

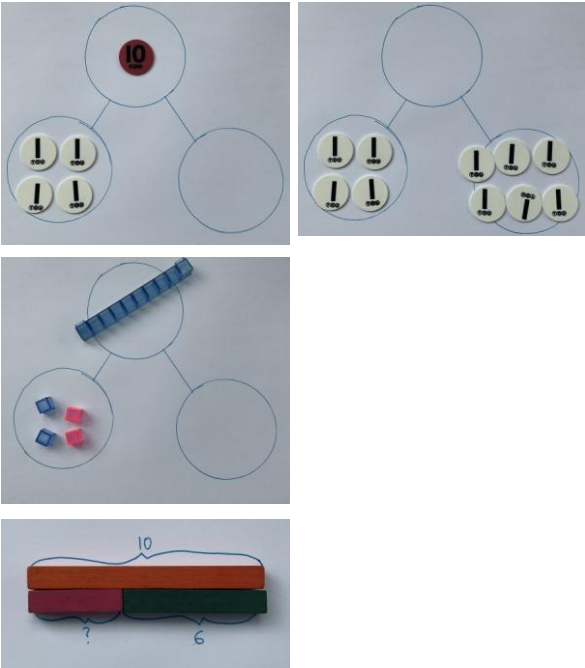
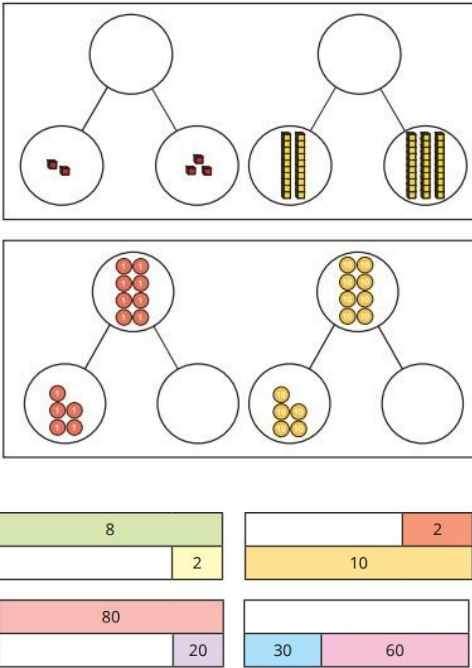
RAVENS COTE JUNIOR SCHOOL

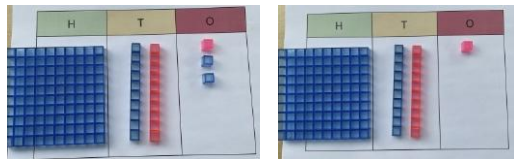
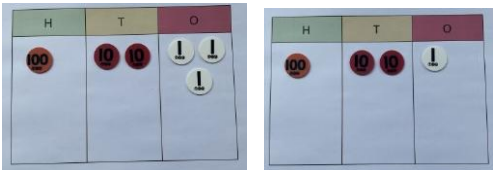
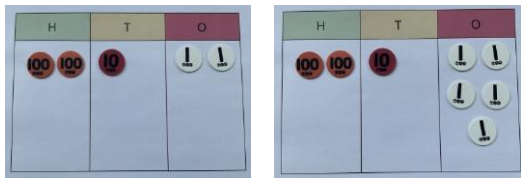
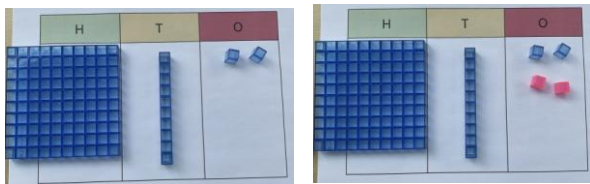
Calculation policy

