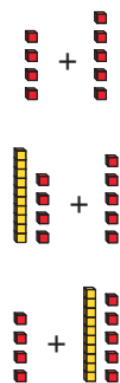
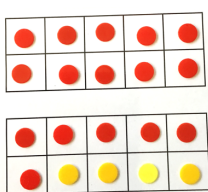
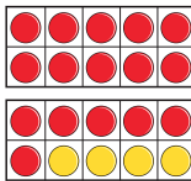

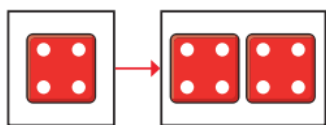
EYFS

Method	Concrete	Pictorial
Bonds to 5		
Bonds to 10		
Composition		
Adding one more		
Add within 10, practical context		

Addition

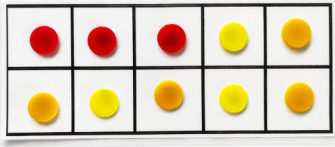
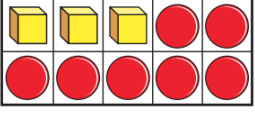
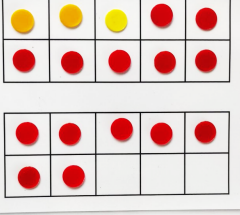
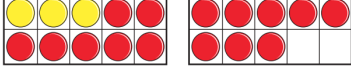

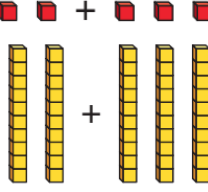
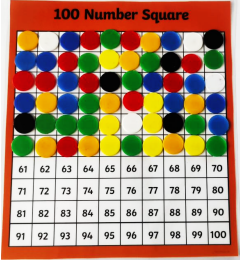
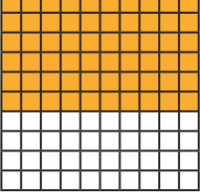

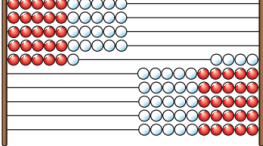
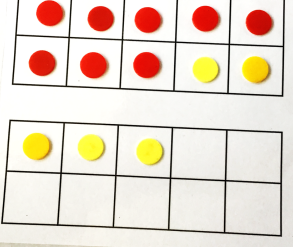
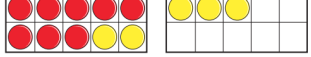
Year One

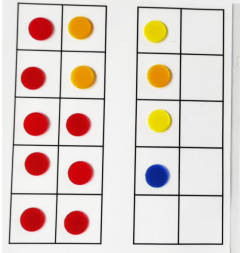
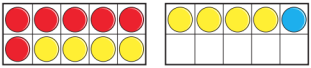
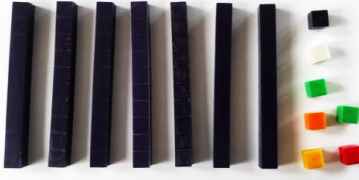
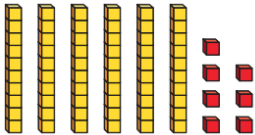
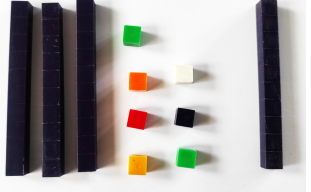
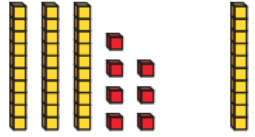

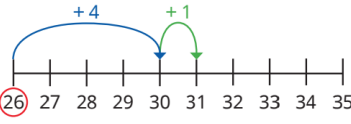
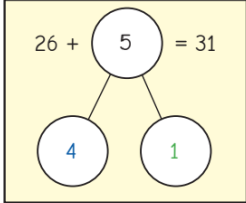
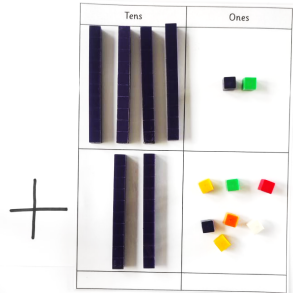
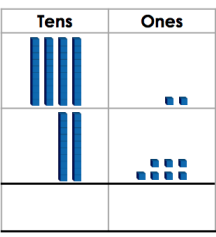
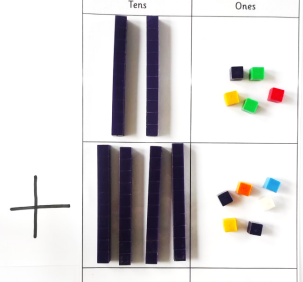
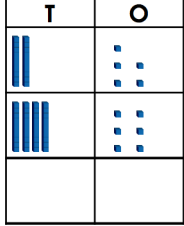
Method	Concrete	Pictorial	Abstract
Combining two parts to make a whole.	 A part-whole model showing a large circle at the top containing five colored sticks (green, orange, blue, red, yellow). Below it are two smaller circles: the left one contains four sticks (green, orange, blue, red) and the right one contains one stick (yellow).	 A pictorial part-whole model showing a large circle at the top containing five colored sticks. Below it are two smaller circles: the left one contains four sticks and the right one contains one stick.	 An abstract part-whole model showing a large circle at the top containing the number 6. Below it are two smaller circles: the left one contains the number 5 and the right one contains the number 1. To the right of the circles are the equations: $5 + 1 = 6$ and $1 + 5 = 6$.
Fact Families – addition facts	 A concrete representation of fact families using colored circles. There are five yellow circles and one red circle arranged in two rows: the top row has two yellow circles and one red circle, and the bottom row has three yellow circles.	 A pictorial representation of fact families using colored circles. There are five yellow circles and one red circle arranged in two rows: the top row has two yellow circles and one red circle, and the bottom row has three yellow circles.	 Abstract fact families for 1 + 5 = 6. On the left are the equations: $1 + 5 = 6$, $5 + 1 = 6$, $6 = 5 + 1$, and $6 = 1 + 5$. On the right is a part-whole model showing a large circle at the top containing the number 6, and two smaller circles below it containing the numbers 5 and 1.
Number bonds within 10	 A concrete representation of number bonds within 10 using blocks. There are three yellow blocks and two green blocks arranged in two rows: the top row has two yellow blocks and one green block, and the bottom row has one yellow block and two green blocks.	 A pictorial representation of number bonds within 10 using blocks. There are three yellow blocks and two green blocks arranged in two rows: the top row has two yellow blocks and one green block, and the bottom row has one yellow block and two green blocks.	$3 + 2 = 5$
Number bonds to 10	 A concrete representation of number bonds to 10 using colored circles. There are three red circles and seven yellow circles arranged in two rows: the top row has two red circles and five yellow circles, and the bottom row has one red circle and six yellow circles.	 A pictorial representation of number bonds to 10 using colored circles. There are three red circles and seven yellow circles arranged in two rows: the top row has two red circles and five yellow circles, and the bottom row has one red circle and six yellow circles.	$3 + 7 = 10$
Adding together	 A concrete representation of adding together using colored circles. There are four yellow circles and five green circles arranged in two rows: the top row has two yellow circles and three green circles, and the bottom row has two yellow circles and two green circles.	 A pictorial representation of adding together using colored circles. There are four yellow circles and five green circles arranged in two rows: the top row has two yellow circles and three green circles, and the bottom row has two yellow circles and two green circles.	$4 + 5 = 9$
Adding more	 A concrete representation of adding more using beads. There are six white beads and two black beads arranged in a single row: the first four beads are white, the fifth is black, and the sixth is white.	 A pictorial representation of adding more using beads. There are six red beads and two blue beads arranged in a single row: the first four beads are red, the fifth is blue, and the sixth is red.	There are 6 beads on a Rekenrek. Push 2 more beads. How many beads are there now? $6 + 2 = 8$
Find a part	 A concrete representation of finding a part using colored circles. There are five yellow circles and four green circles arranged in two rows: the top row has two yellow circles and two green circles, and the bottom row has three yellow circles and two green circles.	 A pictorial representation of finding a part using colored circles. There are five yellow circles and four green circles arranged in two rows: the top row has two yellow circles and two green circles, and the bottom row has three yellow circles and two green circles.	5 is a part, ____ is a part and 9 is the whole.

<p>Add by counting on within 20</p>			<p>First there were 5 cars in the carpark. Then 3 more cars parked. Now there are 8 cars in the car park.</p>
<p>Add ones by using number bonds</p>			<p>$4 + 5 = 9$ $14 + 5 = 19$ $4 + 15 = 19$</p>
<p>Find and make number bonds to 20</p>			<p>$16 + 4 = 20$</p>
<p>Doubles</p>			<p>Double 4 is 8</p>

Addition

Year Two

Method	Concrete	Pictorial	Abstract
Bonds to 10			3 cubes and 7 counters $3 + 7 = 10$
Fact families			$3 + 15 = 18$ $15 + 3 = 18$
Related Facts			2 ones + 3 ones = 5 ones 2 tens + 3 tens = 5 tens
Bonds to 100			60 shaded, 40 unshaded. $60 + 40 = 100$
Add 1s			$46 + 1 = 47$ $46 + 2 = 48$ $46 + 3 = 49$
Add by making 10			$8 + 5 = 10 + 3$

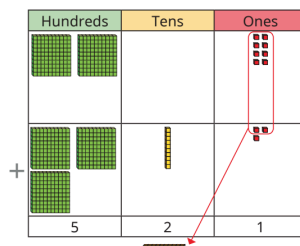
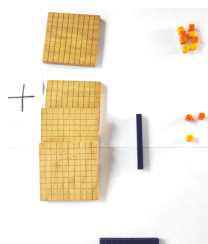
Add three 1-digit numbers			$6 + 8 + 1 = 15$
Add to the next 10			The base 10 shows 67. $67 + \underline{\quad} = 70$
10 more Add 10s			10 more than 37 is 47. $37 + 10 = 47$
Add across a 10			
Add two 2-digit numbers (not across a 10)			$42 + 27 = 68$
Add two 2-digit numbers (across a 10)			$25 + 46 = 71$

Addition

Year Three

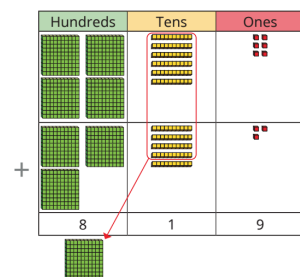
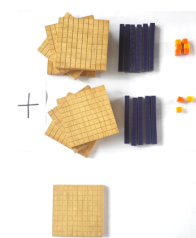
Method	Concrete	Pictorial	Abstract															
Apply number bonds within 10			$4 + 5 = 9$ $40 + 50 = 90$ $400 + 500 = 900$															
Add 1s			$243 + 5 = 248$															
Add 10s			$351 + 30 = ?$ 5 tens + 3 tens = 8 tens $351 + 30 = 381$															
Add 100s			$100 + 600 = 700$															
Add 1s across a 10																		
Add 10s across a 100			$350 + 80$ There are 5 tens and 8 tens = 13 tens. $350 + 80 = 300 + 130$ $350 + 80 = 430$															
Add two numbers (no exchange)			<table><tr><th>H</th><th>T</th><th>O</th></tr><tr><td>3</td><td>4</td><td>5</td></tr><tr><td>+</td><td>4</td><td>3</td></tr><tr><td colspan="3"><hr/></td></tr><tr><td></td><td></td><td></td></tr></table>	H	T	O	3	4	5	+	4	3	<hr/>					
H	T	O																
3	4	5																
+	4	3																
<hr/>																		

Add two numbers
(across a 10)



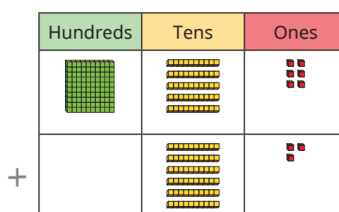
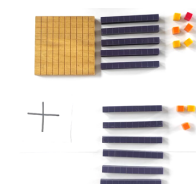
	H	T	O
	2	0	8
+	3	1	3
	5	2	1
	1		

