

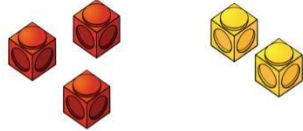
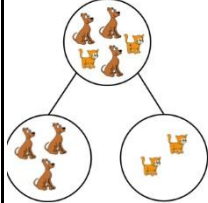
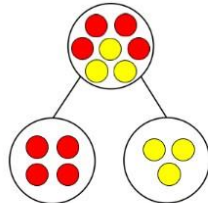
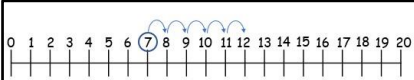
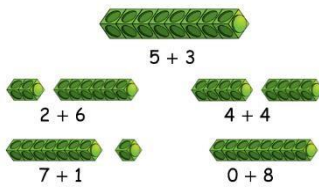
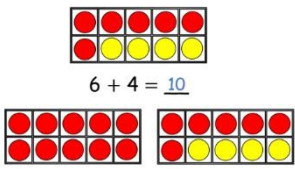
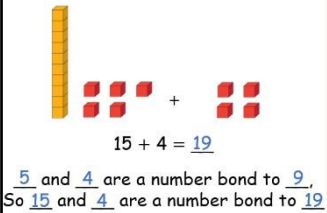
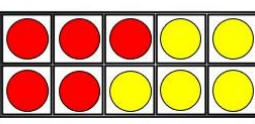
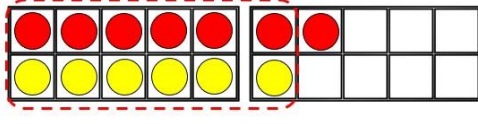


Calculation policy 2023

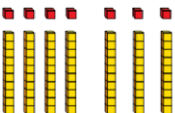
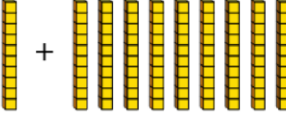
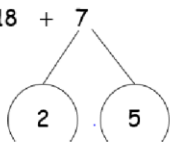
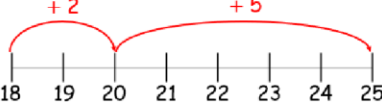
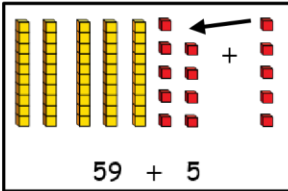
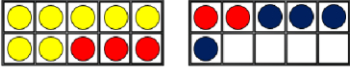
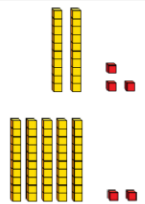
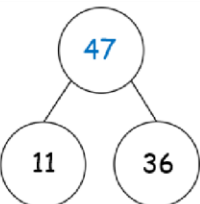
River Bank Primary School

2023

Addition - Year 1

Method	Example
Combining two parts to make a whole: a part whole model. Understand that the whole is bigger than the part.	 <u>2</u> is a part. <u>3</u> is a part. The whole is <u>5</u>  There are 5 animals altogether. There are <u>3</u> dogs and <u>2</u> cats. <u>5</u> is the whole. <u>3</u> is a part. <u>2</u> is a part.  <u>4</u> plus <u>3</u> is equal to <u>7</u> <u>4</u> + <u>3</u> = <u>7</u>
Starting with the bigger number and counting on. They will choose the larger number (even when it is not first) and count on from there. Use number lines or store mentally and count on fingers.	 To work out $7 + 5$, I will count on from <u>7</u> $7 + 5 = \underline{12}$  $5 + 3 = 8$ <u>5</u> <u>3</u>
Finding and using number bonds to 10. Use these number bonds to work out addition questions within 20.	 $5 + 3$ $2 + 6$ $4 + 4$ $7 + 1$ $0 + 8$  $6 + 4 = \underline{10}$ $16 + 4 = \underline{20}$  $15 + 4 = \underline{19}$ <u>5</u> and <u>4</u> are a number bond to <u>9</u>. So <u>15</u> and <u>4</u> are a number bond to <u>19</u>
Using doubles and near doubles for addition. Know doubles for numbers to 10. Use near doubles to work out addition problems.	 $5 + 5 = 10$ Double 5 is <u>10</u>  $7 + 6$ is equal to double <u>6</u> plus 1 Double <u>6</u> = <u>12</u> $7 + 6 = \underline{13}$

Addition – Year 2

Method	Example												
Use related facts to add tens. Use related facts to learn number bonds to 100 (using tens).	$4 + 3 = 7$ $40 + 30 = 70$  $4 \text{ ones} + 3 \text{ ones} = 7 \text{ ones,}$ So $4 \text{ tens} + 3 \text{ tens} = 7 \text{ tens}$ This means that $40 + 30 = 70$ $1 + 9 = 10$  $= 10$ $10 + 90 = 100$  $= 100$												
Using partitioning to add across 10. Partition the smaller number using knowledge of number bonds to 10.	$18 + 7$    $59 + 5$ $60 + 4 = 64$ $59 + 5 = 64$												
Adding 3 one-digit numbers. Use different coloured counters to add 3 one-digit numbers. Use number bonds to add 3 one-digit numbers.	Use counters to calculate $7 + 5 + 4$ $7 + 5 + 4 = 16$  $7 + 6 + 3 = 16$ $7 + 3 = 10$ $10 + 6 = 16$												
Adding 2 two-digit numbers not across 10. Partition the tens and ones first. Then, add the ones first and then then tens.	 <table border="1"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr> <td>7</td><td>5</td></tr> </tbody> </table> $23 + 52 = 75$  <table border="1"> <thead> <tr> <th colspan="2">99</th></tr> <tr> <th>43</th><th>56</th></tr> </thead> <tbody> <tr> <td colspan="2">$11 + 36 = 47$</td></tr> <tr> <td colspan="2">$43 + 56 = 99$</td></tr> </tbody> </table>	Tens	Ones	7	5	99		43	56	$11 + 36 = 47$		$43 + 56 = 99$	
Tens	Ones												
7	5												
99													
43	56												
$11 + 36 = 47$													
$43 + 56 = 99$													
Adding 2 two-digit numbers across 10. If a column goes across 10, we must exchange. In the example, $5 \text{ ones} + 7 \text{ ones} = 12 \text{ ones}$. Ten ones will be exchanged for one ten.	Use base 10 to calculate $45 + 37$ <table border="1"> <thead> <tr> <th>T</th><th>O</th></tr> </thead> <tbody> <tr> <td></td><td></td></tr> <tr> <td></td><td></td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>T</th><th>O</th></tr> </thead> <tbody> <tr> <td></td><td></td></tr> </tbody> </table> There are 8 tens and 2 ones. $80 + 2 = 82$ $45 + 37 = 82$	T	O					T	O				
T	O												
T	O												

Addition– Year 3

Method	Example																																																		
Add 10 and 100 by adding the correct number of digits to the specific column.	Add 200 The hundreds column will <u>increase</u> by <u>2</u>	434 + 200 = 634																																																	
Add using the column method when there is no exchanging needed.	212 + 147 = 359 <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td> </td><td> </td><td> </td></tr><tr><td>3</td><td>5</td><td>9</td></tr></table><table><tr><th></th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>2</td><td>1</td><td>2</td></tr><tr><td>+</td><td>1</td><td>4</td><td>7</td></tr><tr><td></td><td>3</td><td>5</td><td>9</td></tr></table>	Hundreds	Tens	Ones				3	5	9		H	T	O		2	1	2	+	1	4	7		3	5	9	<table><tr><th></th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>3</td><td>5</td><td>1</td></tr><tr><td>+</td><td>2</td><td>1</td><td>3</td></tr><tr><td></td><td>5</td><td>6</td><td>4</td></tr></table>		H	T	O		3	5	1	+	2	1	3		5	6	4								
Hundreds	Tens	Ones																																																	
3	5	9																																																	
	H	T	O																																																
	2	1	2																																																
+	1	4	7																																																
	3	5	9																																																
	H	T	O																																																
	3	5	1																																																
+	2	1	3																																																
	5	6	4																																																
Add threedigit numbers together using the column method. Use diennes to embed the concrete before moving onto the pictorial (counters) and abstract. When a column goes beyond 10, we exchange the digits e.g. 10 ones becomes 1 ten.	243 + 172 = 415 <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td> </td><td> </td><td> </td></tr><tr><td>4</td><td>1</td><td>5</td></tr></table><table><tr><th></th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>2</td><td>4</td><td>3</td></tr><tr><td>+</td><td>1</td><td>7</td><td>2</td></tr><tr><td></td><td>4</td><td>1</td><td>5</td></tr><tr><td></td><td>1</td><td></td><td></td></tr></table>	Hundreds	Tens	Ones				4	1	5		H	T	O		2	4	3	+	1	7	2		4	1	5		1			<table><tr><th></th><th>H</th><th>T</th><th>O</th></tr><tr><td></td><td>3</td><td>7</td><td>1</td></tr><tr><td>+</td><td>2</td><td>6</td><td>3</td></tr><tr><td></td><td>6</td><td>3</td><td>4</td></tr><tr><td></td><td>1</td><td></td><td></td></tr></table>		H	T	O		3	7	1	+	2	6	3		6	3	4		1		
Hundreds	Tens	Ones																																																	
4	1	5																																																	
	H	T	O																																																
	2	4	3																																																
+	1	7	2																																																
	4	1	5																																																
	1																																																		
	H	T	O																																																
	3	7	1																																																
+	2	6	3																																																
	6	3	4																																																
	1																																																		
Add tens that go across 100.	270 + 60 The next multiple of 100 after 270 is 300 60 = 270300330	583 + 50 I will jump across the next multiple of 100 583203060330633																																																	

Add a two-digit number and a three-digit number using the column method.
Reinforce the importance of lining the place value columns correctly.