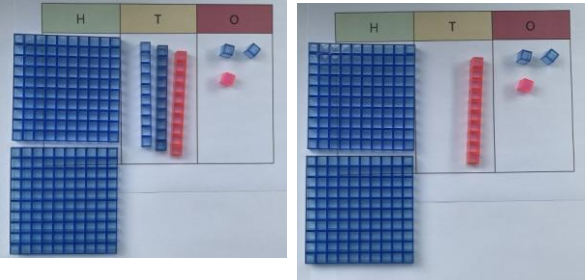
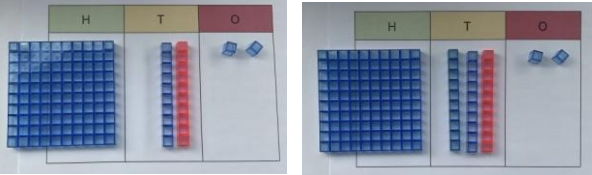
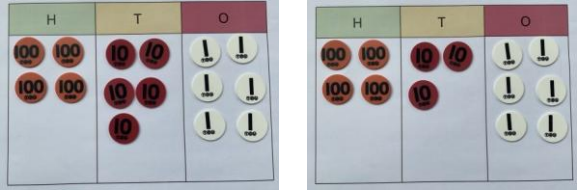
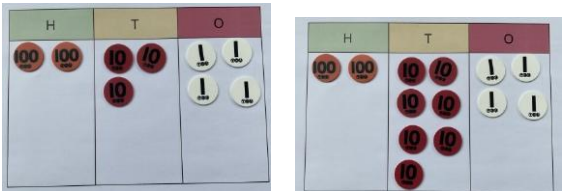
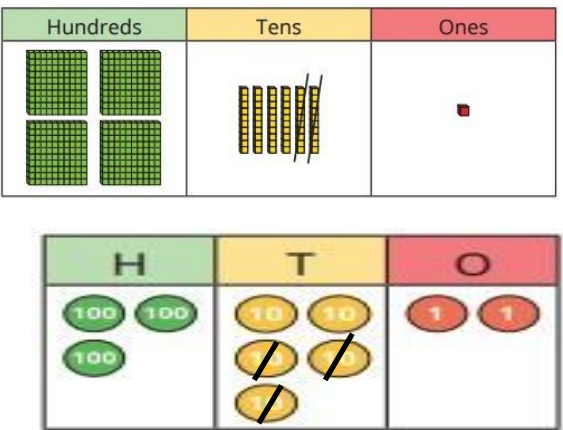
2024 - 2025



Date of Approval		Date of Review	
March 2025		November 2027	
Signed	Amy Wells Headteacher	Signed	Emily Gibson Chair of Governors

Additon and subtraction	Objective	Concrete	Pictorial	Abstract
Year 3	Apply number bonds within 10, extending to using them within 100			$2 + \underline{\quad\quad} = 5$ $\underline{\quad\quad} + 4 = 7$ $\underline{\quad\quad} = 6 + 3$ $4 + \underline{\quad\quad} = 9$ $50 + 30 = \underline{\quad\quad}$ $70 = \underline{\quad\quad} + 30$

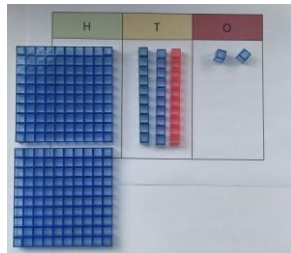
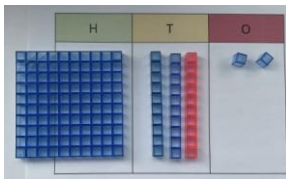
Addition and subtraction	Objective	Concrete	Pictorial	Abstract																		
Year 3	Add and subtract 1s	323 - 2  123 - 2  212 + 3  112 + 2 	<table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td></tr></table> <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td></td><td></td><td></td></tr></table>	Hundreds	Tens	Ones				Hundreds	Tens	Ones				243 + 5 = _____ 534 - 2 = _____ <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td>3</td><td>7</td><td>2</td></tr></table>	Hundreds	Tens	Ones	3	7	2
Hundreds	Tens	Ones																				
																						
Hundreds	Tens	Ones																				
																						
Hundreds	Tens	Ones																				
3	7	2																				

Addition and subtraction	Objective	Concrete	Pictorial	Abstract
Year 3	Add and subtract 10s	233 - 20  122 + 10  456 - 20  234 + 40 		461 - 20 = _____ 352 - 30 = _____

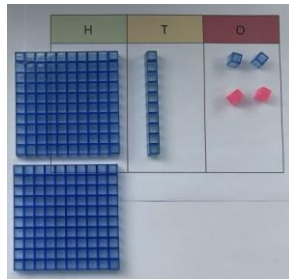
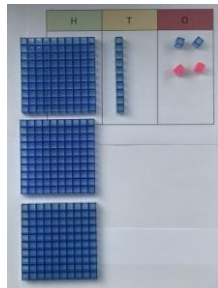
Year 3

Add and subtract 100s

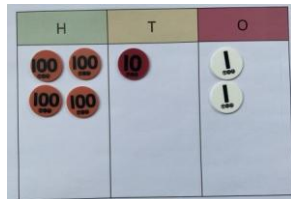
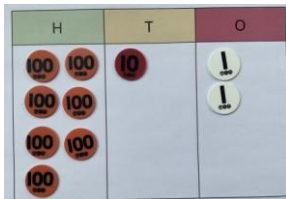
$142 + 200$