Add two numbers
(across a 100)



	H	T	O
	4	6	6
+	3	5	3
	8	1	9
	1		

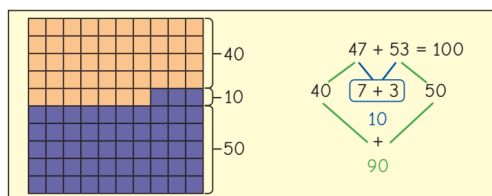
Add 2-digit
and 3-digit
numbers



	H	T	O
	1	5	6
+		6	3

Complements
to 100

100 Number Square									
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



$$\begin{aligned}
 &47 + 53 \\
 &7 + 3 = 10 \\
 &40 + 50 = 90 \\
 &90 + 10 = 100
 \end{aligned}$$

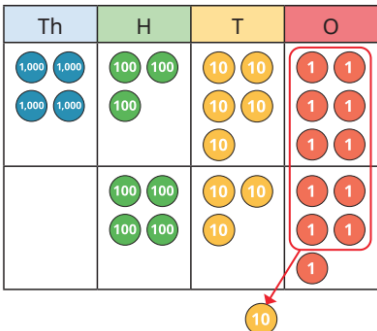
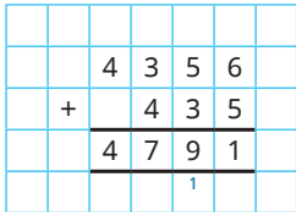

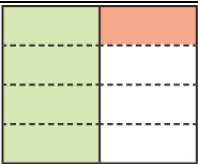
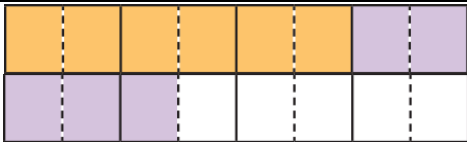
Addition

Year Four

Method	Pictorial	Abstract
Add up to two 4-digit numbers – no exchange	<div><div><div>Th</div><div>H</div><div>T</div><div>O</div></div><div><div><div>1,000</div><div>1,000</div><div>1,000</div></div><div><div>100</div><div>100</div></div><div><div>10</div><div>10</div><div>10</div><div>10</div><div>10</div></div><div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div></div></div><div><div>1,000</div><div>1,000</div></div><div><div>100</div><div>100</div><div>100</div><div>100</div><div>100</div></div><div><div>10</div><div>10</div><div>10</div></div><div><div>1</div><div>1</div></div></div> <div>+</div> <div><div><div>Th</div><div>H</div><div>T</div><div>O</div></div><div><div>3</div><div>2</div><div>5</div><div>6</div></div><div><div>+</div><div>2</div><div>5</div><div>3</div><div>2</div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div>	
Add up to two 4-digit numbers – one exchange	<div><div><div>Th</div><div>H</div><div>T</div><div>O</div></div><div><div><div>1,000</div><div>1,000</div><div>1,000</div></div><div><div>100</div><div>100</div><div>100</div></div><div><div>10</div><div>10</div><div>10</div><div>10</div><div>10</div></div><div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div></div></div><div><div>1,000</div><div>1,000</div></div><div><div>100</div><div>100</div><div>100</div><div>100</div></div><div><div>10</div><div>10</div></div><div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div></div></div> <div>+</div> <div><div><div>Th</div><div>H</div><div>T</div><div>O</div></div><div><div>3</div><div>3</div><div>5</div><div>6</div></div><div><div>+</div><div>2</div><div>4</div><div>3</div><div>5</div></div><div><div>5</div><div>7</div><div>9</div><div>1</div></div><div><div></div><div></div><div>1</div><div></div></div></div>	
Add two 4-digit numbers – more than one exchange	<div><div><div>Th</div><div>H</div><div>T</div><div>O</div></div><div><div><div>1,000</div><div>1,000</div><div>1,000</div><div>1,000</div></div><div><div>100</div><div>100</div><div>100</div><div>100</div><div>100</div></div><div><div>10</div><div>10</div><div>10</div><div>10</div><div>10</div><div>10</div></div><div><div>1</div><div>1</div><div>1</div></div></div><div><div>1,000</div></div><div><div>100</div><div>100</div><div>100</div><div>100</div><div>100</div></div><div><div>10</div></div><div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div><div>1</div></div></div> <div>+</div> <div><div><div>Th</div><div>H</div><div>T</div><div>O</div></div><div><div>4</div><div>6</div><div>7</div><div>3</div></div><div><div>+</div><div>1</div><div>5</div><div>1</div><div>8</div></div><div><div>6</div><div>1</div><div>9</div><div>1</div></div><div><div>1</div><div></div><div></div><div>1</div></div></div>	

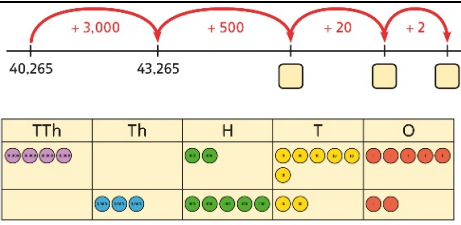
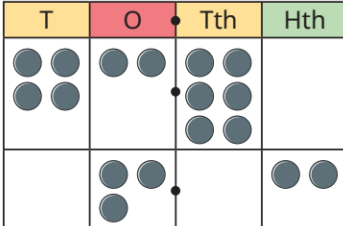
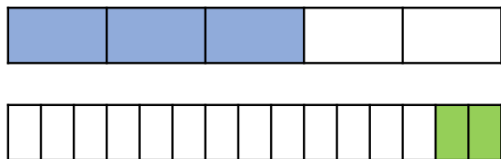
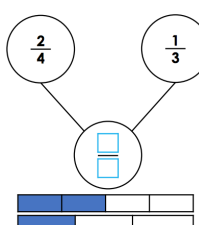
Addition

Year Five

Method	Pictorial	Abstract
Add whole numbers with more than four digits		
Add fractions with the same denominator		$\frac{3}{7} + \frac{1}{7} = \frac{4}{7}$
Add fractions within 1		$\frac{1}{2} + \frac{1}{2} = \frac{4}{8} + \frac{4}{8} = \frac{8}{8}$
Add fractions with total greater than 1		$\frac{3}{4} + \frac{5}{8} = \frac{6}{8} + \frac{5}{8} = \frac{11}{8} = 1\frac{3}{8}$

Addition

Year Six

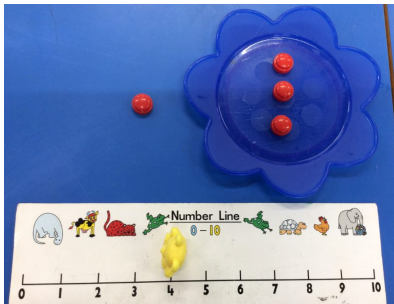

Method	Pictorial	Abstract
Add integers		$\begin{array}{r} \text{TTh Th H T O} \\ 40\,265 \\ + 3\,000 \\ \hline \end{array}$
Add decimals numbers with a different number of decimal places		$\begin{array}{r} 4.26 \\ + 3.02 \\ \hline 7.28 \end{array}$
Add simple fractions		$\frac{3}{5} + \frac{2}{5} = \frac{5}{5} = 1$
Add any two fractions		$\frac{2}{4} + \frac{1}{3} = \frac{5}{6}$



Subtraction

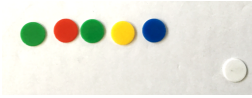


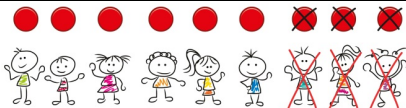
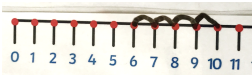
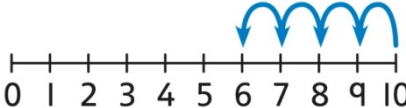
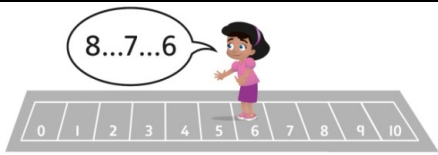
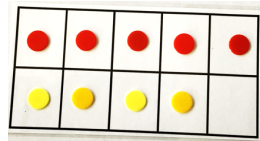
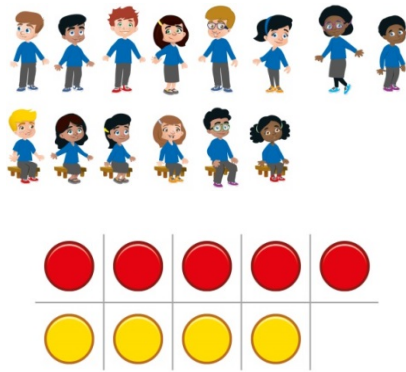
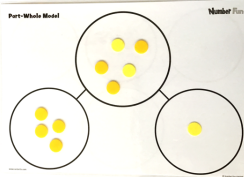
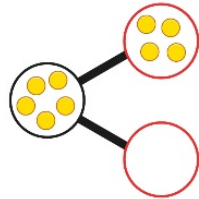
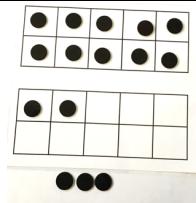
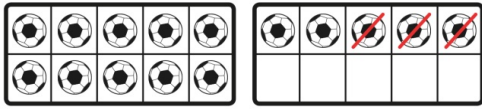
Subtraction

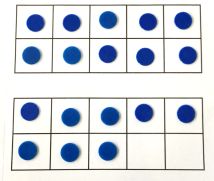
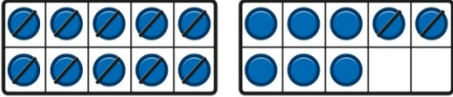
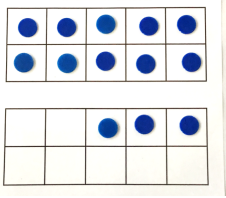
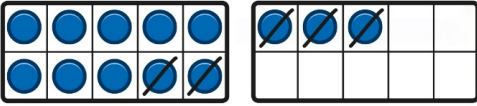
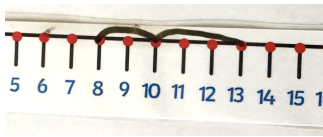
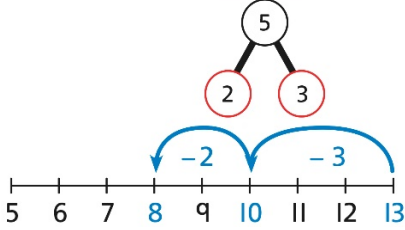
Early Years

Method	Concrete	Pictorial
1 less (within 5)		

Subtraction

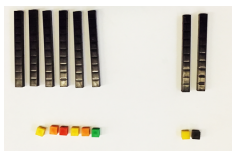
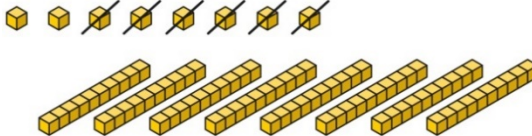
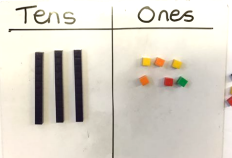
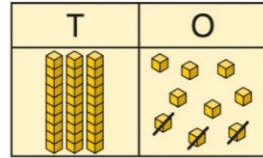
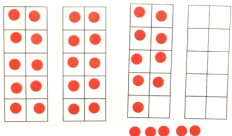
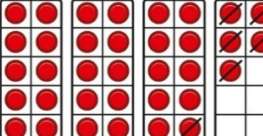