$252 + 23 = 275$

	H	T	O
	2	5	2
+		2	3
	2	7	5

$105 + 87 = 192$

		H	T	O
		1	0	5
+			8	7
		1	9	2
			1	

		H	T	O
		1	0	5
+			8	7
		1	9	2
			1	

Addition – Year 4

Method	Example																																																													
Adding two four-digit numbers with no exchanging. Using place value counters to reinforce lining the columns correctly.	2,151 + 4,312 = 6,463 <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> 1000 1000 </td><td> 100 </td><td> 10 10 10 10 10 </td><td> 1 </td></tr><tr><td> 1000 1000 1000 1000 </td><td> 100 100 </td><td> 10 </td><td> 1 1 </td></tr><tr><td>6</td><td>4</td><td>6</td><td>3</td></tr></table> <table><tr><td></td><td>2</td><td>1</td><td>5</td><td>1</td></tr><tr><td>+</td><td>4</td><td>3</td><td>1</td><td>2</td></tr><tr><td></td><td>6</td><td>4</td><td>6</td><td>3</td></tr></table> <table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>5</td><td>2</td><td>3</td><td>1</td></tr><tr><td>+</td><td></td><td>3</td><td>5</td><td>8</td></tr><tr><td></td><td>5</td><td>5</td><td>8</td><td>9</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	Th	H	T	O	1000 1000	100	10 10 10 10 10	1	1000 1000 1000 1000	100 100	10	1 1	6	4	6	3		2	1	5	1	+	4	3	1	2		6	4	6	3							5	2	3	1	+		3	5	8		5	5	8	9										
Th	H	T	O																																																											
1000 1000	100	10 10 10 10 10	1																																																											
1000 1000 1000 1000	100 100	10	1 1																																																											
6	4	6	3																																																											
	2	1	5	1																																																										
+	4	3	1	2																																																										
	6	4	6	3																																																										
	5	2	3	1																																																										
+		3	5	8																																																										
	5	5	8	9																																																										
Adding two four-digit numbers with exchanging.	3,635 + 4,572 = 8,206 <table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> 1000 1000 1000 1000 </td><td></td><td></td><td> 1 </td></tr><tr><td> 1000 </td><td> 100 100 </td><td> 10 10 10 10 10 </td><td></td></tr><tr><td>6</td><td>2</td><td>6</td><td>1</td></tr></table> <table><tr><td></td><td>4</td><td>8</td><td>0</td><td>3</td></tr><tr><td>+</td><td>1</td><td>4</td><td>5</td><td>8</td></tr><tr><td></td><td>6</td><td>2</td><td>6</td><td>1</td></tr><tr><td></td><td>1</td><td>1</td><td></td><td></td></tr></table> <table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>3</td><td>6</td><td>3</td><td>5</td></tr><tr><td>+</td><td>4</td><td>5</td><td>7</td><td>1</td></tr><tr><td></td><td>8</td><td>2</td><td>0</td><td>6</td></tr><tr><td></td><td>1</td><td>1</td><td></td><td></td></tr></table>	Th	H	T	O	1000 1000 1000 1000			1	1000	100 100	10 10 10 10 10		6	2	6	1		4	8	0	3	+	1	4	5	8		6	2	6	1		1	1									3	6	3	5	+	4	5	7	1		8	2	0	6		1	1		
Th	H	T	O																																																											
1000 1000 1000 1000			1																																																											
1000	100 100	10 10 10 10 10																																																												
6	2	6	1																																																											
	4	8	0	3																																																										
+	1	4	5	8																																																										
	6	2	6	1																																																										
	1	1																																																												
	3	6	3	5																																																										
+	4	5	7	1																																																										
	8	2	0	6																																																										
	1	1																																																												
Using rounding to estimate addition questions.	£2,138  £1,279  £2,138 is quite close to £2,100 £1,279 is quite close to £1,300    2,138 + 1,279 2,100 + 1,300 = 3,400																																																													

£437 rounded to the nearest 100 is £400

£266 rounded to the nearest 100 is £300

The estimated answer is

$$£400 + £300 = £700$$

	4	3	7	
+	2	6	6	
	7	0	3	
	1	1		

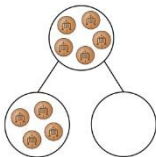
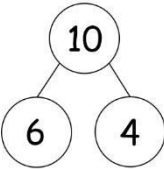
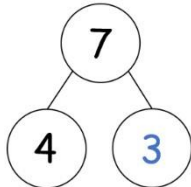
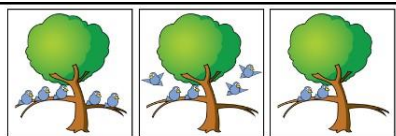
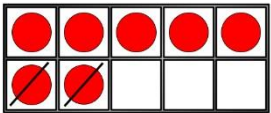
Addition – Year 5 and 6

Method	Example
Add numbers with more than four digits with and without exchanging. Always with the place value column with the smallest value.	In column addition we start with the place value column that has the <u>smallest</u> value.
Add decimalswith the same number of digits and with different numbers of digits. Lineup the place value columns correctly and starting with the place value column with the smallest value.	$2.5 + 3.16 = 5.66$ $25.45 + 6.76 = 32.21$ $3.108 + 2.154 = 5.262$ Which columns will involve an exchange? $34.35 + 22.64 = 56.99$

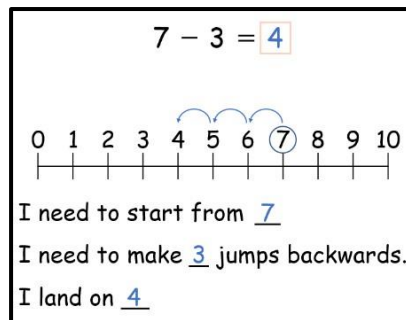
Exchange if a column goes across 10.

2	3	6	+	7	5	4	2	=	3	1	1	4	2
				2	3	6	0	0					
			+	0	7	5	4	2					
				<u>3</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>2</u>					
				1	1								

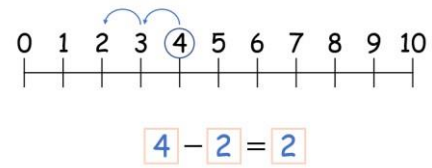
Subtraction Year 1

Method	Example
Find a part – understand that whole is made up of parts. If we have the whole and one part, we can find the missing part. This will be done using number bonds rather than formal subtraction.	 If the whole is <u>5</u> and <u>4</u> is a part, then the other part is <u> </u>  If the whole is <u>10</u> and <u>6</u> is a part, then the other part is <u>4</u> $6 + 4 = 10$
Finding a part as subtraction. Still using number bonds to find a part, they will represent them using a subtraction symbol. Children will understand that whole – part = part.	There are 5 tanks in a shop. 3 of the tanks have fish in them. How many tanks do not have fish in?  $5 - 3 = 2$ "Five minus three is equal to two"  $7 - 4 = 3$ whole – part = part
Subtraction as taking away. This will be the first time they're introduced to subtraction as 'taking away'. This will be done first without the subtraction symbol. Children will be taught to 'cross out' what they are taking away. In step 2, the subtraction symbol will be formally used.	Step 1  First there were <u>6</u> children in the pool. Then <u>3</u> children got out. Now there are <u>3</u> children in the pool.  First there were <u>9</u> bottles of water. Then <u>4</u> bottles were drunk. Now there are <u>5</u> bottles of water. Step 2  First there were <u>5</u> birds. Then <u>3</u> birds flew away. Now there are <u>2</u> birds on the tree. $5 - 3 = 2$  First there were <u>7</u> counters. Then <u>2</u> counters were taken away. Now there are <u>5</u> counters. $7 - 2 = 5$

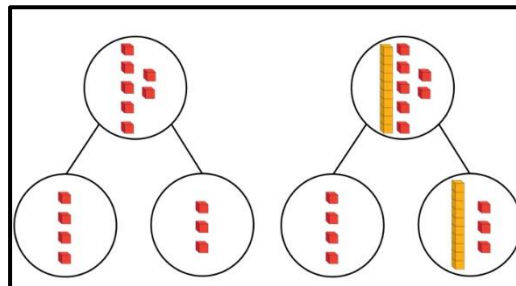
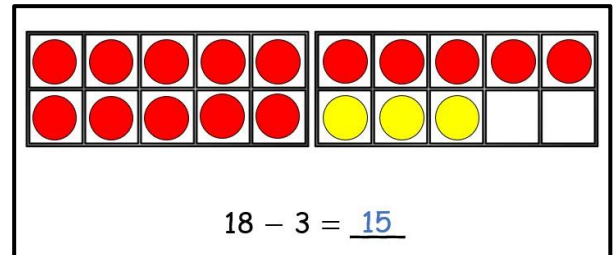
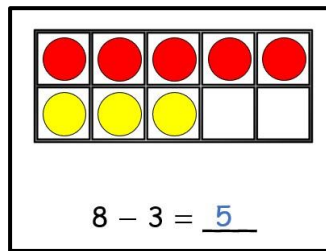
Subtraction using a number line—
Children will be taught to count back from the bigger number.