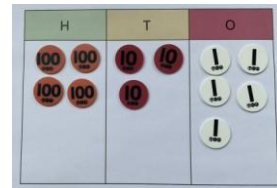
$314 - 100$



$712 - 300$



$435 + 200$



Hundreds	Tens	Ones

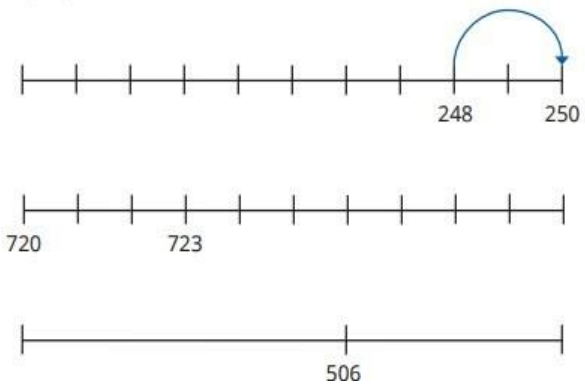
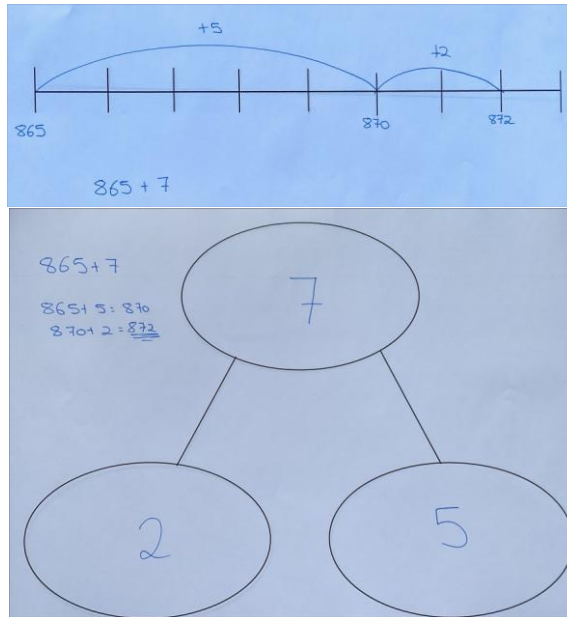
Hundreds	Tens	Ones

$461 - 200 = \underline{\hspace{2cm}}$

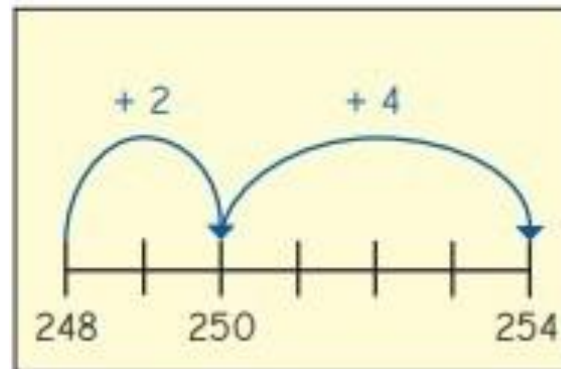
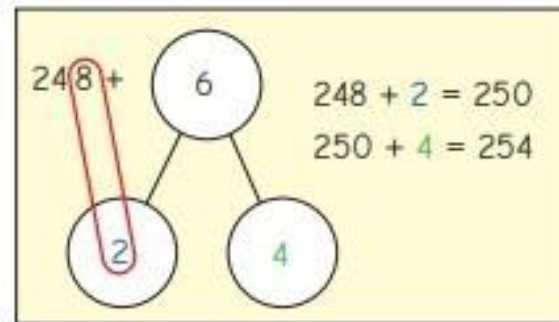
$461 - 300 = \underline{\hspace{2cm}}$