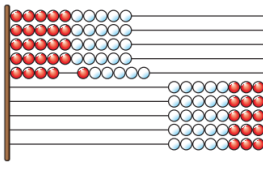
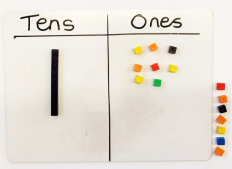
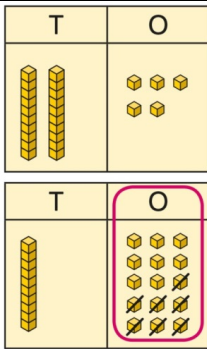
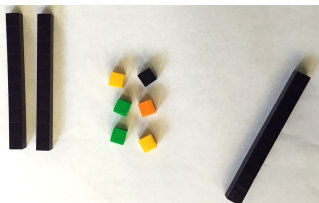
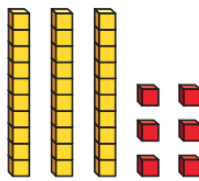
Year One

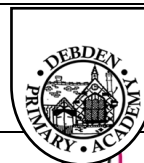
Method	Concrete	Pictorial	Abstract
Take away/crossing out			1 less than 6 is 5. 6 subtract 1 is 5.
Take away (How many left?)			$9 - 3 = 6$ There are 6 children left.
Subtraction on a number line			$10 - 4 = 6$
counting back verbally			$9 - 3 = 6$
find the difference			8 is 2 more than 6. 6 is 2 less than 8. The different between 8 and 6 is 2. $5 - 4 = 1$ The difference between 5 and 4 is 1.
Missing number problems			$5 - 4 = 1$
Subtraction within 20			$5 - 3 = 2$ $15 - 3 = 12$


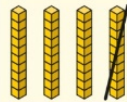

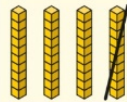

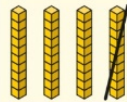

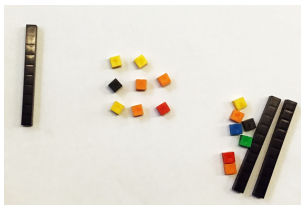
























Subtracting 10s and 1s			$18 - 12$ $18 - 10 = 8$ $8 - 2 = 6$
Subtraction bridging 10			$13 - 5$ $13 - 3 = 10$ $10 - 2 = 8$
Subtract ones using number bonds			$13 - 5$ $13 - 3 = 10$ $10 - 2 = 8$

Subtraction

Year Two

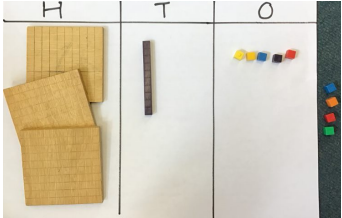
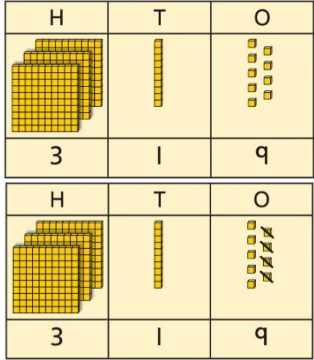
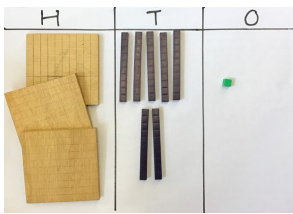
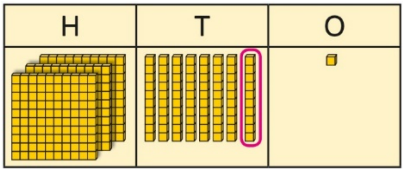
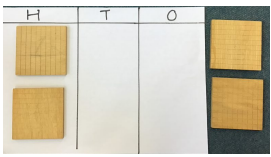
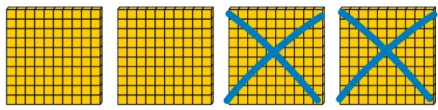

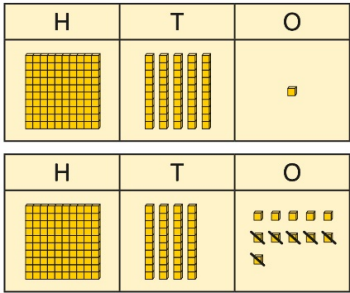
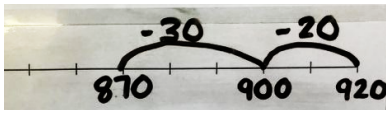
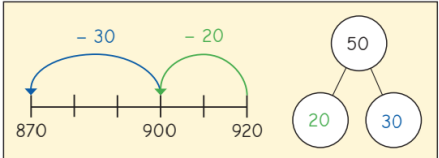
Method	Concrete	Pictorial	Abstract
Subtracting multiples of 10			8 tens subtract 6 tens is 2 tens.
Subtracting a single-digit number			$9 - 3 = 6$ $39 - 3 = 36$ $\begin{array}{r} \text{T} \quad \text{O} \\ 3 \quad 9 \\ - \quad 3 \\ \hline 3 \quad 6 \end{array}$
Subtract across 10			$35 - 6$ $35 - 5 = 30$ $30 - 1 = 29$
Subtract from a 10			$10 - 6 = 4$ $50 - 6 = 44$
Subtract a 1-digit number from a 2-digit number (Across a 10)			$\begin{array}{r} \text{T} \quad \text{O} \\ 1 \quad 5 \\ - \quad 7 \\ \hline 1 \quad 8 \end{array}$ $\begin{array}{r} \text{T} \quad \text{O} \\ 1 \quad 5 \\ - \quad 7 \\ \hline 1 \quad 8 \end{array}$
Subtract 10s			3 tens - 1 ten = 2 tens $36 - 10 = 26$

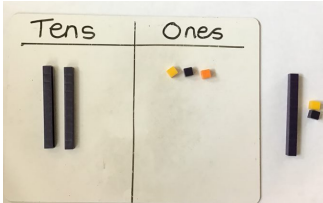
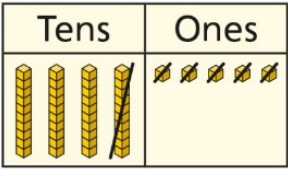
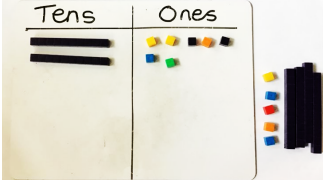
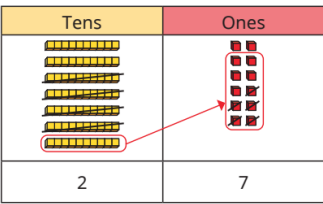
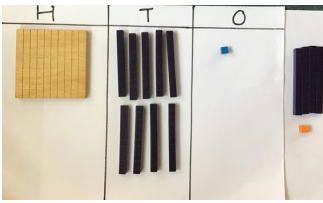
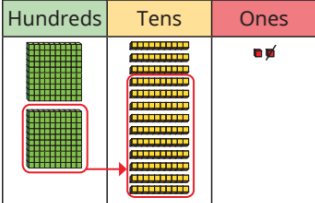
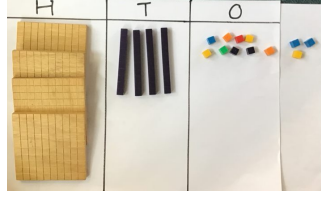
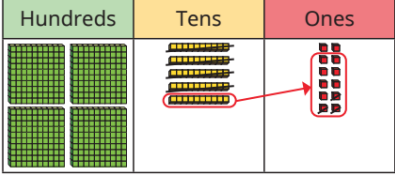
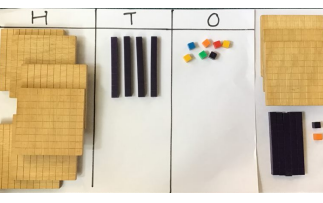
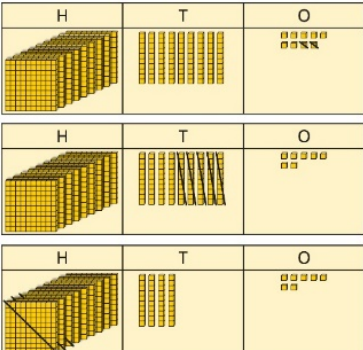


Subtract two 2-digit numbers (not across a 10)		<table border="1"><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr></tbody></table>	Tens	Ones			<div><div><table><tr><td></td><td>T</td><td>O</td></tr><tr><td>4</td><td>5</td><td></td></tr><tr><td>-</td><td>1</td><td>2</td></tr><tr><td></td><td>3</td><td></td></tr></table></div><div><table><tr><td></td><td>T</td><td>O</td></tr><tr><td>4</td><td>5</td><td></td></tr><tr><td>-</td><td>1</td><td>2</td></tr><tr><td></td><td>3</td><td>3</td></tr></table></div></div>		T	O	4	5		-	1	2		3			T	O	4	5		-	1	2		3	3																																				
Tens	Ones																																																																		
																																																																			
	T	O																																																																	
4	5																																																																		
-	1	2																																																																	
	3																																																																		
	T	O																																																																	
4	5																																																																		
-	1	2																																																																	
	3	3																																																																	
Subtract two 2-digit numbers (Across a 10)		<table border="1"><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr></tbody></table> <table border="1"><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr></tbody></table> <table border="1"><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr></tbody></table> <table border="1"><thead><tr><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td></tr></tbody></table>	Tens	Ones			Tens	Ones			Tens	Ones			Tens	Ones			<div><div><table><tr><td></td><td>T</td><td>O</td></tr><tr><td>4</td><td>5</td><td></td></tr><tr><td>-</td><td>2</td><td>7</td></tr><tr><td></td><td></td><td></td></tr></table></div><div><table><tr><td></td><td>T</td><td>O</td></tr><tr><td>³4</td><td>15</td><td></td></tr><tr><td>-</td><td>2</td><td>7</td></tr><tr><td></td><td></td><td></td></tr></table></div><div><table><tr><td></td><td>T</td><td>O</td></tr><tr><td>³4</td><td>15</td><td></td></tr><tr><td>-</td><td>2</td><td>7</td></tr><tr><td></td><td></td><td>8</td></tr></table></div><div><table><tr><td></td><td>T</td><td>O</td></tr><tr><td>³4</td><td>15</td><td></td></tr><tr><td>-</td><td>2</td><td>7</td></tr><tr><td></td><td>1</td><td>8</td></tr></table></div></div>		T	O	4	5		-	2	7					T	O	³ 4	15		-	2	7					T	O	³ 4	15		-	2	7			8		T	O	³ 4	15		-	2	7		1	8
Tens	Ones																																																																		
																																																																			
Tens	Ones																																																																		
																																																																			
Tens	Ones																																																																		
																																																																			
Tens	Ones																																																																		
																																																																			
	T	O																																																																	
4	5																																																																		
-	2	7																																																																	
	T	O																																																																	
³ 4	15																																																																		
-	2	7																																																																	
	T	O																																																																	
³ 4	15																																																																		
-	2	7																																																																	
		8																																																																	
	T	O																																																																	
³ 4	15																																																																		
-	2	7																																																																	
	1	8																																																																	

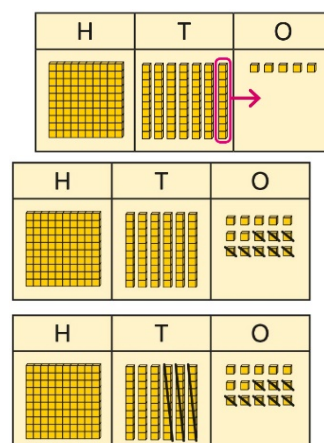
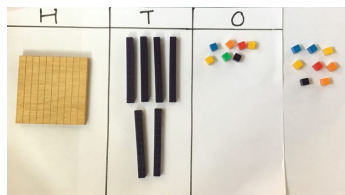
Subtraction

Year Three

Method	Concrete	Pictorial	Abstract
Subtract 1s			$319 - 4$ $9 - 4 = 5$ $319 - 4 = 315$
Subtract 10s			$8 \text{ tens} - 1 \text{ ten} = 7 \text{ tens}$ $381 - 10 = 371$
Subtract 100s			$4 - 2 = 2$ $400 - 200 = 200$
Subtract 1s across a 10			$151 - 6$ $151 - 1 = 150$ $150 - 5 = 145$
Subtract 10s across a 100			$920 - 50$ $920 - 20 = 900$ $900 - 30 = 870$