Sam has 4 stickers.
She gives 2 of them to a friend.
How many stickers does Sam have left?

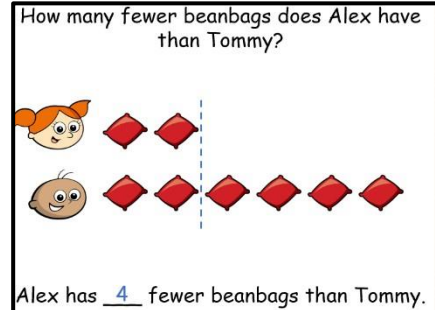
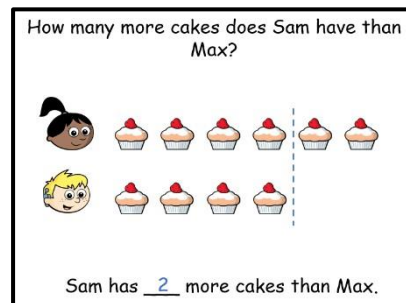


Using number bonds to subtract within 20.

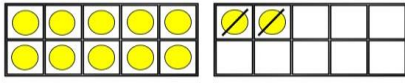
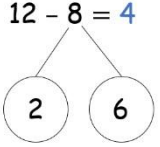
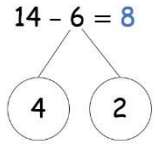
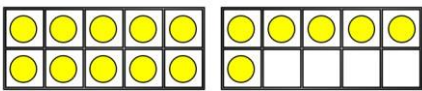
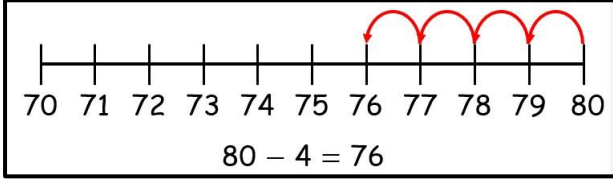
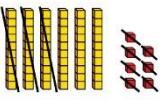
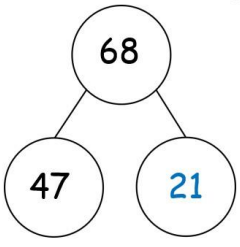


Subtracting by finding the difference.

The children will be introduced to vocabulary such as how many fewer, how many more, and find the difference.



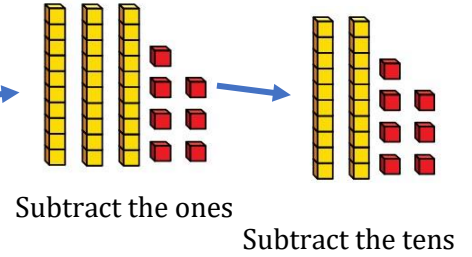
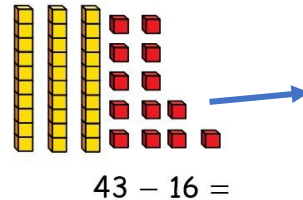
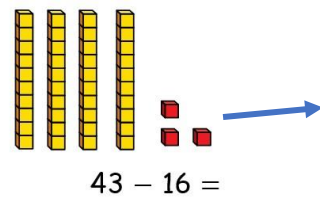
Subtraction Year 2

Method	Example												
Subtract across 10. Children will use their number bonds to partition numbers subtract across 10. $12 - 4 =$ $12 - 2 = 10$ $10 - 2 = 8$	$12 - 4 = \square$  $12 - 8 = 4$  I can partition 8 into <u>2</u> and <u>6</u> I need to subtract <u>2</u> to get to 10 I need to subtract <u>6</u> more $12 - 8 = \underline{4}$ $14 - 6 = 8$  $14 - 4 = 10$ $10 - 2 = 8$ I can partition 6 into <u>4</u> and <u>2</u> 												
Subtract from 10 – Use number bonds to ten to subtract from multiples of ten.	 $20 - 4 = 16$ Complete the sentence. If $10 - \underline{4} = \underline{6}$, then $20 - \underline{4} = \underline{16}$  $80 - 4 = 76$												
Subtract two 2-digit numbers without crossing ten – do this by partitioning the number into tens and ones (always start subtracting with the ones)	Use base 10 to calculate $67 - 37$  Complete the sentences. <u>7</u> ones – <u>7</u> ones = <u>0</u> ones <u>6</u> tens – <u>3</u> tens = <u>3</u> tens <table border="1"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr> <td>3</td><td>0</td></tr> </tbody> </table> Work out the missing part.  <table border="1"> <tr> <td colspan="2">97</td> </tr> <tr> <td>35</td> <td>62</td> </tr> <tr> <td colspan="2">62</td> </tr> <tr> <td>21</td> <td>41</td> </tr> </table> 	Tens	Ones	3	0	97		35	62	62		21	41
Tens	Ones												
3	0												
97													
35	62												
62													
21	41												

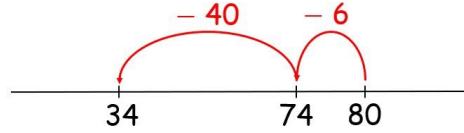
Subtract two 2-digit numbers across ten. To do this, you will need to exchange a ten into 10 ones.

This can be done practically using base ten (diennes).

Use a number line to subtract the ones of the smaller number before then subtracting the tens.



$$80 - 46 = 34$$



Year 3 – Subtraction

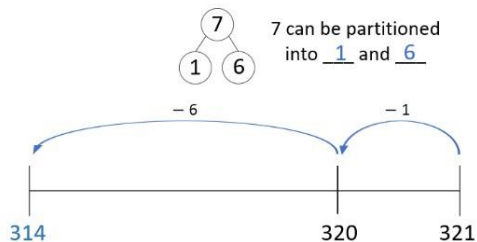
Method	Example	
Subtract 100 from a given number. Children will understand that only the hundreds column will change. Encourage them to use their number bonds to subtract (e.g. $5 - 3 = 2$ so $500 - 300 = 200$)	The hundreds column will <u>decrease</u> by <u>4</u>	$634 - 400 = 234$

Subtract 1 across ten in a 3digit number.

Use a number line and knowledge of number bonds.

$$321 - 7$$

The previous multiple of 10 before 321 is 320



Subtract 10 across 100.

Use number lines and knowledge of number bonds.

$$430 - 60$$

The previous 100 is 400.

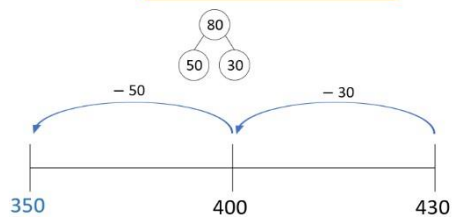
$$430 - 30 = 400$$

$$60 - 30 = 30$$

$$400 - 30 = 370$$

$$430 - 80$$

The previous multiple of 100 before 430 is 400



Subtract two numbers without exchanging using a formal written method.

Place value columns must be lined up and always begin subtracting at the ones.

438 − 325 =

Hundreds	Tens	Ones
1	1	3

	H	T	O
	4	3	8
−	3	2	5
	1	1	3

Subtracting with exchanging.

Children must know to start with the ones.

If the digit in the top number is smaller than the digit below, you must exchange.

Use this method to subtract a 2-digit number from a 3-digit number.

451 − 325 = 126

Hundreds	Tens	Ones
1	2	6

	H	T	O
	4	5	1
−	3	2	5
	1	2	6

201 − 37 =

Hundreds	Tens	Ones
1	6	4

	H	T	O
	2	0	1
−		3	7
	1	6	4

1 − 5 we cannot do.
So we must exchange one of the tens into 10 ones.
Now we do 11 − 5 = 6.

Then 4 tens − 2 tens = 2 tens.

4 hundreds 3 hundreds = 1 hundred.

When there is a place holder on the top line, you exchange from the next digit on the left.