Year 3

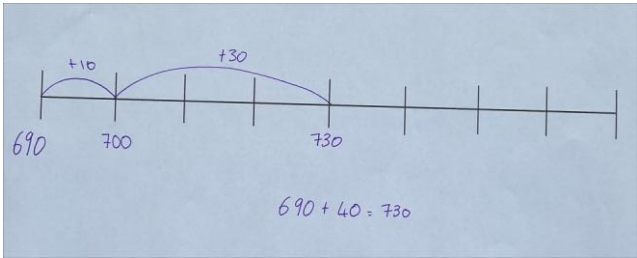
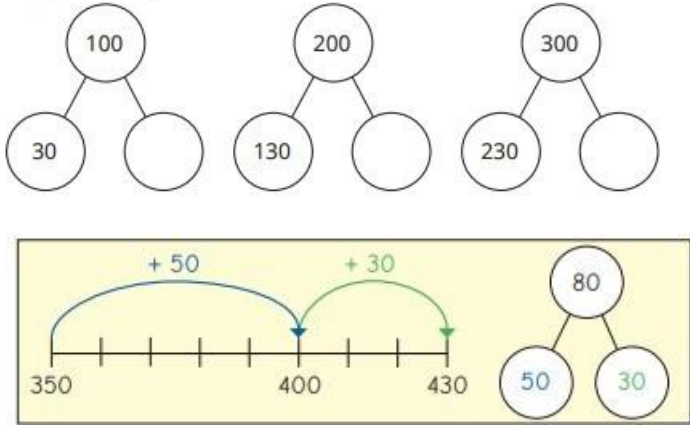
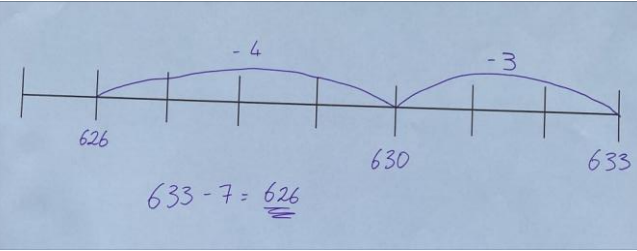
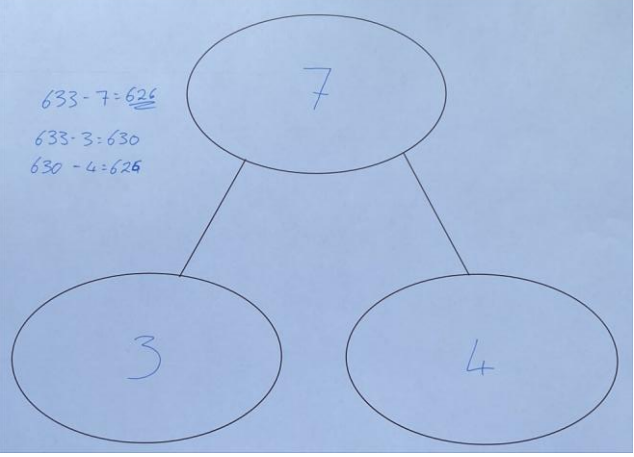
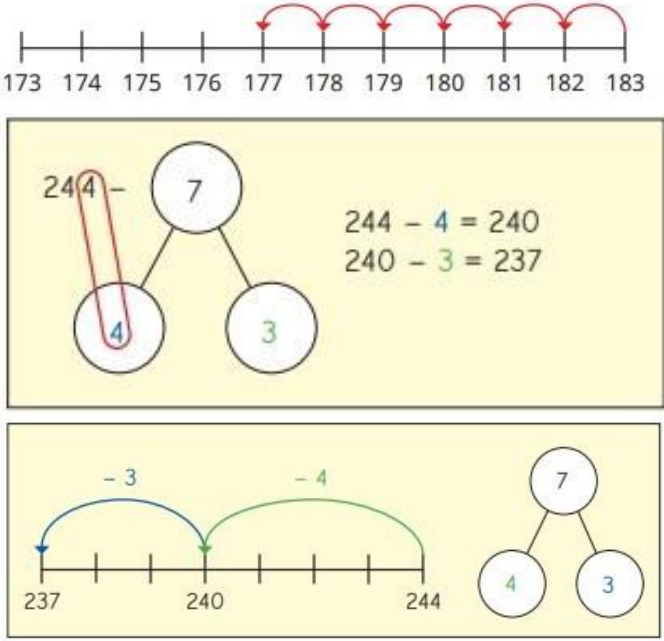
Addacrossa10

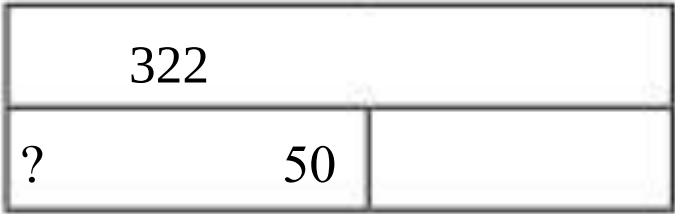
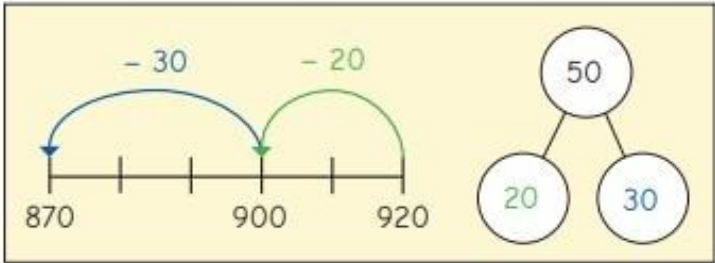
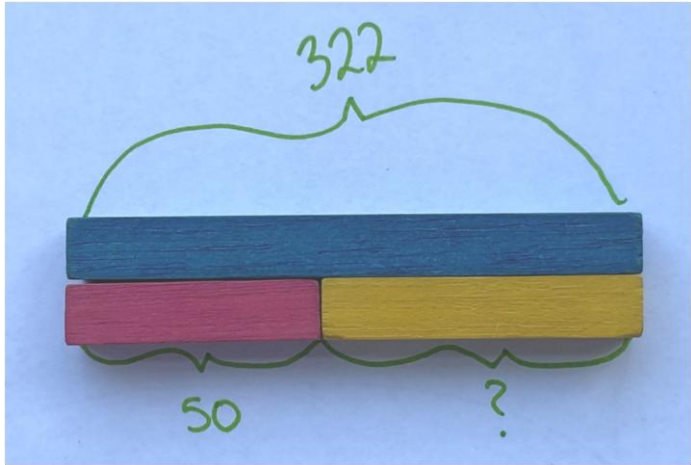
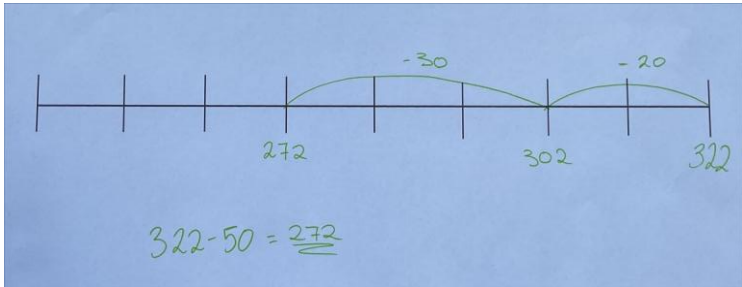