Subtract two numbers (no exchange)			$\begin{array}{r} \text{T O} \\ 45 \\ - 12 \\ \hline 33 \end{array}$
Subtract two numbers (across a 10)			$\begin{array}{r} \text{T O} \\ 27 \\ - 45 \\ \hline 27 \end{array}$
Subtract two numbers (across a 100)			$\begin{array}{r} \text{H T O} \\ 213 \\ - 141 \\ \hline 72 \end{array}$
Subtract a 2-digit number from a 3-digit number			$\begin{array}{r} \text{H T O} \\ 213 \\ - 43 \\ \hline 170 \end{array}$
Subtract a 3-digit number from a 3-digit number (no exchange)			$\begin{array}{r} \text{H T O} \\ 213 \\ - 352 \\ \hline 77 \end{array}$

Subtract a 3-digit number from a 3-digit number (exchange)



H	T	O
1	7	5
-	3	8
1	3	7

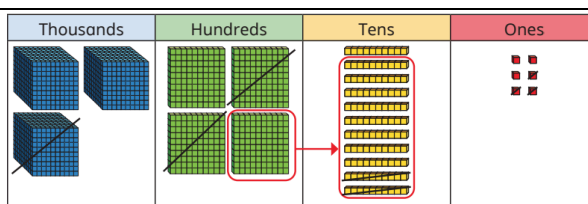
$$175 - 38 = 137$$

Subtraction

Year Four

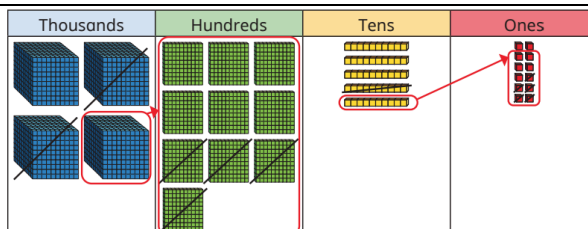
Method	Pictorial	Abstract																																																																																																																																																																																																																																																																																																																																																					
Subtraction with exchange	<div><table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table></div>	Th	H	T	O					Th	H	T	O					Th	H	T	O					Th	H	T	O					<div><table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>1</td><td>2</td><td>5</td><td>0</td></tr><tr><td>-</td><td>4</td><td>2</td><td>0</td></tr><tr><td></td><td></td><td></td><td>0</td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>1</td><td>2</td><td>5</td><td>0</td></tr><tr><td>-</td><td>4</td><td>2</td><td>0</td></tr><tr><td></td><td></td><td>3</td><td>0</td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>1</td><td>2</td><td>5</td><td>0</td></tr><tr><td>-</td><td>4</td><td>2</td><td>0</td></tr><tr><td></td><td>8</td><td>3</td><td>0</td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>1</td><td>2</td><td>5</td><td>0</td></tr><tr><td>-</td><td>4</td><td>2</td><td>0</td></tr><tr><td></td><td>8</td><td>3</td><td>0</td></tr></table></div>	Th	H	T	O	1	2	5	0	-	4	2	0				0	Th	H	T	O	1	2	5	0	-	4	2	0			3	0	Th	H	T	O	1	2	5	0	-	4	2	0		8	3	0	Th	H	T	O	1	2	5	0	-	4	2	0		8	3	0																																																																																																																																																																																																																																																					
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
1	2	5	0																																																																																																																																																																																																																																																																																																																																																				
-	4	2	0																																																																																																																																																																																																																																																																																																																																																				
			0																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
1	2	5	0																																																																																																																																																																																																																																																																																																																																																				
-	4	2	0																																																																																																																																																																																																																																																																																																																																																				
		3	0																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
1	2	5	0																																																																																																																																																																																																																																																																																																																																																				
-	4	2	0																																																																																																																																																																																																																																																																																																																																																				
	8	3	0																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
1	2	5	0																																																																																																																																																																																																																																																																																																																																																				
-	4	2	0																																																																																																																																																																																																																																																																																																																																																				
	8	3	0																																																																																																																																																																																																																																																																																																																																																				
Subtraction with exchange across more than one column	<div><table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td></td><td></td><td></td></tr></table></div>	Th	H	T	O					Th	H	T	O					Th	H	T	O					<div><table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>2</td><td>48</td><td>0</td><td>2</td></tr><tr><td>-</td><td>2</td><td>4</td><td>3</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>2</td><td>48</td><td>90</td><td>12</td></tr><tr><td>-</td><td>2</td><td>4</td><td>3</td></tr><tr><td></td><td></td><td></td><td></td></tr></table> <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td>2</td><td>48</td><td>90</td><td>12</td></tr><tr><td>-</td><td>2</td><td>4</td><td>3</td></tr><tr><td></td><td>2</td><td>5</td><td>9</td></tr></table></div>	Th	H	T	O	2	48	0	2	-	2	4	3					Th	H	T	O	2	48	9 0	1 2	-	2	4	3					Th	H	T	O	2	48	9 0	1 2	-	2	4	3		2	5	9																																																																																																																																																																																																																																																																													
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
2	48	0	2																																																																																																																																																																																																																																																																																																																																																				
-	2	4	3																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
2	48	9 0	1 2																																																																																																																																																																																																																																																																																																																																																				
-	2	4	3																																																																																																																																																																																																																																																																																																																																																				
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				
2	48	9 0	1 2																																																																																																																																																																																																																																																																																																																																																				
-	2	4	3																																																																																																																																																																																																																																																																																																																																																				
	2	5	9																																																																																																																																																																																																																																																																																																																																																				
Subtract two 4-digit numbers – no exchange	<table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td></tr></table>	Th	H	T	O																																																																																																																																																																																																																																																																																																																																																		
Th	H	T	O																																																																																																																																																																																																																																																																																																																																																				

Subtract two 4-digit numbers – one exchange



	Th	H	T	O
	3	³ 4	¹¹ 5	6
-	1	2	2	3
	2	1	9	3

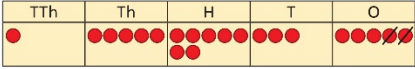
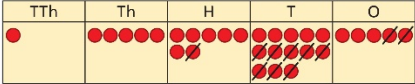
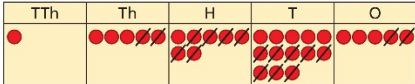








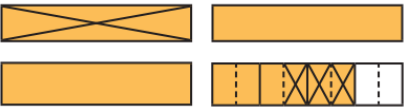
Subtract two 4-digit numbers – more than one exchange



	Th	H	T	O
	³ 4	¹⁰ 4	⁴⁵ 5	¹² 6
-	2	4	1	5
	1	6	3	7

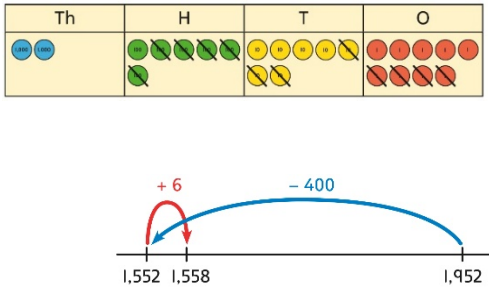
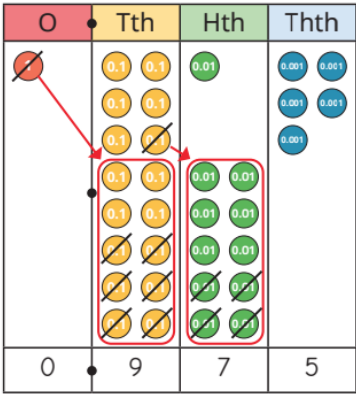
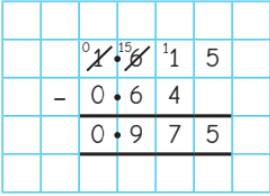

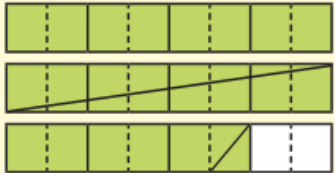
Subtraction

Year Five

Method	Pictorial	Abstract
Subtract whole numbers with more than four digits	 <p>Now subtract the 10s. Exchange 1 hundred for 10 tens.</p>  <p>Subtract the 100s, 1,000s and 10,000s.</p> 	$\begin{array}{r} \text{TTh Th H T O} \\ 10000 \\ - 2582 \\ \hline \end{array}$ <p>is.</p> $\begin{array}{r} \text{TTh Th H T O} \\ 10000 \\ - 2582 \\ \hline \end{array}$ $\begin{array}{r} \text{TTh Th H T O} \\ 10000 \\ - 2582 \\ \hline \end{array}$
Subtract decimal numbers with the same number of decimal places	 <p>Exchange 1 tenth for 10 hundredths.</p>  <p>Now subtract the 5 hundredths.</p>  <p>Now subtract the 2 tenths, then the 2 ones.</p> 	$\begin{array}{r} \text{O Tth Hth} \\ 5.74 \\ - 2.25 \\ \hline \end{array}$ $\begin{array}{r} \text{O Tth Hth} \\ 5.74 \\ - 2.25 \\ \hline \end{array}$ $\begin{array}{r} \text{O Tth Hth} \\ 5.74 \\ - 2.25 \\ \hline \end{array}$ $\begin{array}{r} \text{O Tth Hth} \\ 5.74 \\ - 2.25 \\ \hline \end{array}$
Subtract fractions with the same denominator		$\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$
Subtract fractions		$\frac{1}{3} - \frac{1}{15} = \frac{5}{15} - \frac{1}{15} = \frac{4}{15}$
Subtract from a mixed number		$1\frac{3}{4} - \frac{5}{8} = 1\frac{6}{8} - \frac{5}{8} = 1\frac{1}{8}$
Subtract from a mixed number – breaking the whole		$2\frac{1}{3} - \frac{2}{3} = 1\frac{2}{3}$
Subtract two mixed numbers		$3\frac{3}{4} - 1\frac{3}{8} = 2\frac{3}{8}$

Subtraction

Year Six



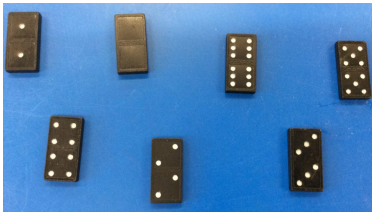
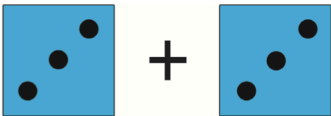

Method	Pictorial	Abstract
Subtract integers		$\begin{array}{r} \text{Th} \text{ H} \text{ T} \text{ O} \\ 2 \ 6 \ 7 \ 9 \\ - \ 5 \ 3 \ 4 \\ \hline 2 \ 1 \ 4 \ 5 \end{array}$ $\begin{array}{r} \text{Th} \text{ H} \text{ T} \text{ O} \\ 1 \ 8 \ 14 \ 12 \\ - \ 1 \ 5 \ 5 \ 8 \\ \hline 3 \ 9 \ 4 \end{array}$
Subtract decimal numbers with a different number of decimal places		
Subtract simple fractions		$\frac{2}{3} - \frac{1}{9} = \frac{5}{9}$
Subtract mixed numbers		$2\frac{3}{4} - 1\frac{1}{8} = 1 + \frac{5}{8} = 1\frac{5}{8}$



Multiplication



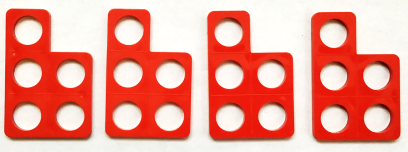
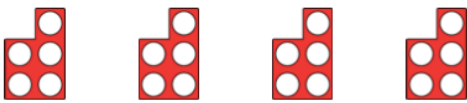
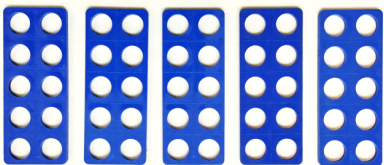