Year 4– Subtraction

Method	Example																																																
Subtract two fourdigit numberswithout exchanging, with exchanging and with more than one exchange.	4,562 − 3,152 = 1,410 <table><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>1</td><td>4</td><td>1</td><td>0</td></tr></tbody></table><table><tbody><tr><td>4</td><td>5</td><td>6</td><td>2</td></tr><tr><td>−</td><td>3</td><td>1</td><td>5</td></tr><tr><td>1</td><td>4</td><td>1</td><td>0</td></tr></tbody></table> 4,154 − 1,522 = 2,632 <table><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>2</td><td>6</td><td>3</td><td>2</td></tr></tbody></table><table><tbody><tr><td>4</td><td>1</td><td>5</td><td>4</td></tr><tr><td>−</td><td>1</td><td>5</td><td>2</td></tr><tr><td>2</td><td>6</td><td>3</td><td>2</td></tr></tbody></table>	Th	H	T	O					1	4	1	0	4	5	6	2	−	3	1	5	1	4	1	0	Th	H	T	O					2	6	3	2	4	1	5	4	−	1	5	2	2	6	3	2
	Th	H	T	O																																													
1	4	1	0																																														
4	5	6	2																																														
−	3	1	5																																														
1	4	1	0																																														
Th	H	T	O																																														
2	6	3	2																																														
4	1	5	4																																														
−	1	5	2																																														
2	6	3	2																																														
	4,065 − 2,128 = 1,937 <table><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>1</td><td>9</td><td>3</td><td>7</td></tr></tbody></table><table><tbody><tr><td>4</td><td>0</td><td>6</td><td>5</td></tr><tr><td>−</td><td>2</td><td>1</td><td>2</td></tr><tr><td>1</td><td>9</td><td>3</td><td>7</td></tr></tbody></table>	Th	H	T	O					1	9	3	7	4	0	6	5	−	2	1	2	1	9	3	7																								
Th	H	T	O																																														
1	9	3	7																																														
4	0	6	5																																														
−	2	1	2																																														
1	9	3	7																																														

Year 5 and 6- Subtraction

Method	Example																																																																																																																																																									
Subtract whole numbers with more than four digits with and without exchanging. Line the place value columns up correctly and begin subtracting in the place value column with the smallest value.	<table><tr><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> 10,000 10,000 </td><td> 1,000 1,000 </td><td> 100 100 </td><td> 10 10 </td><td> 1 1 </td></tr><tr><td> 2 2 </td><td> 3 3 </td><td> 3 3 </td><td> 8 8 </td><td> 1 1 </td></tr></table><table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>3</td><td>6</td><td>5</td><td>8</td><td>2</td></tr><tr><td>-</td><td>1</td><td>3</td><td>2</td><td>0</td><td>1</td></tr><tr><td></td><td>2</td><td>3</td><td>3</td><td>8</td><td>1</td></tr></table> <table><tr><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> 10,000 10,000 </td><td> 1,000 1,000 </td><td> 100 100 </td><td> 10 10 </td><td> 1 1 </td></tr><tr><td> 2 2 </td><td> 3 3 </td><td> 3 3 </td><td> 7 7 </td><td> 7 7 </td></tr></table><table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>3</td><td>6</td><td>5</td><td>7</td><td>2</td></tr><tr><td>-</td><td>1</td><td>3</td><td>2</td><td>0</td><td>5</td></tr><tr><td></td><td>2</td><td>3</td><td>3</td><td>7</td><td>7</td></tr></table> <tr><td> Subtract decimals with the same number of decimal places. </td><td> <table><tr><td></td><td></td><td>⁷8</td><td>¹1</td><td>9</td></tr><tr><td>-</td><td></td><td>4</td><td>.</td><td>3</td></tr><tr><td></td><td></td><td>3</td><td>.</td><td>6</td></tr></table><table><tr><td></td><td>⁰1</td><td>¹2</td><td>⁰1</td><td>¹5</td></tr><tr><td>-</td><td></td><td>7</td><td>.</td><td>6</td></tr><tr><td></td><td></td><td>5</td><td>.</td><td>9</td></tr></table> </td></tr> <tr><td> Subtract decimals with different numbers of digits. </td><td> 6.73 - 1.3 = <table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th></tr><tr><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td></tr><tr><td>5</td><td>4</td><td>3</td></tr></table><table><tr><td>6</td><td>.</td><td>7</td><td>3</td></tr><tr><td>1</td><td>.</td><td>3</td><td>0</td></tr><tr><td>5</td><td>.</td><td>4</td><td>3</td></tr></table> Fill the empty columns with a placeholder. 7.2 - 2.27 = 4.93 <table><tr><td>⁶7</td><td>¹1</td><td>¹0</td></tr><tr><td>-</td><td>2</td><td>.</td><td>2</td><td>7</td></tr><tr><td></td><td>4</td><td>.</td><td>9</td><td>3</td></tr></table><table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th></tr><tr><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td></tr><tr><td>4</td><td>9</td><td>3</td></tr></table> </td></tr>	TTh	Th	H	T	O	10,000 10,000	1,000 1,000	100 100	10 10	1 1	2 2	3 3	3 3	8 8	1 1							3	6	5	8	2	-	1	3	2	0	1		2	3	3	8	1	TTh	Th	H	T	O	10,000 10,000	1,000 1,000	100 100	10 10	1 1	2 2	3 3	3 3	7 7	7 7							3	6	5	7	2	-	1	3	2	0	5		2	3	3	7	7	Subtract decimals with the same number of decimal places.	<table><tr><td></td><td></td><td>⁷8</td><td>¹1</td><td>9</td></tr><tr><td>-</td><td></td><td>4</td><td>.</td><td>3</td></tr><tr><td></td><td></td><td>3</td><td>.</td><td>6</td></tr></table><table><tr><td></td><td>⁰1</td><td>¹2</td><td>⁰1</td><td>¹5</td></tr><tr><td>-</td><td></td><td>7</td><td>.</td><td>6</td></tr><tr><td></td><td></td><td>5</td><td>.</td><td>9</td></tr></table>			⁷ 8	¹ 1	9	-		4	.	3			3	.	6		⁰ 1	¹ 2	⁰ 1	¹ 5	-		7	.	6			5	.	9	Subtract decimals with different numbers of digits.	6.73 - 1.3 = <table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th></tr><tr><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td></tr><tr><td>5</td><td>4</td><td>3</td></tr></table><table><tr><td>6</td><td>.</td><td>7</td><td>3</td></tr><tr><td>1</td><td>.</td><td>3</td><td>0</td></tr><tr><td>5</td><td>.</td><td>4</td><td>3</td></tr></table> Fill the empty columns with a placeholder. 7.2 - 2.27 = 4.93 <table><tr><td>⁶7</td><td>¹1</td><td>¹0</td></tr><tr><td>-</td><td>2</td><td>.</td><td>2</td><td>7</td></tr><tr><td></td><td>4</td><td>.</td><td>9</td><td>3</td></tr></table><table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th></tr><tr><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td></tr><tr><td>4</td><td>9</td><td>3</td></tr></table>	Ones	Tenths	Hundredths	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	5	4	3	6	.	7	3	1	.	3	0	5	.	4	3	⁶ 7	¹ 1	¹ 0	-	2	.	2	7		4	.	9	3	Ones	Tenths	Hundredths	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	4	9	3
TTh	Th	H	T	O																																																																																																																																																						
10,000 10,000	1,000 1,000	100 100	10 10	1 1																																																																																																																																																						
2 2	3 3	3 3	8 8	1 1																																																																																																																																																						
	3	6	5	8	2																																																																																																																																																					
-	1	3	2	0	1																																																																																																																																																					
	2	3	3	8	1																																																																																																																																																					
TTh	Th	H	T	O																																																																																																																																																						
10,000 10,000	1,000 1,000	100 100	10 10	1 1																																																																																																																																																						
2 2	3 3	3 3	7 7	7 7																																																																																																																																																						
	3	6	5	7	2																																																																																																																																																					
-	1	3	2	0	5																																																																																																																																																					
	2	3	3	7	7																																																																																																																																																					
Subtract decimals with the same number of decimal places.	<table><tr><td></td><td></td><td>⁷8</td><td>¹1</td><td>9</td></tr><tr><td>-</td><td></td><td>4</td><td>.</td><td>3</td></tr><tr><td></td><td></td><td>3</td><td>.</td><td>6</td></tr></table><table><tr><td></td><td>⁰1</td><td>¹2</td><td>⁰1</td><td>¹5</td></tr><tr><td>-</td><td></td><td>7</td><td>.</td><td>6</td></tr><tr><td></td><td></td><td>5</td><td>.</td><td>9</td></tr></table>			⁷ 8	¹ 1	9	-		4	.	3			3	.	6		⁰ 1	¹ 2	⁰ 1	¹ 5	-		7	.	6			5	.	9																																																																																																																											
		⁷ 8	¹ 1	9																																																																																																																																																						
-		4	.	3																																																																																																																																																						
		3	.	6																																																																																																																																																						
	⁰ 1	¹ 2	⁰ 1	¹ 5																																																																																																																																																						
-		7	.	6																																																																																																																																																						
		5	.	9																																																																																																																																																						
Subtract decimals with different numbers of digits.	6.73 - 1.3 = <table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th></tr><tr><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td></tr><tr><td>5</td><td>4</td><td>3</td></tr></table><table><tr><td>6</td><td>.</td><td>7</td><td>3</td></tr><tr><td>1</td><td>.</td><td>3</td><td>0</td></tr><tr><td>5</td><td>.</td><td>4</td><td>3</td></tr></table> Fill the empty columns with a placeholder. 7.2 - 2.27 = 4.93 <table><tr><td>⁶7</td><td>¹1</td><td>¹0</td></tr><tr><td>-</td><td>2</td><td>.</td><td>2</td><td>7</td></tr><tr><td></td><td>4</td><td>.</td><td>9</td><td>3</td></tr></table><table><tr><th>Ones</th><th>Tenths</th><th>Hundredths</th></tr><tr><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td><td> 1 1 1 1 1 1 </td></tr><tr><td>4</td><td>9</td><td>3</td></tr></table>	Ones	Tenths	Hundredths	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	5	4	3	6	.	7	3	1	.	3	0	5	.	4	3	⁶ 7	¹ 1	¹ 0	-	2	.	2	7		4	.	9	3	Ones	Tenths	Hundredths	1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1	4	9	3																																																																																																														
Ones	Tenths	Hundredths																																																																																																																																																								
1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1																																																																																																																																																								
5	4	3																																																																																																																																																								
6	.	7	3																																																																																																																																																							
1	.	3	0																																																																																																																																																							
5	.	4	3																																																																																																																																																							
⁶ 7	¹ 1	¹ 0																																																																																																																																																								
-	2	.	2	7																																																																																																																																																						
	4	.	9	3																																																																																																																																																						
Ones	Tenths	Hundredths																																																																																																																																																								
1 1 1 1 1 1	1 1 1 1 1 1	1 1 1 1 1 1																																																																																																																																																								
4	9	3																																																																																																																																																								