Tom and Mo are working out $248 + 6$

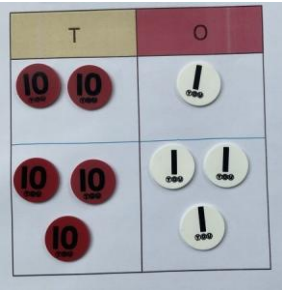


$865 + 5$
 $438 + 4$
 $713 + 9$
 $564 + 8$

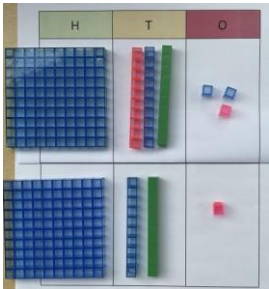
Year 3	Add 10 across a 100	 $690 + 40 = 730$		$240 + 80$ $690 + 80$ $690 + 40$ $90 + 830$
Year 3	Subtract 1 across a 10	 $633 - 7 = 626$ 		$70 - 3$ $370 - 3$ $640 - 8$ $520 - 7$ $242 - 9$ $633 - 7$ $581 - 4$



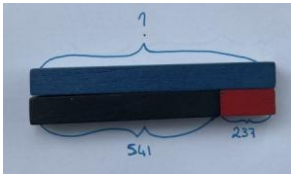
- 202—70
- 509—40
- 149—70
- 819—30
- 322—50



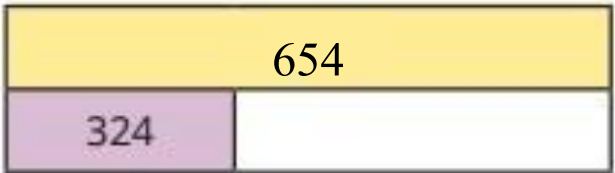
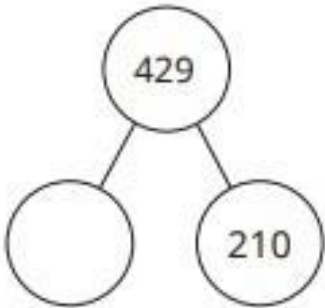
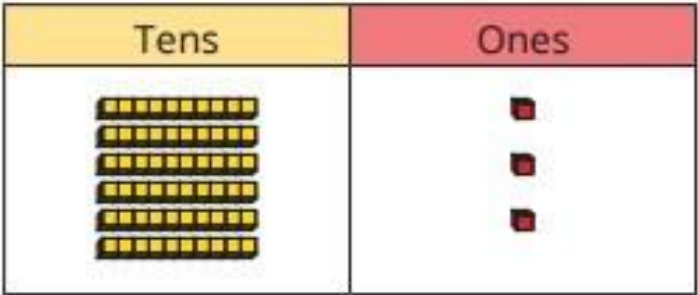
$21 + 33$

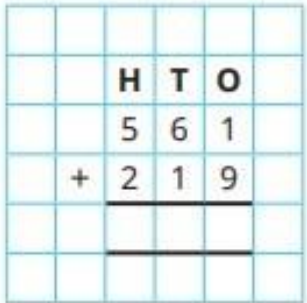
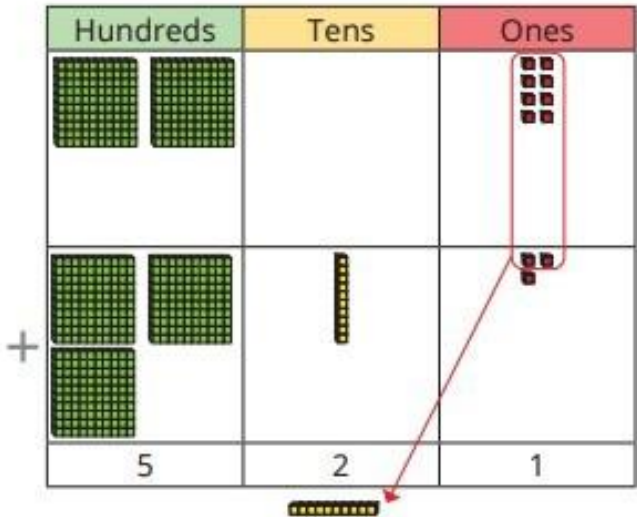