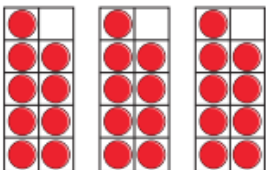
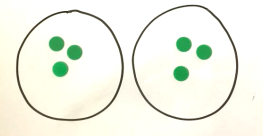

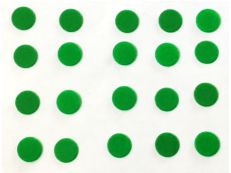
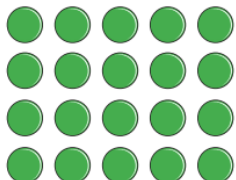
Multiplication

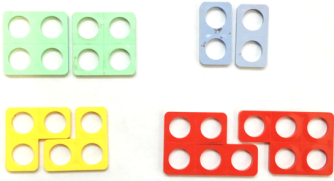
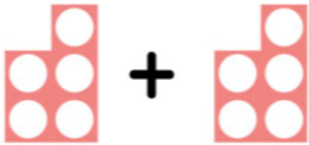
Early Years

Method	Concrete	Pictorial
Making pairs – 2 of the same		
Doubles to 10		 

Multiplication




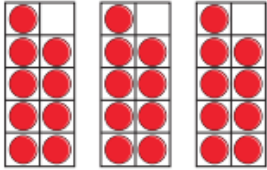
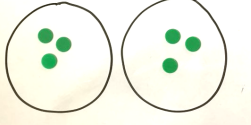


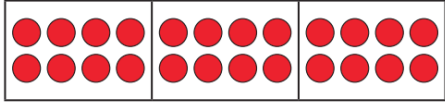

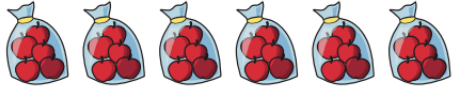
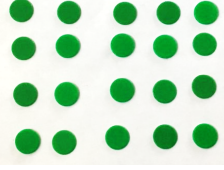
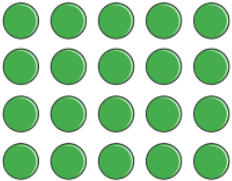



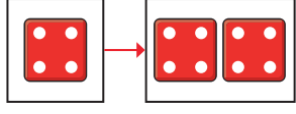
Year One

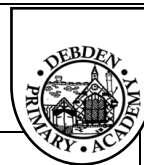
Method	Concrete	Pictorial	Abstract
Count in 2s			2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24
Count in 5s			5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60
Count in 10s			10, 20, 30, 40, 50, 60, 70, 80, 90, 100
Make equal groups			There are 3 equal groups with 9 in each group.
Add equal groups			There are 2 equal groups with 3 in each group. $3 + 3 = 6$
Make arrays			$4 + 4 + 4 + 4 = 20$ $5 \times 4 = 20$ $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$

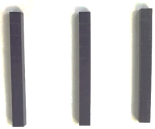
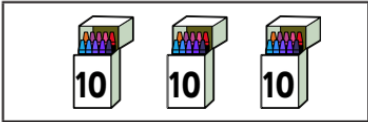

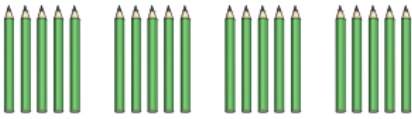
<p>Make doubles</p>			$5 + 5$ $4 + 4$ $3 + 3$
-------------------------	---	--	-------------------------

Multiplication

Year Two

Method	Concrete	Pictorial	Abstract
Recognise equal groups			There are 3 groups of 5 chairs. 15 chairs altogether.
Make equal groups			There are 3 equal groups with 9 in each group.
Add equal groups			There are 2 equal groups with 3 in each group. $3 + 3 = 6$
Multiplication symbol			There are 3 equal groups with 8 in each group. $8 + 8 + 8 = 24$ $3 \times 8 = 24$
Multiplication sentences			6 lots of 5 = 30 6 multiplied by 5 = 30 $6 \times 5 = 30$
Use arrays			$4 + 4 + 4 + 4 + 4 = 20$ $5 \times 4 = 20$ $5 + 5 + 5 + 5 = 20$ $4 \times 5 = 20$
The 2 times-table			$5 \times 2 = 10$
Doubling			$4 + 4 = 8$ $2 \times 4 = 8$


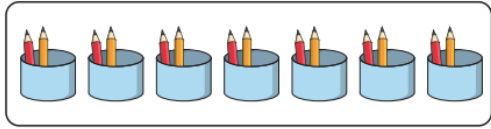
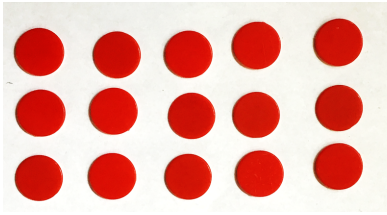
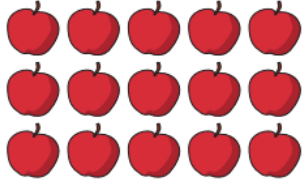
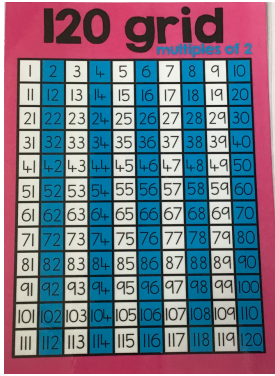

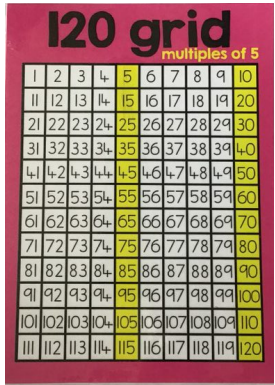
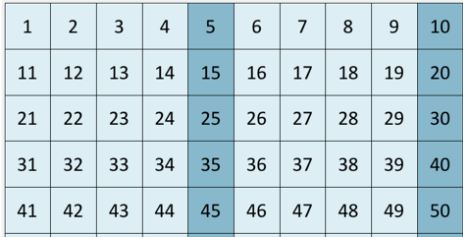


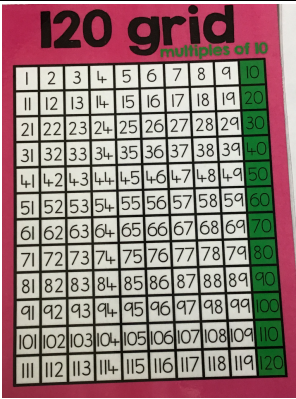

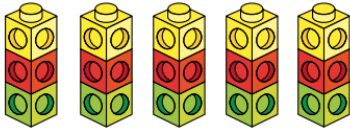
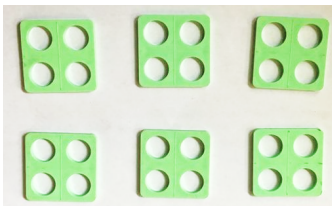
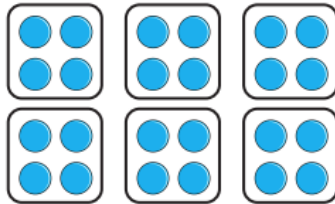
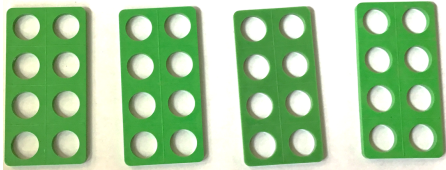

The 10 times-table			$3 \times 10 = 30$
The 5 times-table			$4 \times 5 = 20$


























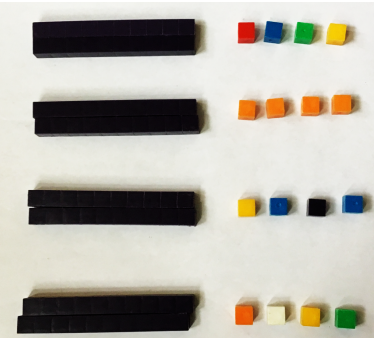
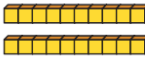

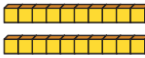

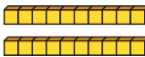

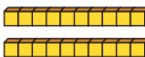

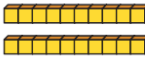

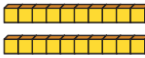

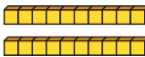

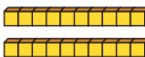

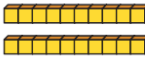

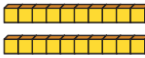

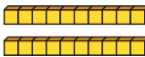

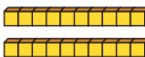



Multiplication

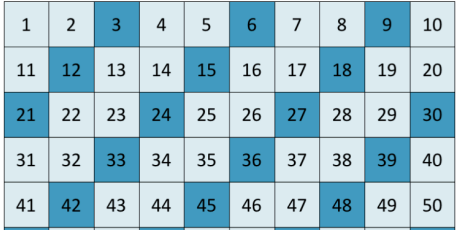
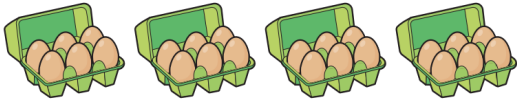
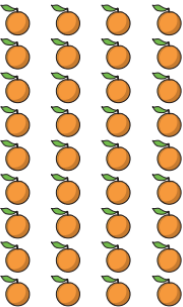
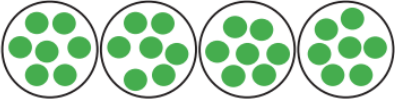
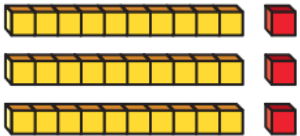
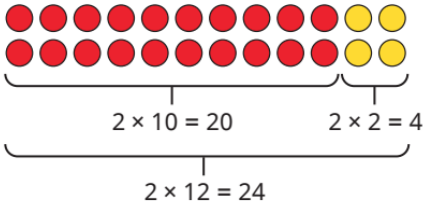
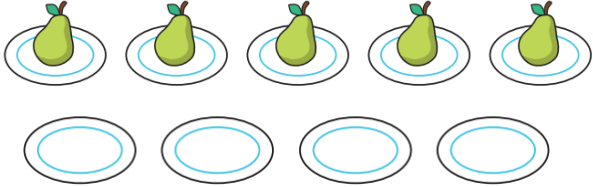
Year Three

Method	Concrete	Pictorial	Abstract
Multiplication – equal groups			There are 7 equal groups with 2 in each group. There are 14 altogether.
Use arrays			There are 3 rows of apples. There are 3 lots of 5 apples. $3 \times 5 = 15$
Multiples of 2			2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50
Multiples of 5			5, 10, 15, 20, 25, 30, 35, 40, 45, 50

Multiples of 10		<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr><tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr><tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr></table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	10, 20, 30, 40, 50, 60, 70, 80, 90, 100
1	2	3	4	5	6	7	8	9	10																																												
11	12	13	14	15	16	17	18	19	20																																												
21	22	23	24	25	26	27	28	29	30																																												
31	32	33	34	35	36	37	38	39	40																																												
41	42	43	44	45	46	47	48	49	50																																												
Multiply by 3			There are 5 equal groups with 3 in each group. $3 + 3 + 3 + 3 + 3 = 15$ $5 \times 3 = 15$																																																		
Multiply by 4			There are 6 groups with 4 in each group. $4 + 4 + 4 + 4 + 4 + 4 = 24$ $6 \times 4 = 24$																																																		
Multiply by 8			There are 4 groups with 8 in each group. $8 + 8 + 8 + 8 = 32$ $4 \times 8 = 32$																																																		