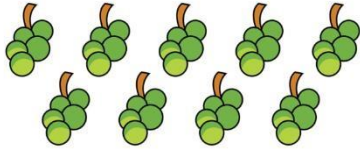
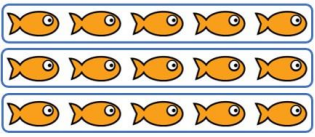
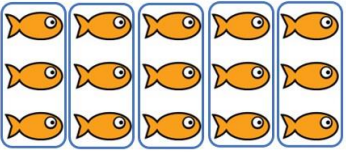
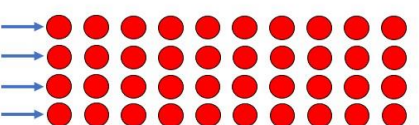
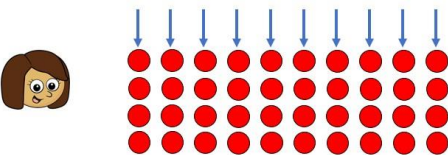
Subtract decimals from a whole number.

Put placeholders into the empty columns so that there is an even number of digits.

When there are multiple zeros, you must continue to exchange until you can subtract in the smallest value place value column.

7	-	3	.	5	6	2	=	3	.	4	3	8
		⁶		⁹	⁹	¹						
		7	.	0	0	0						
	-	3	.	5	6	2						
		3	.	4	3	8						

Year 1 – Multiplication

Method	Example
Children will count in groups of the same number of objects and add them.	How many socks?  There are <u>12</u> equal groups of 2 There are <u>24</u> socks altogether. How many grapes?  There are <u>9</u> groups of 5 There are <u>45</u> grapes altogether. How many flowers?  There are <u>10</u> flowers in each bunch. There are <u>5</u> bunches. There are <u>50</u> flowers altogether.
Make arrays to support multiplication and to show multiplication as repeated addition.	 There are <u>3</u> rows of <u>5</u> There are <u>15</u> altogether.  There are <u>5</u> columns of <u>3</u> There are <u>15</u> altogether.  $10 + 10 + 10 + 10 = 40$  $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = 40$

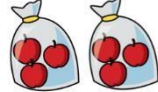
Making doubles and seeing them as two equal groups.



Double 1 is 2



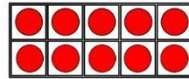
Double 2 is 4



Double 3 is 6



Double 4 is 8

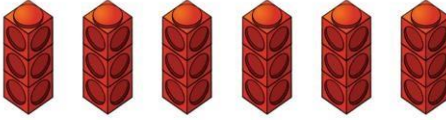
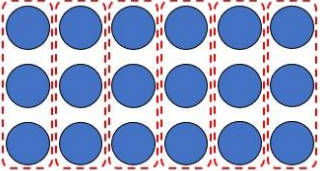


Double 5 is 10

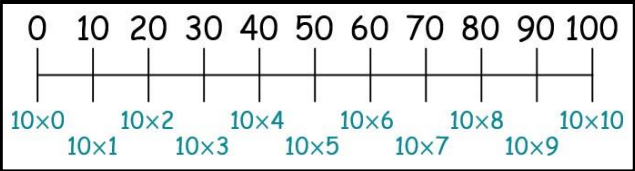
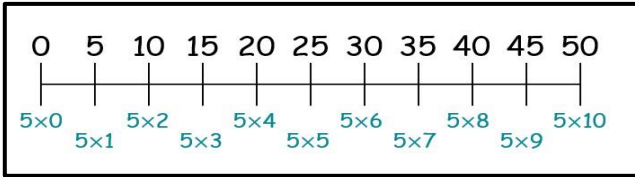
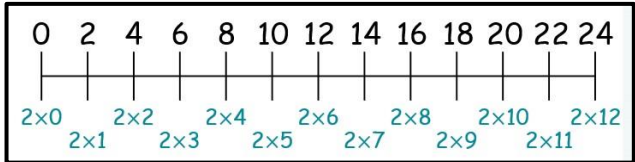


10 + 10 = 20
Double 10 is 20

Year 2 multiplication

Method	Example
Identify and make equal groups. Know that 3 groups of 4 and 4 groups of 3 lead to the same total – introducing the concept of commutativity.	 There are <u>6</u> equal groups with <u>3</u> in each group. There are <u>18</u> cubes altogether. $\boxed{3} + \boxed{3} + \boxed{3} + \boxed{3} + \boxed{3} + \boxed{3} = \boxed{18}$ $\boxed{6} + \boxed{6} + \boxed{6} = \boxed{18}$ There are <u>3</u> equal groups with <u>6</u> in each group. There are <u>18</u> altogether.
Using the multiplication symbol making the links between multiplication and repeated addition. Both repeated addition and multiplication sentences will be written.	 There are <u>3</u> equal groups with <u>4</u> in each group. $\boxed{4} + \boxed{4} + \boxed{4} = 12$ $\boxed{3} \times \boxed{4} = 12$  $3 \times 4 = 12$ "3 lots of 4 is equal to 12" "3 groups of 4 is equal to 12" "3 multiplied by 4 is equal to 12"
Using arrays to show that multiplication is commutative.	 $6 + 6 + 6 = 18$ $3 \times 6 = 18$ $3 + 3 + 3 + 3 + 3 + 3 = 18$ $6 \times 3 = 18$

Learn the 2-, 5- and 10-times tables as multiplication.



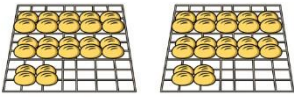
Year 3 – Multiplication

Method	Example																				
Identifying multiples of 2, 5 and 10. Know that a multiple of 2 can be divided into 2 equal groups. Recognise that all even numbers are multiples of 2. Recognise that all numbers with a 5 or 0 in the ones column are multiples of 5. Recognise that all numbers with 0 in the ones column are multiples of 10.	<u>Multiples of 5</u> <u>Multiples of 10</u> <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr><td>3</td><td>5</td></tr> <tr><td>4</td><td>0</td></tr> <tr><td>4</td><td>5</td></tr> <tr><td>5</td><td>0</td></tr> </tbody> </table> The ones digit is either 5 or 0 <u>Multiples of 5</u> <u>Multiples of 10</u> <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>Tens</th><th>Ones</th></tr> </thead> <tbody> <tr><td>4</td><td>0</td></tr> <tr><td>5</td><td>0</td></tr> <tr><td>6</td><td>0</td></tr> <tr><td>7</td><td>0</td></tr> </tbody> </table> The ones digit is always 0	Tens	Ones	3	5	4	0	4	5	5	0	Tens	Ones	4	0	5	0	6	0	7	0
Tens	Ones																				
3	5																				
4	0																				
4	5																				
5	0																				
Tens	Ones																				
4	0																				
5	0																				
6	0																				
7	0																				
Multiply by 3 and 4. Learning the 3- and 4-times tables.	There are <u>3</u> groups. There are <u>3</u> in each group. There are <u>9</u> altogether. <u>3</u> × <u>3</u> = <u>9</u> 4 + 4 + 4 + 4 + 4 + 4 = 32 8 × 4 = 32 4 × 8 = 32																				
Multiplying by 8 and learning the 8 times tables. Use links to other times tables to learn the 8 times tables. Knowing the 8 times tables are double the 4 times tables.	I know 6×8 is double 3×8 I know $5 \times 8 = 40$ then I added one more 8																				

Multiply a 2-digit number by a 1-digit number with no exchanging.