$233 + 221$



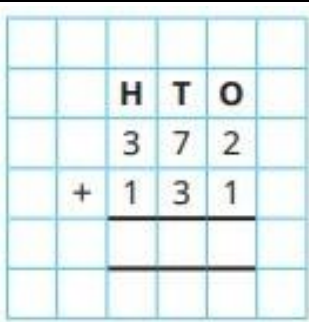
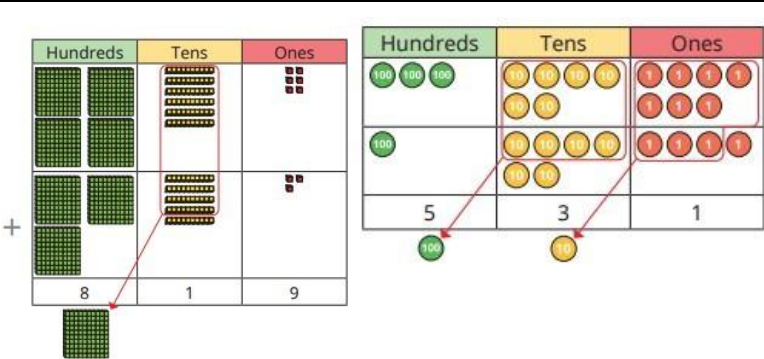
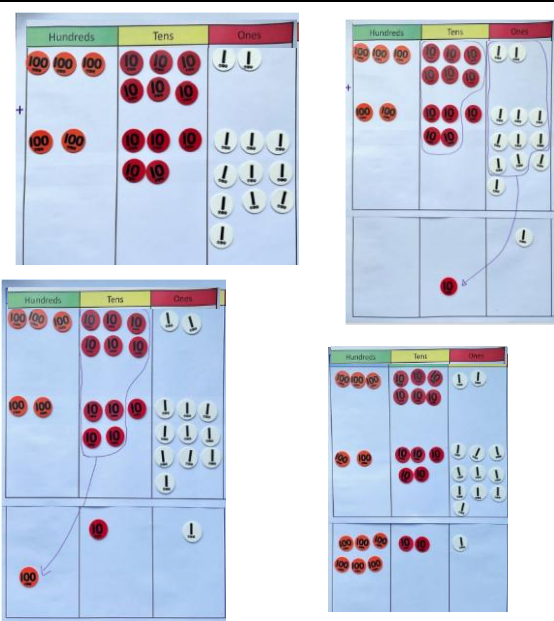
$541 + 237$





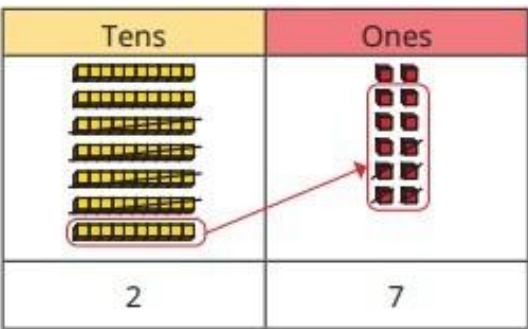
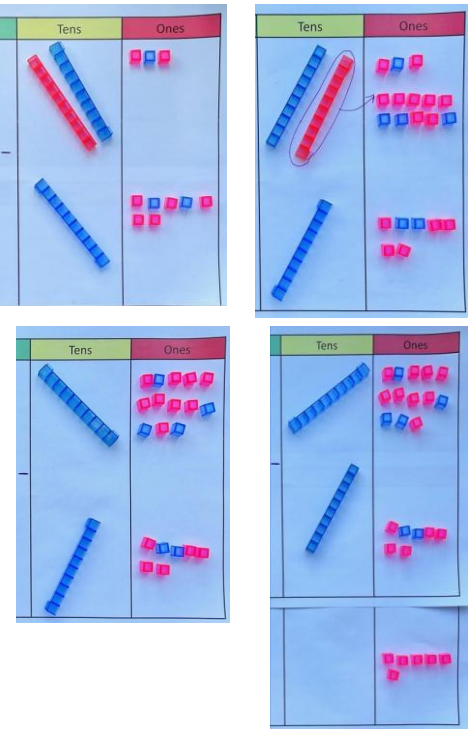
Year 3

Add two numbers (across a 100)