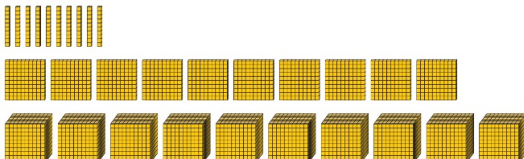
























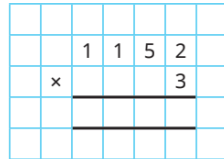












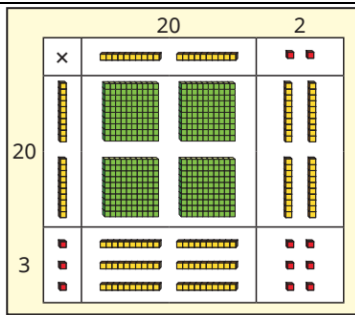
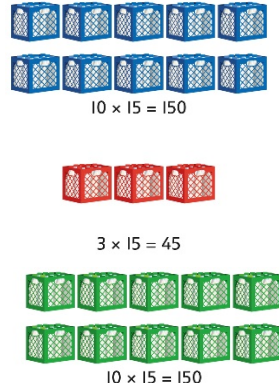
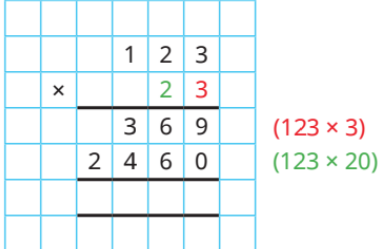
Multiply a 2-digit number by a 1- digit number – no exchange		<table><tr><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>	Tens	Ones									2 tens x 4 = 8 tens 1 one x 4 = 4 ones 80 + 4 = 84 21 x 4 = 84
Tens	Ones												
													
													
													
													
Multiply a 2-digit number by a 1- digit number – with exchange		<table><tr><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>	Tens	Ones									2 tens x 4 = 8 tens 4 ones x 4 = 16 ones 24 x 4 = 80 + 16 = 96 24 x 4 = 96
Tens	Ones												
													
													
													
													

Year 4

Method	Pictorial	Abstract
Multiples of 3		3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36
Multiply by 6		There are 4 boxes. Each box contains 6 eggs. There are 24 eggs in total. $4 \times 6 = 24$
Multiply by 9		There are 9 rows of oranges. There are 36 oranges in total. $9 \times 4 = 36$
Multiply by 7		4 sevens 4 lots of 7 $4 \times 7 = 28$
11 times-table		3 elevens 3 lots of 11 $3 \times 11 = 33$
12 times-table		2×12 $2 \times 10 = 20$ $2 \times 2 = 4$ $20 + 4 = 24$
Multiply by 1 and 0		$5 \times 1 = 5$ $4 \times 0 = 0$

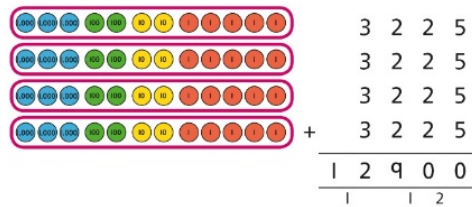
Multiply three numbers	<div><div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div></div></div></div></div><div>2×4 2×4 2×4</div></div></div></div></div></div>	$3 \times 2 \times 4 = 3 \times 8 = 24$
Factor pairs	<div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></div><div>$1 \times 12 = 12$ $2 \times 6 = 12$ $3 \times 4 = 12$</div></div></div>	
Multiply by 10	<div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></div><div>$3 \times 10 = 30$</div></div></div>	
Multiply by 100	<div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></</div></div></div></div></div>	

Year 5

Method	Pictorial	Abstract																								
Multiply by 10, 100 and 1,000		$10 \times 10 = 100$ $10 \times 100 = 1,000$ $10 \times 1,000 = 10,000$																								
Multiply a 4-digit number by a 1-digit number	<table border="1" data-bbox="493 524 904 777"><thead><tr><th>Th</th><th>H</th><th>T</th><th>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></tbody></table>	Th	H	T	O																					
Th	H	T	O																							
																										
																										
																										
Multiply a 2-digit number by a 2-digit number (area model)		23×22 $400 + 60 + 40 + 6$ $= 506$																								
Multiply a 2-digit number by a 2-digit number		<table border="0" data-bbox="1123 1285 1267 1509"><tr><td></td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td>1</td><td>5</td><td>0</td></tr><tr><td></td><td>1</td><td>5</td><td>0</td></tr><tr><td>+</td><td></td><td>4</td><td>5</td></tr><tr><td></td><td>3</td><td>4</td><td>5</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>		H	T	O		1	5	0		1	5	0	+		4	5		3	4	5				
	H	T	O																							
	1	5	0																							
	1	5	0																							
+		4	5																							
	3	4	5																							
Multiply a 3-digit number by a 2-digit number																										

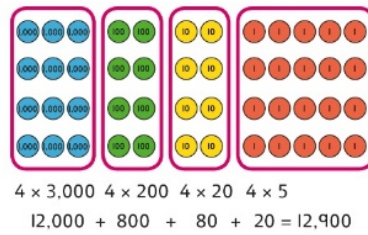
Multiply a 4-digit number by a 1-digit number

Method 1



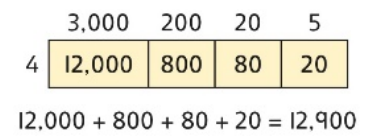
$$\begin{array}{r} 3\ 2\ 2\ 5 \\ 3\ 2\ 2\ 5 \\ 3\ 2\ 2\ 5 \\ 3\ 2\ 2\ 5 \\ + \\ \hline 1\ 2\ 9\ 0\ 0 \\ \text{1} \quad \text{1} \quad \text{2} \end{array}$$

Method 2



$$\begin{array}{l} 4 \times 3,000 \quad 4 \times 200 \quad 4 \times 20 \quad 4 \times 5 \\ 12,000 + 800 + 80 + 20 = 12,900 \end{array}$$

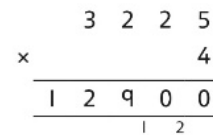
Method 3



	3,000	200	20	5
4	12,000	800	80	20

$$12,000 + 800 + 80 + 20 = 12,900$$

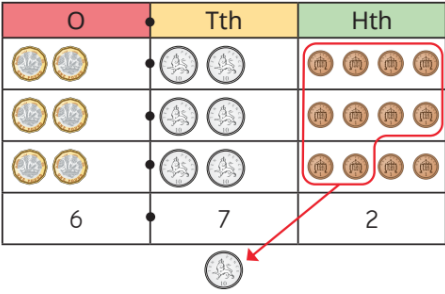
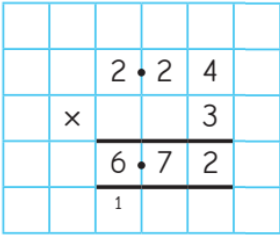
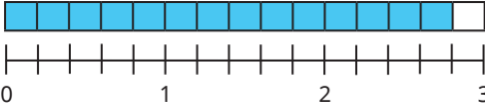
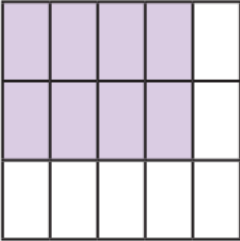
Method 4



$$\begin{array}{r} 3\ 2\ 2\ 5 \\ \times \quad \quad \quad 4 \\ \hline 1\ 2\ 9\ 0\ 0 \\ \text{1} \quad \text{2} \end{array}$$

Year 6

Method	Pictorial	Abstract																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Multiply up to a 4-digit number by a 2-digit number	<p>Method 1</p> <table><tr><td></td><td>1,000</td><td>200</td><td>30</td><td>5</td></tr><tr><td>20</td><td>20,000</td><td>4,000</td><td>600</td><td>100</td></tr><tr><td>1</td><td>1,000</td><td>200</td><td>30</td><td>5</td></tr></table>		1,000	200	30	5	20	20,000	4,000	600	100	1	1,000	200	30	5	<table><tr><td></td><td>1</td><td>2</td><td>3</td><td>5</td><td></td></tr><tr><td>×</td><td></td><td>2</td><td>1</td><td></td><td></td></tr><tr><td></td><td>1</td><td>2</td><td>3</td><td>5</td><td>1 × 1,235</td></tr><tr><td></td><td>2</td><td>4</td><td>7</td><td>0</td><td>20 × 1,235</td></tr><tr><td></td><td>2</td><td>5</td><td>9</td><td>3</td><td>21 × 1,235</td></tr></table>		1	2	3	5		×		2	1				1	2	3	5	1 × 1,235		2	4	7	0	20 × 1,235		2	5	9	3	21 × 1,235																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	1,000	200	30	5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
20	20,000	4,000	600	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
1	1,000	200	30	5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	1	2	3	5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
×		2	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	1	2	3	5	1 × 1,235																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	2	4	7	0	20 × 1,235																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	2	5	9	3	21 × 1,235																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Multiply decimals by 10		1.21 × 10 = 12.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Multiply decimals by 100	<table><tr><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>0.1</td><td>0.2</td><td>0.3</td><td>0.4</td><td>0.5</td><td>0.6</td><td>0.7</td><td>0.8</td><td>0.9</td></tr><tr><td>0.01</td><td>0.02</td><td>0.03</td><td>0.04</td><td>0.05</td><td>0.06</td><td>0.07</td><td>0.08</td><td>0.09</td></tr></table>	10	20	30	40	50	60	70	80	90	1	2	3	4	5	6	7	8	9	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.46 × 100 = 46																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
10	20	30	40	50	60	70	80	90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
1	2	3	4	5	6	7	8	9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Multiply decimals by 1,000	<table><tr><td>H</td><td>T</td><td>O</td><td>Tth</td><td>Hth</td><td>Thth</td></tr><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><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><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><</tr></table>	H	T	O	Tth	Hth	Thth																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
H	T	O	Tth	Hth	Thth																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												


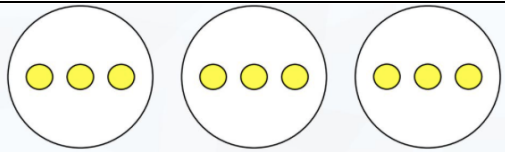
<p>Multiply decimals in context</p>		
<p>Multiply fractions by integers</p>		$\frac{2}{5} \times 7 = 2 \frac{4}{5}$
<p>Multiply fractions by fractions</p>		$\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$



Division


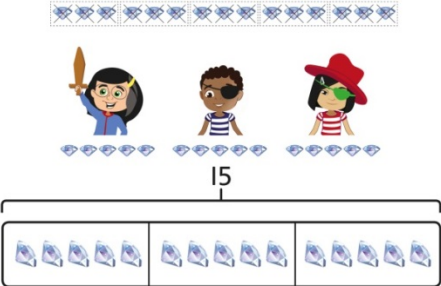

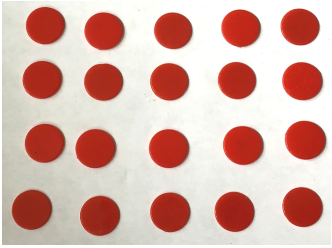
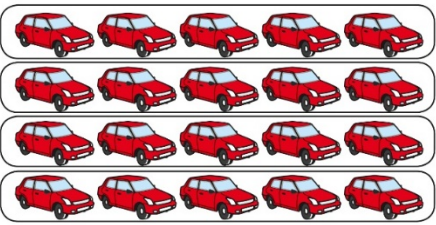
Division

Early Years

Method	Concrete	Pictorial
Equal sharing		


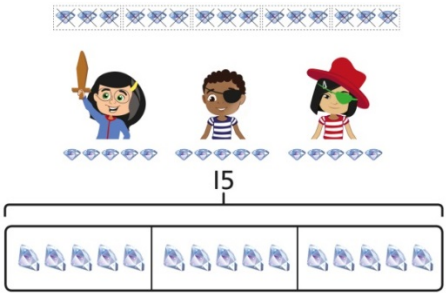

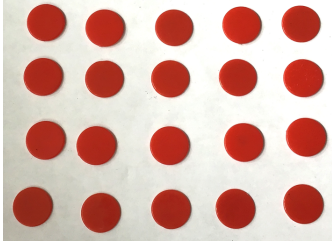
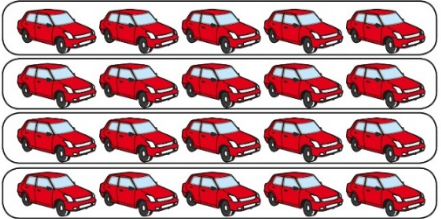