This will be done by partitioning the two-digit number and multiplying the tens and ones separately.

Each tray has 24 rolls.
How many rolls are there in total?



$2 \times 20 = 40$
 $2 \times 4 = 8$

$\underline{2} \text{ tens multiplied by } \underline{2} \text{ is equal to } \underline{40}$
 $\underline{4} \text{ ones multiplied by } \underline{2} \text{ is equal to } \underline{8}$
 $\underline{24} \text{ multiplied by } \underline{2} \text{ is equal to } \underline{48}$

T	O

$31 \times 3 = 93$

$\underline{3} \text{ tens multiplied by } \underline{3} \text{ is equal to } \underline{90}$
 $\underline{1} \text{ one multiplied by } \underline{3} \text{ is equal to } \underline{3}$
 $\underline{31} \text{ multiplied by } \underline{3} \text{ is equal to } \underline{93}$

Multiply a 2-digit number by a 1-digit number with exchanging.

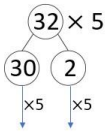
This will be done by partitioning the two-digit number and multiplying the tens and ones separately. The answers will then need adding together.

$26 \times 3 = \underline{78}$

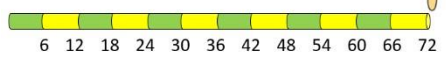
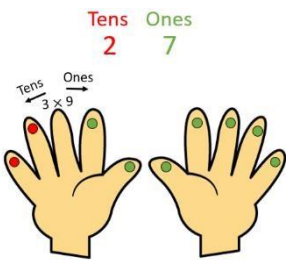
$2 \text{ tens} \times 3 = \underline{6} \text{ tens}$
 $6 \text{ ones} \times 3 = \underline{18} \text{ ones}$
 $26 \times 3 = \underline{60} + \underline{18} = \underline{78}$
 $26 \times 3 = \underline{78}$

Tens	Ones

Tens	Ones

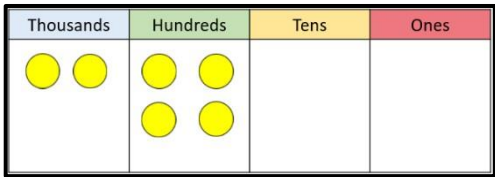
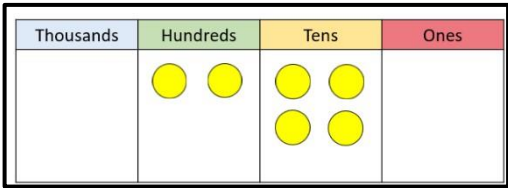
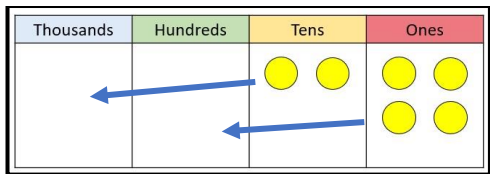
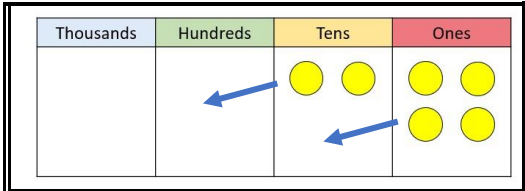
32×5

 $150 + 10 = 160$
 $32 \times 5 = 160$

Multiplication – Year 4

Method	Example
Multiply by 6 and 9 and learn the 6- and 9-times tables. Counting sticks to be used in the teaching of the times tables. Introduce the children to the finger trick for the 9 times tables.	 There are <u>6</u> equal groups of <u>3</u> $3 + 3 + 3 + 3 + 3 + 3 = 18$ $3 \times 6 = 18 \quad 6 \times 3 = 18$    There are <u>4</u> cookies. There are <u>9</u> chocolate chips in each cookie. There are <u>36</u> chocolate chips altogether. $9 + 9 + 9 + 9 = 36$ $4 \times 9 = 36$ $9 \times 4 = 36$  Tens Ones 2 7 0 x 9 = 0 1 x 9 = 9 2 x 9 = 18 3 x 9 = 27
Learn the 7,11 and 12 timetables.	7 14 21 28 35 42 49 56 63 70 77 84 11 22 33 44 55 66 77 88 99 110 121 132 12 24 36 48 60 72 84 96 108 120 132 144
Multiply by 1 and 0. Know that when multiplying by 0 the answer is always 0. Know that when we multiply by 1, the answer remains the same.	 There are 4 plates. $0 \times 4 = 0$ Each plate has 0 doughnuts on it. $4 \times 0 = 0$ There are 0 doughnuts altogether.  There are 3 plates. $0 \times 3 = 0$ Each plate has 0 doughnuts on it. $3 \times 0 = 0$ There are 0 doughnuts altogether.  Complete the missing numbers and number sentences. There is <u>1</u> tree. $1 \times 5 = 5$ The tree has <u>5</u> birds on it. $5 \times 1 = 5$ There are <u>5</u> birds altogether. $5 \times 1 = 5$
Multiply by 10 and 100	$24 \times 10 = 240$ $24 \times 100 = 2400$

Know that when we multiply by 10, the digits shift one place value column to the left.

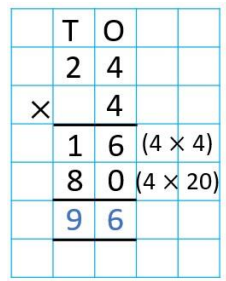
When multiplying by 100, the digits shift two place value columns to the left.



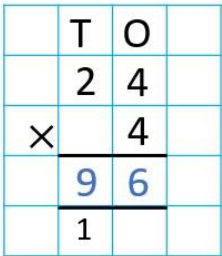
$20 \times 10 = 200$	20	$2,000$
$4 \times 10 = 40$	$4 \times$	$= 400$
$200 + 40 = 240$	$2,0$	$= 2,400$

Multiply a 2-digit number by a 1-digit number.

Children to be taught the expanded method where each digit is partitioned and multiplied separately. Children also to be taught short multiplication with exchanging required.



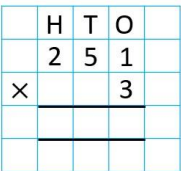
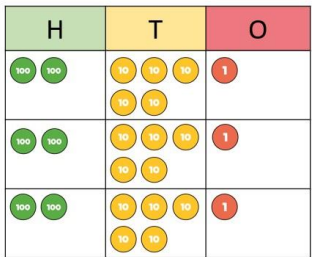
$$\begin{array}{r}
 4 \times 4 = 16 \\
 4 \times 20 = 80 \\
 16 + 80 = 96
 \end{array}$$



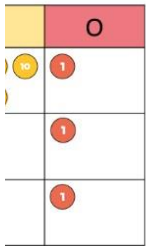
$4 \times 4 = 16$ (6 goes into the ones column and 1 ten is exchanged)
 $4 \times 2 = 8$ (now add the exchanged digit)
 $8 + 1 = 9$

Multiply a 3-digit number by a 1-digit number.

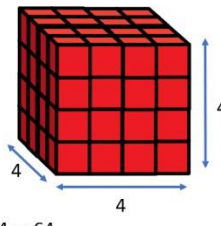
$$251 \times 3 =$$



$$251 \times 3 = 753$$



Multiplication years 5 and 6

Method	Example																																				
Understand square numbers. Use concrete objects to identify square numbers. Know that a square number is the result of multiplying a number by itself. Learn the square numbers up to 12 x 12.	3 rows of 3 are equal to 9 3 is a factor of 9 It is possible to make a square with 9 counters. 9 is a square number. A square number is the result of multiplying a number by <u>itself</u>. $3 \times 3 = 9$ $3^2 = 9$ "3 squared is equal to 9" <table><tr><td>1^2</td><td>1×1</td><td>1</td></tr><tr><td>2^2</td><td>2×2</td><td>4</td></tr><tr><td>3^2</td><td>3×3</td><td>9</td></tr><tr><td>4^2</td><td>4×4</td><td>16</td></tr><tr><td>5^2</td><td>5×5</td><td>25</td></tr><tr><td>6^2</td><td>6×6</td><td>36</td></tr><tr><td>7^2</td><td>7×7</td><td>49</td></tr><tr><td>8^2</td><td>8×8</td><td>64</td></tr><tr><td>9^2</td><td>9×9</td><td>81</td></tr><tr><td>10^2</td><td>10×10</td><td>100</td></tr><tr><td>11^2</td><td>11×11</td><td>121</td></tr><tr><td>12^2</td><td>12×12</td><td>144</td></tr></table>	1^2	1×1	1	2^2	2×2	4	3^2	3×3	9	4^2	4×4	16	5^2	5×5	25	6^2	6×6	36	7^2	7×7	49	8^2	8×8	64	9^2	9×9	81	10^2	10×10	100	11^2	11×11	121	12^2	12×12	144
1^2	1×1	1																																			
2^2	2×2	4																																			
3^2	3×3	9																																			
4^2	4×4	16																																			
5^2	5×5	25																																			
6^2	6×6	36																																			
7^2	7×7	49																																			
8^2	8×8	64																																			
9^2	9×9	81																																			
10^2	10×10	100																																			
11^2	11×11	121																																			
12^2	12×12	144																																			
Understand cube numbers. Know that a cube number is the result of multiplying a number by itself twice.	 $4 \times 4 \times 4 = 64$ 16 64 is a cube number.  $1^3 = 1 \times 1 \times 1 = 1$ $2^3 = 2 \times 2 \times 2 = 8$   $3^3 = 3 \times 3 \times 3 = 27$ $4^3 = 4 \times 4 \times 4 = 64$ 																																				
Multiply by 1,000. Know that when we multiply by <u>1000</u>, we move the digits three place value columns to the left.	$52 \times 1,000 = 52,000$ <table><tr><td>TTh</td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td></td><td>5</td><td>2</td></tr></table><table><tr><td>TTh</td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td>5</td><td>2</td><td>0</td><td>0</td><td>0</td></tr></table>	TTh	Th	H	T	O				5	2	TTh	Th	H	T	O	5	2	0	0	0																
TTh	Th	H	T	O																																	
			5	2																																	
TTh	Th	H	T	O																																	
5	2	0	0	0																																	