Year 3

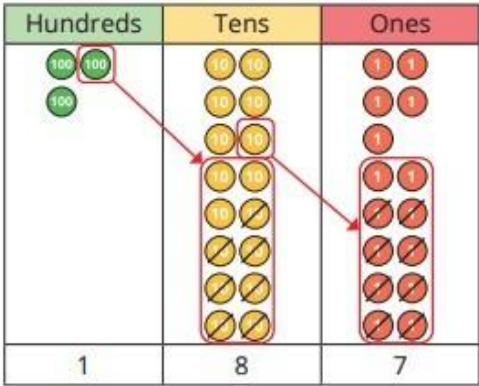
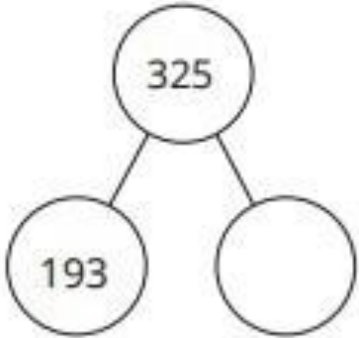
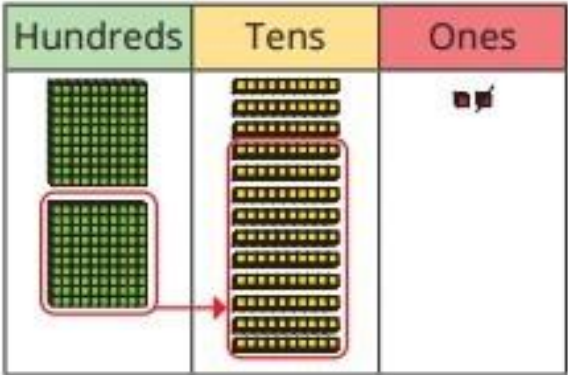
Subtract two numbers (across a 10)



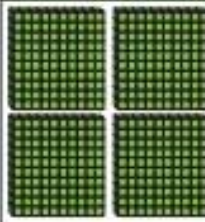
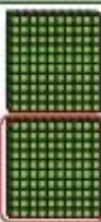
Year 3

Subtracting numbers (across 100)

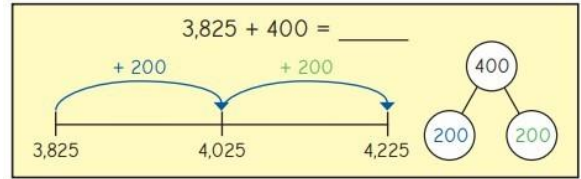
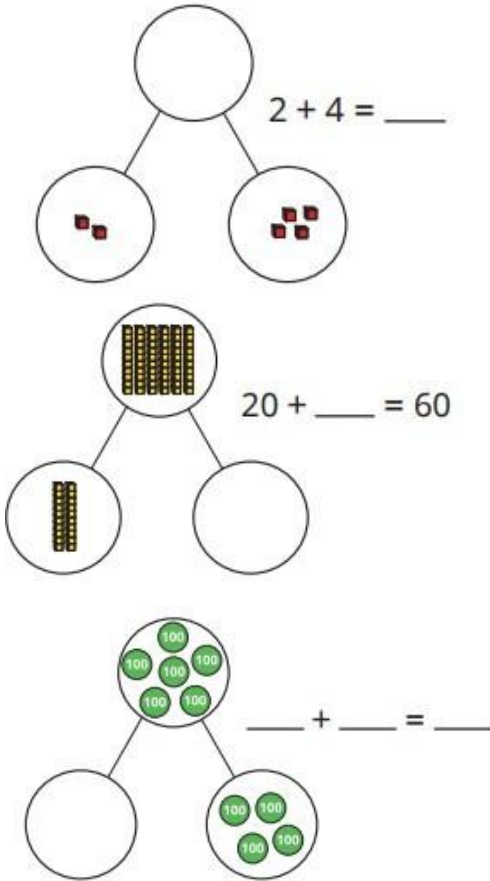
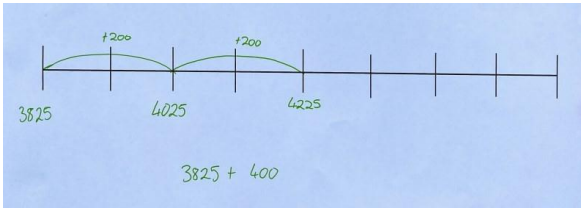
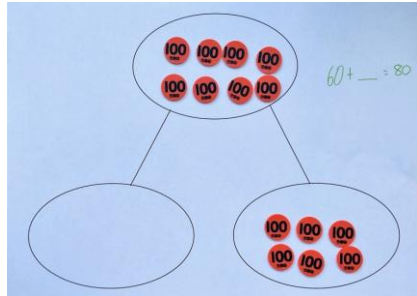
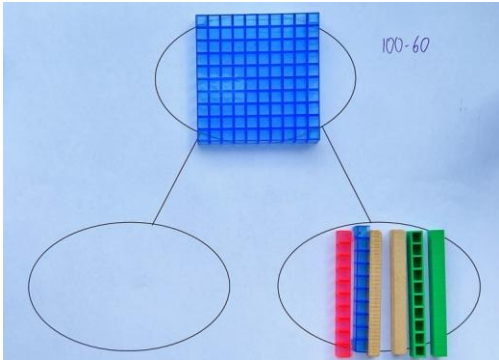
Refer to methods taught in Year 3, subtraction of two numbers across 10.