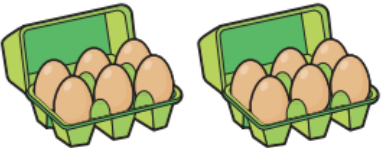
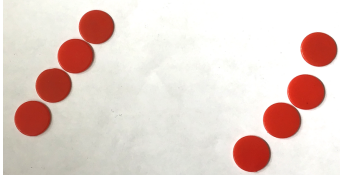
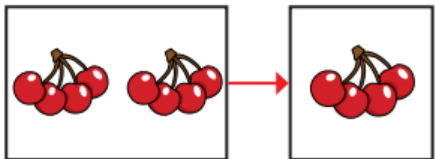
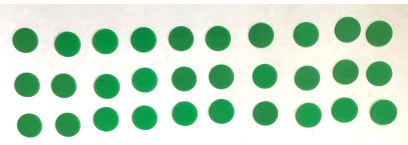
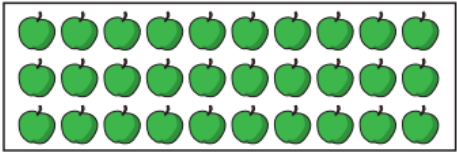
Division

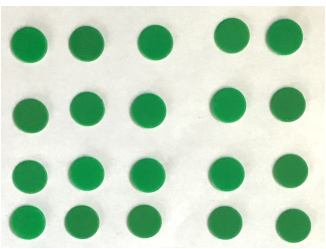
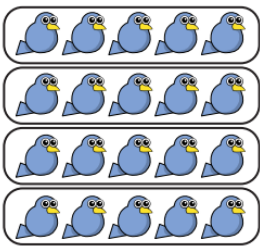
Year One

Method	Concrete	Pictorial	Abstract
Make Equal groups - grouping		 <p>They get 5  each.</p>	<p>There are 15 altogether. There are 3 parts. 15 shared into 3 equal parts. There are 5 in each part.</p>
Make Equal groups - sharing			<p>4 groups of 5 cars is 20 in total. 20 divide by 4 is 5.</p>

Division


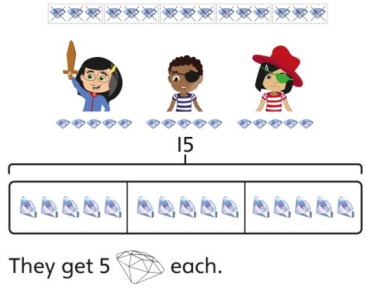

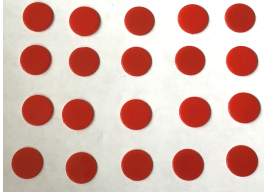
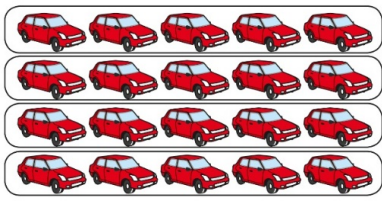
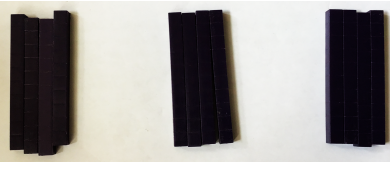
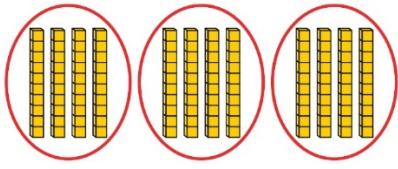

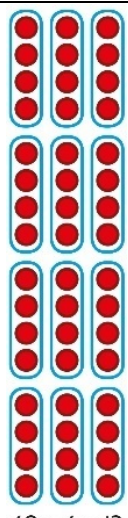
Year Two


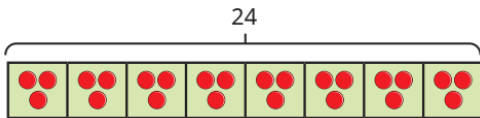
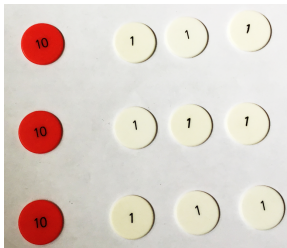
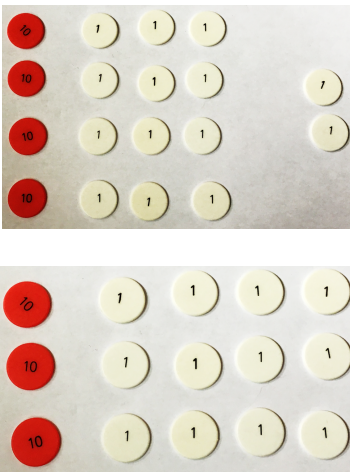
Method	Concrete	Pictorial	Abstract
Make equal groups – sharing		 <p>15</p> <p>They get 5  each.</p>	There are 15 altogether. There are 3 parts. 15 shared into 3 equal parts. There are 5 in each part.
Make equal groups – grouping			4 groups of 5 cars is 20 in total. 20 divide by 4 is 5.
Divide by 2			There are 12 eggs altogether. There are 2 groups. There are 6 eggs in each group. $12 \div 2 = 6$
Halving			There are 8 cherries altogether, half of 8 is 4.
Divide by 10			There are 30 apples. There are 10 apples in each row (group). There are 3 groups. $30 \div 10 = 3$

<p>Divide by 5</p>			<p>The 20 birds altogether. There are 5 birds in each group. There are 4 groups. $20 \div 5 = 4$</p>
------------------------	---	--	---

Division


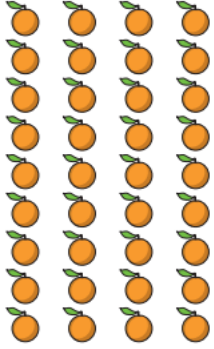
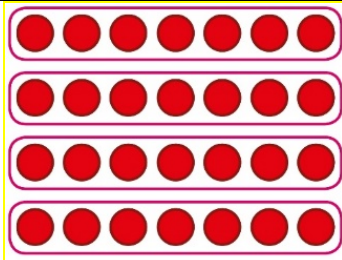
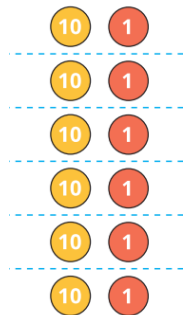
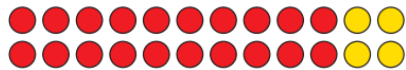
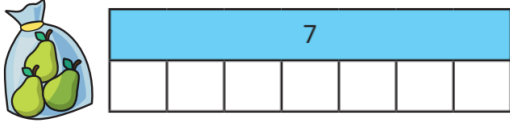
Year Three

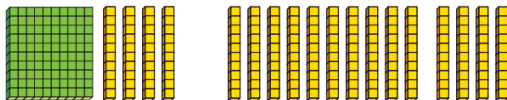





























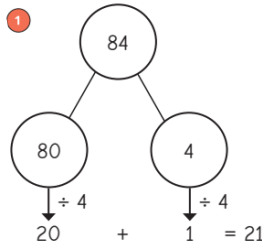


















Method	Concrete	Pictorial	Abstract
Sharing		 <p>They get 5  each.</p>	There are 15 altogether. There are 3 parts. 15 shared into 3 equal parts. There are 5 in each part.
Grouping			4 groups of 5 cars is 20 in total. 20 divide by 4 is 5.
Divide by 3			12 tens shared into 3 equal groups with 4 tens in each group. $120 \div 3 = 40$
Divide by 4		 <p>$48 \div 4 = 12$</p>	48 divided into groups of 4. There are 12 groups. $48 \div 4 = 12$

Divide by 8			<div>24 counters shared equally into 8 groups. $24 \div 8 = 3$</div>																				
Divide a 2-digit number by a 1-digit number – no exchange		<table><tr><th>Tens</th><th>Ones</th></tr><tr><td><div>10</div></td><td><div>1 1 1</div></td></tr><tr><td><div>10</div></td><td><div>1 1 1</div></td></tr><tr><td><div>10</div></td><td><div>1 1 1</div></td></tr></table>	Tens	Ones	<div>10</div>	<div>1 1 1</div>	<div>10</div>	<div>1 1 1</div>	<div>10</div>	<div>1 1 1</div>	<div>$39 \div 3 = 13$</div>												
Tens	Ones																						
<div>10</div>	<div>1 1 1</div>																						
<div>10</div>	<div>1 1 1</div>																						
<div>10</div>	<div>1 1 1</div>																						
Divide a 2-digit number by a 1-digit number – flexible partitioning		<div>$42 \div 3$</div> <table><tr><th>Tens</th><th>Ones</th></tr><tr><td><div>10</div></td><td></td></tr><tr><td><div>10</div></td><td></td></tr><tr><td><div>10</div></td><td></td></tr></table> <div>Remainder 10 exchanged for 10 ones.</div> <table><tr><th>Tens</th><th>Ones</th></tr><tr><td><div>10</div></td><td><div>1 1 1 1</div></td></tr><tr><td><div>10</div></td><td><div>1 1 1 1</div></td></tr><tr><td><div>10</div></td><td><div>1 1 1 1</div></td></tr></table>	Tens	Ones	<div>10</div>		<div>10</div>		<div>10</div>		Tens	Ones	<div>10</div>	<div>1 1 1 1</div>	<div>10</div>	<div>1 1 1 1</div>	<div>10</div>	<div>1 1 1 1</div>	<div>$42 \div 3 = 14$</div>				
Tens	Ones																						
<div>10</div>																							
<div>10</div>																							
<div>10</div>																							
Tens	Ones																						
<div>10</div>	<div>1 1 1 1</div>																						
<div>10</div>	<div>1 1 1 1</div>																						
<div>10</div>	<div>1 1 1 1</div>																						
Divide a 2-digit number by a 1-digit number – with remainders		<div>$94 \div 4$</div> <table><tr><th>Tens</th><th>Ones</th></tr><tr><td><div>10 10</div></td><td></td></tr><tr><td><div>10 10</div></td><td></td></tr><tr><td><div>10 10</div></td><td></td></tr><tr><td><div>10 10</div></td><td></td></tr></table> <div>Remainder 10 exchanged for 10 ones.</div> <table><tr><th>Tens</th><th>Ones</th></tr><tr><td><div>10 10</div></td><td><div>1 1 1 1</div></td></tr><tr><td><div>10 10</div></td><td><div>1 1 1 1</div></td></tr><tr><td><div>10 10</div></td><td><div>1 1 1 1</div></td></tr><tr><td><div>10 10</div></td><td><div>1 1 1 1</div></td></tr></table>	Tens	Ones	<div>10 10</div>		<div>10 10</div>		<div>10 10</div>		<div>10 10</div>		Tens	Ones	<div>10 10</div>	<div>1 1 1 1</div>	<div>10 10</div>	<div>1 1 1 1</div>	<div>10 10</div>	<div>1 1 1 1</div>	<div>10 10</div>	<div>1 1 1 1</div>	<div>$94 \div 4 = 23 \text{ r}2$</div>
Tens	Ones																						
<div>10 10</div>																							
<div>10 10</div>																							
<div>10 10</div>																							
<div>10 10</div>																							
Tens	Ones																						
<div>10 10</div>	<div>1 1 1 1</div>																						
<div>10 10</div>	<div>1 1 1 1</div>																						
<div>10 10</div>	<div>1 1 1 1</div>																						
<div>10 10</div>	<div>1 1 1 1</div>																						