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

Use the formal written method to multiply the 4-digit and 1-digit numbers together.

Calculate 3,223 × 3

Thousands	Hundreds	Tens	Ones
1000 1000 1000	100 100	10 10	1 1 1
1000 1000 1000	100 100	10 10	1 1 1
1000 1000 1000	100 100	10 10	1 1 1

		3	2	2	3		
×					3		
		9	6	6	9		

		2	1	1	4
×					3
		6	3	4	2
			1		

Multiply 2-digit, 3-digit and 4digit numbers by a 2-digit number.

Multiply the ones by the top number and then the tens by the top number. A place holder must always be in the one's column of the second row.

Using different colours per row can help when introducing the method.

35 × 16

	H	T	O
		3	5
×		1	6
	2	1	0
+	3	5	0
	5	6	0

(35 × 6)

(35 × 10)

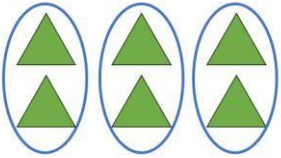
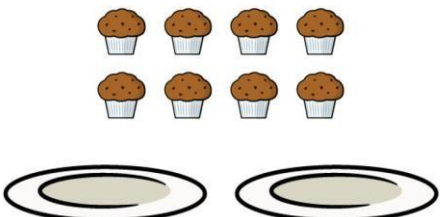
326 × 32 = 10,432

	Th	H	T	O	
		3	2	6	
×			3	2	
		6	5	2	(326 × 2)
+	9	7	8	0	(326 × 30)
1	0	4	3	2	
	1	1			

4 5 6 2 × 3 6 = 1 6 4 , 2 3 2

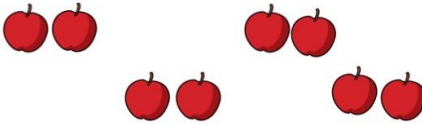
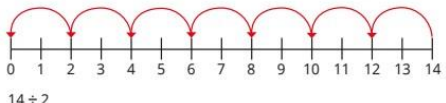
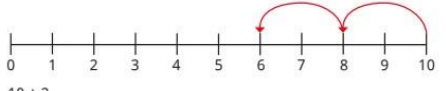
						4	5	6	2
					×			3	6
						2	7	3	7
									2
			+	1	3	6	8	6	0
				1	6	4	2	3	2
					1	1	1		

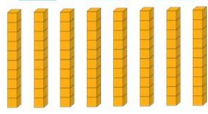
Division- Year 1

Method	Example
Making equal groups – grouping Children will be given a total amount and be asked to make groups of an equal amount.	 There are <u>6</u> altogether. There are <u>3</u> equal groups of <u>2</u>  Each gingerbread cookie needs 3 buttons.  Use 15 buttons to decorate the cookies. How many cookies can you decorate?
Making equal groups – sharing Children will be given a total amount and be asked to physically share them into equal groups.	Share the muffins equally between 2 groups.   There are <u>8</u> muffins. They are shared equally between <u>2</u> plates. There are <u>4</u> muffins on each plate.

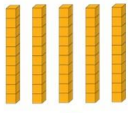
Division –

Year 2

Method	Example
Divide by 2 Children to use their knowledge of the 2 times tables to divide by 2.	The apples are put into bags with 2 apples in each bag.  There are <u>8</u> apples altogether. There are <u>2</u> in each group. There are <u>4</u> groups. $\boxed{8} \div \boxed{2} = \boxed{4}$ Use the arrays to complete the number sentences.  $_____ \times 2 = 16$ $16 \div 2 = _____$ Use the number lines to work out the divisions.  $14 \div 2$  $10 \div 2$

$80 \div 10 = 8$


There are 8 tens in 80

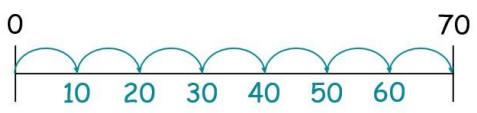
$50 \div 10 = 5$


There are 5 tens in 50

Ron has 70 footballs.
10 footballs can fit in a bag.
How many bags does Ron need? 7



I'm going to use a number line.

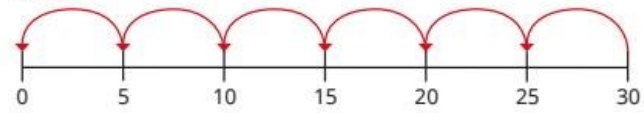


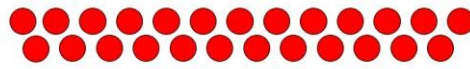
Divide by 5

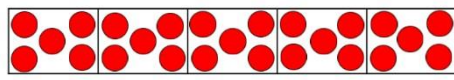
Children to use their knowledge of the 5 times tables and counting in 5 to divide by 5.

Use the number line to work out the division.

$30 \div 5$



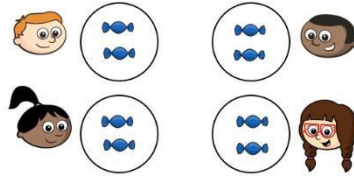
$25 \div 5 = \square$



$25 \div 5 = 5$


Division –

Finding a quarter

Children will be encouraged to share totals into four equal groups in order to see the link between finding a quarter and dividing by 4.



There are 8 sweets altogether.

The sweets have been shared between 4 equal groups.

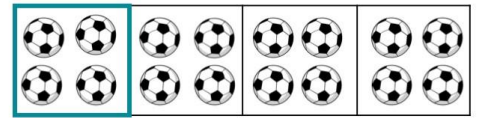
There are 2 in each group.

$\frac{1}{4}$ of 8 is 2

There are 16 footballs in a bag.

Jo takes $\frac{1}{4}$ of the footballs out.

How many footballs does she take out? 4



Year 3

Divide by 3, 4 and 8

Children will explore dividing by 3, 4 and 8 by sharing into equal groups and by grouping.

A party has 21 cakes. They are shared equally between 3 plates.



There will be 7 cakes on each plate.
 $21 \div 3 = 7$

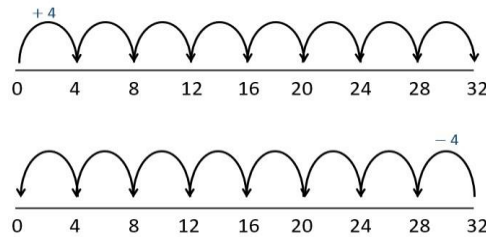
The 21 cakes are divided into groups of 3.



There will be 7 plates of 3 cakes.
 $21 \div 3 = 7$

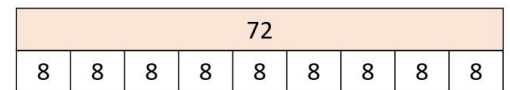
The baker has 32 bread rolls. He puts them into packs of 4. How many packs can he fill?

$$32 \div 4 = 8$$



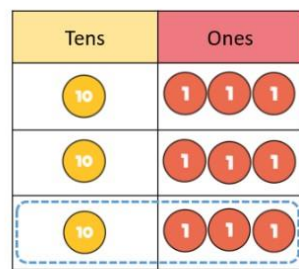
72 stickers are put into packs of 8

How many packs of stickers will be made?



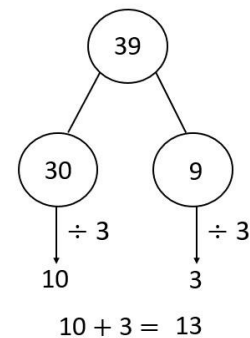
Divide a 2digit number by a 1-digit number- no exchange

Children will focus on partitioning a number into tens and ones and sharing into equal groups.