Division

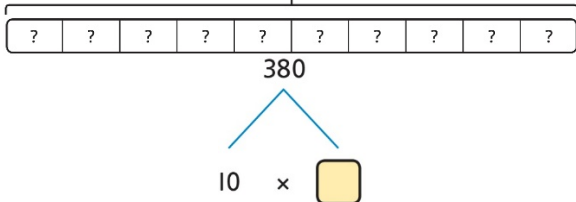
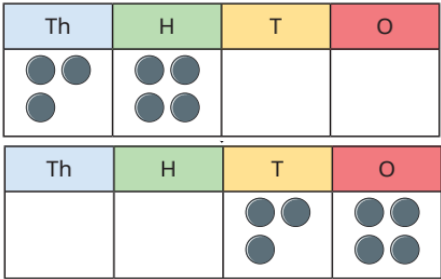
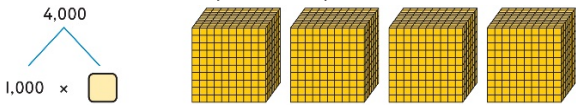
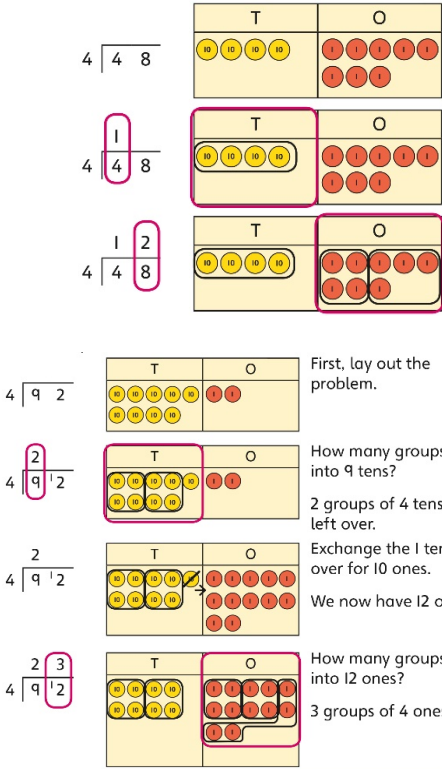
Year Four

Method	Pictorial	Abstract
Divide by 6		24 divided by 6 groups is 4.
Divide by 9		There are 9 rows of 4 oranges. There are 36 oranges in total. $36 \div 9 = 4$
Divide by 7		28 divided into groups of 7. There are 4 groups of 7. $28 \div 4 = 7$
11 times-table division facts		$66 \div 11 = 6$
12 times-table division facts		24 shared into groups of 12. $24 \div 2 = 12$
Divide a number by 1 and itself		3 pairs grouped into one bag. $3 \div 1 = 3$ 7 cookies shared between 7 friends. 0 cookies are left. $7 \div 7 = 0$

Divide by 10		<div><div>140 ÷ 10</div><div>140 = 1 hundred and 4 tens.</div><div>1 hundred = 10 tens.</div><div>There are 14 groups of 10.</div><div>140 ÷ 10 = 14</div></div>												
Divide by 100	<div><div>3400 ÷ 100</div><table><tr><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table></div>	Th	H	T	O									<div><div>3400 ÷ 100 = 34</div></div>
Th	H	T	O											
														
														
Divide a 2-digit number by a 1-digit number	<div><div></div><table><tr><td>Tens</td><td>Ones</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table><div>84 ÷ 4 = 21</div></div>	Tens	Ones									<div><div></div></div>		
Tens	Ones													
														
														
														
														
Divide a 3-digit number by a 1-digit number	<div><table><tr><td>Tens</td><td>Ones</td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table><div></div></div>	Tens	Ones					<div><div>97 ÷ 4 = 24 r1</div></div>						
Tens	Ones													
														
														


Division

Year Five

Method	Pictorial	Abstract
Divide by 10	$380 \div 10$ 	$380 \div 10 = 38$
Divide by 100	$3400 \div 100$ 	$3400 \div 100 = 34$
Divide by 1,000	$4,000 \div 1,000$ 	$4,000 \div 1,000 = 4$
Divide a 4-digit number by a 1-digit number	 <p>First, lay out the problem.</p> <p>How many groups of 4 go into 9 tens?</p> <p>2 groups of 4 tens with 1 ten left over.</p> <p>Exchange the 1 ten left over for 10 ones.</p> <p>We now have 12 ones.</p> <p>How many groups of 4 go into 12 ones?</p> <p>3 groups of 4 ones.</p>	$\begin{array}{r} 0 \ 5 \ 5 \ 6 \\ 7 \overline{) 3 \ 8 \ 9 \ 2} \\ \underline{3 \ 8 \ 9 \ 2} \\ 0 \end{array}$ $3,892 \div 7 = 556$ <p>Use multiplication to check.</p> $556 \times 7 = ?$ $6 \times 7 = 42$ $50 \times 7 = 350$ $500 \times 7 = 3500$ $3,500 + 350 + 42 = 3,892$

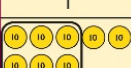
Divide with remainders

$$6 \overline{) 80}$$

T	O
	

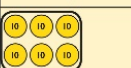
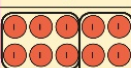
Lay out the problem as short division.

$$6 \overline{) 8} 20$$

T	O
	

How many groups of 6 go into 8 tens?
There is 1 group of 6 tens.
There are 2 tens remaining.

$$6 \overline{) 8} \begin{array}{r} 13 \\ 20 \end{array}$$


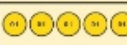
T	O
	


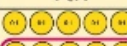
How many groups of 6 go into 20 ones?
There are 3 groups of 6 ones.
There are 2 ones remaining.



$$683 = 136 \times 5 + 3$$

$$683 \div 5 = 136 \text{ r } 3$$

Dividing decimals by 10, 100 and 1,000

O	.	Tth	Hth
			

O	.	Tth	Hth
			

O	.	Tth	Hth
			

1.5 is 1 one and 5 tenths.
This is equivalent to 10 tenths and 50 hundredths.
10 tenths divided by 10 is 1 tenth.
50 hundredths divided by 10 is 5 hundredths.
1.5 divided by 10 is 1 tenth and 5 hundredths.
 $1.5 \div 10 = 0.15$

O	.	Tth	Hth	Thth
0	.	8	5	
0	.	0	8	5

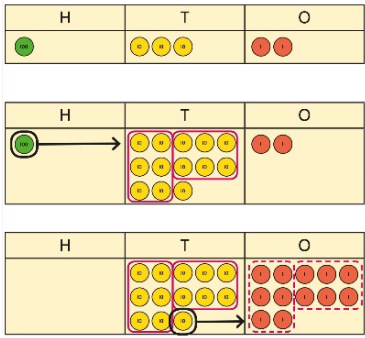
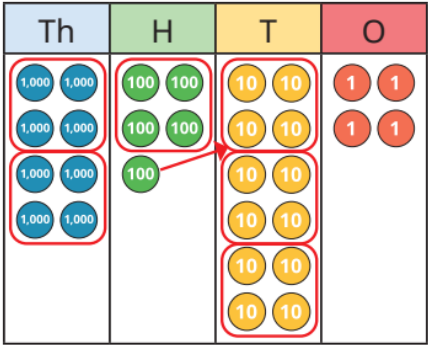
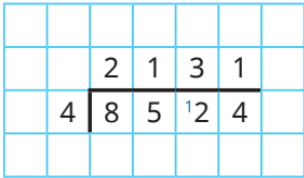

$$0.85 \div 10 = 0.085$$

O	.	Tth	Hth	Thth
8	.	5		
0	.	0	8	5

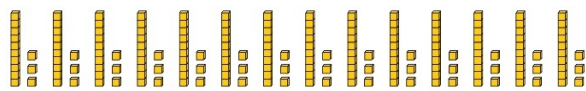
$$8.5 \div 100 = 0.085$$

Division

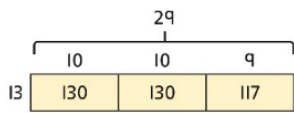
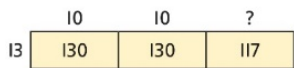
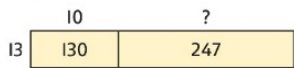
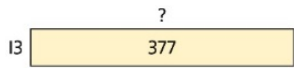
Year 6

Method	Pictorial	Abstract
Dividing by a single digit	 <p>How many groups of 6 are in 100?</p> $6 \overline{) 132}$ <p>How many groups of 6 are in 13 tens?</p> $6 \overline{) 132}$ <p>How many groups of 6 are in 12 ones?</p> $6 \overline{) 132}$	$\begin{array}{r} 0 \\ 6 \overline{) 132} \end{array}$ $\begin{array}{r} 0 \ 2 \\ 6 \overline{) 132} \end{array}$ $\begin{array}{r} 0 \ 2 \ 2 \\ 6 \overline{) 132} \end{array}$
Dividing by a single digit		
Dividing by a 2-digit number using factors	<p>$1,260 \div 14 = ?$</p>  <p>$1,260 \div 2 = 630$</p> <p>$630 \div 7 = 90$</p> <p>$1,260 \div 14 = 90$</p>	<p>$2,100 \div 12 =$</p> <p>2,100 \rightarrow $\div 2$ \rightarrow $\div 6$ \rightarrow</p> <p>2,100 \rightarrow $\div 6$ \rightarrow $\div 2$ \rightarrow</p> <p>2,100 \rightarrow $\div 3$ \rightarrow $\div 4$ \rightarrow</p> <p>2,100 \rightarrow $\div 4$ \rightarrow $\div 3$ \rightarrow</p> <p>2,100 \rightarrow $\div 3$ \rightarrow $\div 2$ \rightarrow $\div 2$ \rightarrow</p>

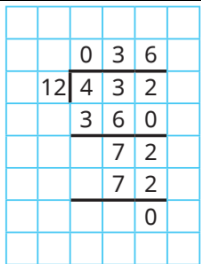
Long division



182 divided into groups of 13.
There are 14 groups.

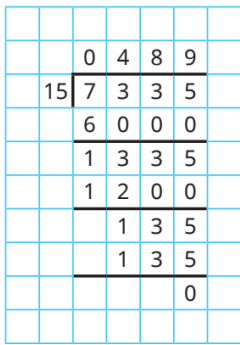


$377 \div 13 = 29$



(12×30)

(12×6)

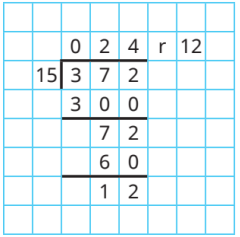


(15×400)

(15×80)

(15×9)

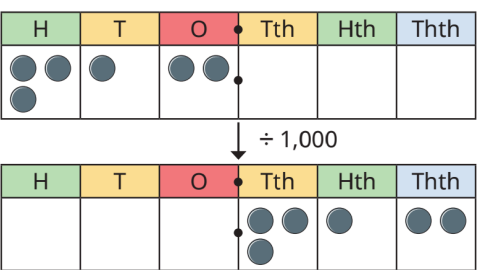
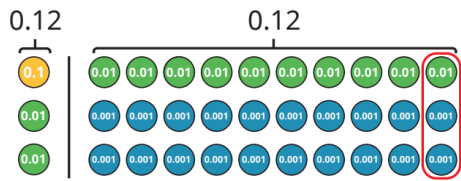
Long division with remainders



(15×20)

(15×4)

Dividing by 10, 100 and 1,000



$0.12 \div 10$

1 tenth = 10 hundredths

1 hundredth = 10 thousandths

$0.12 \div 10 = 0.012$

$312 \div 1,000$

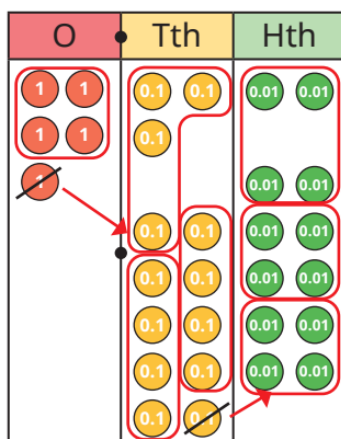
312 is 1,000 times the size of 0.312.

0.312 is one-thousandth the size of 312.

$312 \div 1,000 = 0.312$

Dividing decimals

$$5.32 \div 4$$



		1	•	3	3
	4	5	•	¹ 3	¹ 2