39 divided by 3 is equal to 13

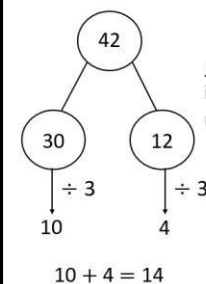
$$39 \div 3 = 13$$



Divide a 2-digit number by a 1-digit number – flexible partitioning

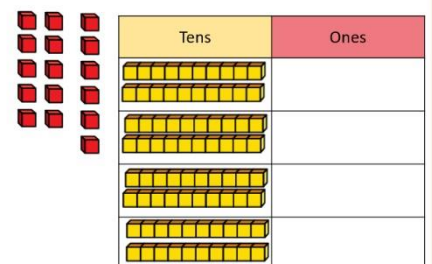
Children will partition the 2digit number into two numbers that are a multiple of the divisor. In the example to the right, 96 has been partitioned into 80 and 16 because they are both multiples of 4 and can now be divided by 4.

$$42 \div 3 = 14$$



42 can be flexibly partitioned into 30 and 12 as these numbers are both multiples of 3

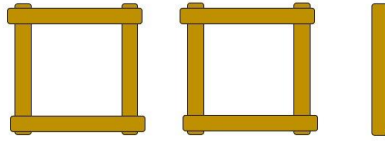
$$96 \div 4 =$$



Division –

Divide a 2-digit number by
a
1-digit number with
remainders

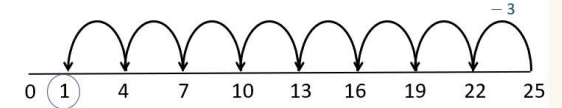
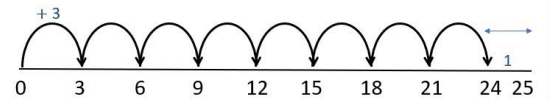
Mo has 9 lolly sticks.
What if Mo used his sticks to make
squares?



Each square uses 4 sticks.
Mo can make 2 squares with 9 sticks.
There is one stick remaining.

$$9 \div 4 = 2 \text{ remainder } 1$$

$$25 \div 3 = 8 \text{ r } 1$$



Year 4

Divide by 6, 7 and 9

Children will use their knowledge of the 6-, 7- and 9-timestables to divide.

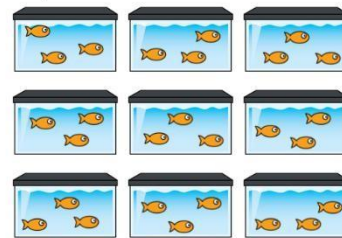
24 eggs are shared equally into 6 bowls
How many eggs will be in each bowl?



$$24 \div 6 = 4$$

There are 27 fish.

An equal amount are put into each of the 9 tanks.
How many fish are put in each tank?



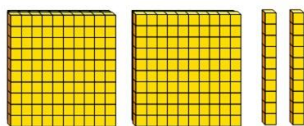
$$27 \div 9 = 3$$

Total number of fish Number of fish tanks Number of fish in each tank

Divide by 10

Children will know that when we divide by 10, the number gets ten times smaller.
The digits in the number will shift one place value column to the right.

$$220 \div 10 = 22$$



$$220 = 2 \text{ hundreds} + 2 \text{ tens}$$

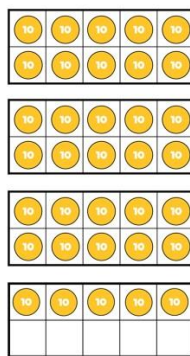
$$1 \text{ hundred} = 10 \text{ tens}$$

$$2 \text{ hundreds} = 20 \text{ tens}$$

There are 22 tens altogether.

$$220 = 22 \text{ groups of } 10$$

$$350 \div 10 = 35$$



Ten 10s = 1 hundred

Hundreds	Tens	Ones
● ●	●	
●		

$$310 \div 10 =$$

Hundreds	Tens	Ones
	● ●	●
	●	

$$310 \div 10 = 3$$

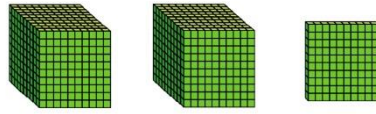
Division –

Divide by 100

Children will know that when we divide by 100, the number gets one hundred times smaller.

The digits in the number will shift two place value columns to the right.

$$2,100 \div 100 = \underline{21}$$


$$2,100 = 2 \text{ thousands} + 1 \text{ hundred}$$

1 thousand = 10 hundreds

2 thousands = 20 hundreds

There are 21 hundreds altogether.

$$2,100 = 21 \text{ groups of } 100$$

Thousands	Hundreds	Tens	Ones
			

$4,300 \div 100 =$

Thousands	Hundreds	Tens	Ones
			

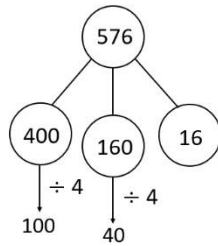
$4,300 \div 100 = 43$

Divide a 3digit number by a 1-digit number

Building on from year 3, they will partition the 3-digit number to make multiples of the divisor.

In the bottom example, 15 has been partitioned. The 1 hundred has been exchanged for 10 tens so that it can now be divided by 5. Then, the one 10 has been exchanged for ten ones. Now, the 15 ones have been divided by 5.

$$576 \div 4 =$$



H	T	O
100	100 100 100	1 1 1 1 1 1 1 1 1 1
100	100 100 100 100	1 1 1 1 1 1 1 1 1 1
100	100 100 100 100 100	1 1 1 1 1 1 1 1 1 1
100	100 100 100 100 100 100	1 1 1 1 1 1 1 1 1 1

$115 \div 5 =$

[illegible]

$$115 \div 5 = 23$$

$115 \div 5 = 23$

H	T	O
	10 10	1 1 1
	10 10	1 1 1
	10 10	1 1 1
	10 10	1 1 1
	10 10	1 1 1

Division - Year 5

Divide by 1,000

Children will know that when we divide by 1,000, the number gets one thousand times smaller. The digits in the number will shift three place value columns to the right.

TTh	Th	H	T	O
4	7	0	0	0

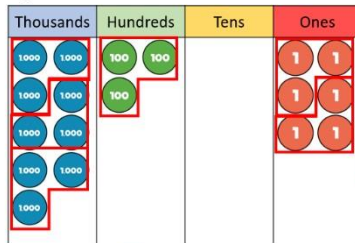
TTh	Th	H	T	O
			4	7

$$47,000 \div 1,000 = 47$$

Divide a 4-digit number by a 1-digit number with and without remainders.

Children will be introduced to the bus stop short division method for the first time.

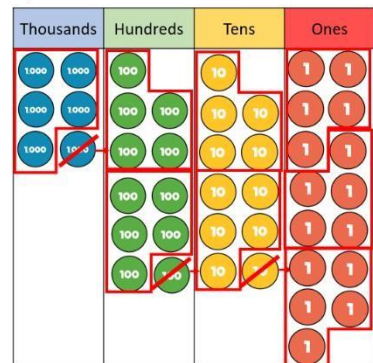
$$9,306 \div 3 =$$



$$\begin{array}{r} 3102 \\ 3 \overline{) 9306} \end{array}$$

There are 3 groups of 3 thousands.
 There is 1 group of 3 hundreds.
 There are 0 groups of 3 tens.
 There are 2 groups of 3 ones.

$$6,115 \div 5 =$$



$$\begin{array}{r} 1223 \\ 5 \overline{) 6115} \end{array}$$

$$\begin{array}{r} 1203 \\ 8 \overline{) 9624} \end{array}$$

$$\begin{array}{r} 2414r2 \\ 4 \overline{) 9658} \end{array}$$

Division - Year 6

Long division by chunking

Using multiples of the divisor, begin taking away large chunks until you get to 0 or a remainder.

Key multiples are: 1, 2, 5 and 10.

Calculate: $741 \div 13 = 57$

$13 \times 1 = 13$	$13 \times 10 = 130$
$13 \times 2 = 26$	$13 \times 20 = 260$
$13 \times 3 = 39$	$13 \times 30 = 390$
$13 \times 4 = 52$	$13 \times 40 = 520$
$13 \times 5 = 65$	$13 \times 50 = 650$
$13 \times 6 = 78$	$13 \times 60 = 780$
$13 \times 7 = 91$	$13 \times 70 = 910$

		5	7
13	6	7	1
—	6	5	0
		9	1
—		9	1
			0

($\times 50$)

($\times 7$)

		0	4	8	9
15	7	3	3	5	
	6	0	0	0	
	1	3	3	5	
	1	2	0	0	
		1	3	5	
		1	3	5	
				0	

(15×400)

(15×80)

(15×9)

Long Division

Calculate $4,320 \div 32 = 135$

32 64 96 128 160 192

		1	3	5
32	4	3	2	0
—	3	2		
	1	1	2	
—		9	6	
		1	6	0
—		1	6	0
				0

		0	3	6
12	4	3	2	
	3	6		
		7	2	
		7	2	
				0