		H	T	O	
		2	15	15	
	-	1	7	8	
		1	8	7	

Year 3	Add2 -digitand3 -diginumbers	Refer to year 3, add two numbers without exchanging	Hundreds Tens Ones      532 81	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>H</td><td>T</td><td>O</td><td></td></tr><tr><td></td><td></td><td>1</td><td>5</td><td>6</td><td></td></tr><tr><td></td><td>+</td><td></td><td>6</td><td>3</td><td></td></tr><tr><td></td><td></td><td colspan="3"> </td><td></td></tr><tr><td></td><td></td><td colspan="3"> </td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>									H	T	O				1	5	6			+		6	3																									
		H	T	O																																																
		1	5	6																																																
	+		6	3																																																
Year 3	Subtracta2 -diginumberfroma3 -diginumber	Refer to methods taught in Year 3, subtrac on of two numbers across 10 for methods and resources	Hundreds Tens Ones   →    →   → 123 36 167	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>H</td><td>T</td><td>O</td><td></td></tr><tr><td></td><td></td><td>12</td><td>3</td><td>3</td><td></td></tr><tr><td></td><td>-</td><td></td><td>3</td><td>6</td><td></td></tr><tr><td></td><td></td><td colspan="3"> </td><td></td></tr><tr><td></td><td></td><td>1</td><td>6</td><td>7</td><td></td></tr><tr><td></td><td></td><td colspan="3"> </td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>									H	T	O				1 2	3	3			-		3	6										1	6	7													
		H	T	O																																																
		1 2	3	3																																																
	-		3	6																																																
		1	6	7																																																

Add and subtract 1s, 10s, 100s and 1000s



Th	H	T	O
●	●● ●● ●● ●●	●● ●● ●● ●● ●●	●●

- 1364 + 3
- 1364 + 30
- 1364 + 300
- 1364 + 3000
- 1364 - 1
- 1364 - 60
- 1364 - 200
- 1364 - 1000

Year 4

Adduptotwo4 -digitnumbers —noexchange

Refer to Year 3, add two numbers (without exchanging)

Th	H	T	O
1,000 1,000 1,000	100 100	10 10 10 10 10	1 1 1 1 1 1
1,000 1,000	100 100 100 100 100	10 10 10	1 1

+

1,052

5,945

3,194

405

707

7,070

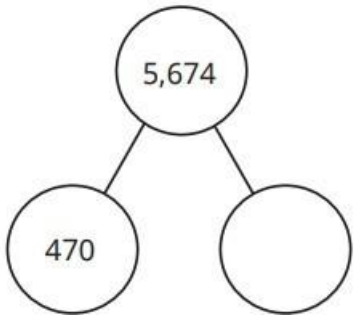
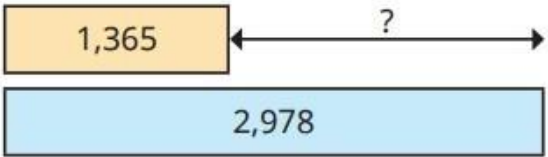
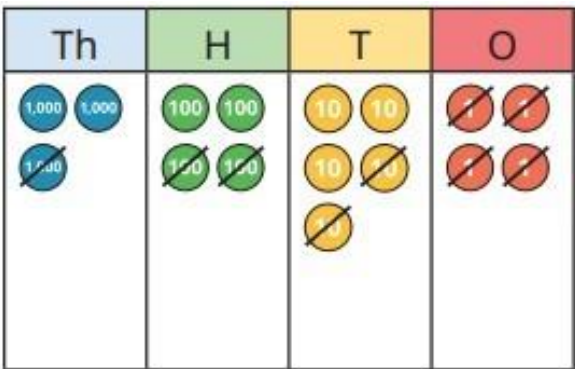
		Th	H	T	O
		3	1	4	2
	+		5	3	7

Year 4	Add two 4-digit numbers — one exchange	Refer to Year 3, add two numbers ((across a 100) and add two numbers ((across a 100)).	Th H T O 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 10 3,535 2,634 Brett 3,436 1,293 Huan <td><table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td>3</td><td>3</td><td>5</td><td>6</td></tr><tr><td></td><td>+</td><td>2</td><td>4</td><td>3</td><td>5</td></tr><tr><td></td><td></td><td>5</td><td>7</td><td>9</td><td>1</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td></td></tr></table></td>	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td>3</td><td>3</td><td>5</td><td>6</td></tr><tr><td></td><td>+</td><td>2</td><td>4</td><td>3</td><td>5</td></tr><tr><td></td><td></td><td>5</td><td>7</td><td>9</td><td>1</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td></td></tr></table>									Th	H	T	O			3	3	5	6		+	2	4	3	5			5	7	9	1					1	
		Th	H	T	O																																			
		3	3	5	6																																			
	+	2	4	3	5																																			
		5	7	9	1																																			
				1																																				
Year 4	Add two 4-digit numbers — more than one exchange	Refer to Year 3, add two numbers ((across a 100) and add two numbers ((across a 100)).	Th H T O 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 1,000 1,000 100 100 10 10 1 1 1,000 10 4,673 1,518 Brett 3,436 1,293 Huan <td><table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td>4</td><td>6</td><td>7</td><td>3</td></tr><tr><td></td><td>+</td><td>1</td><td>5</td><td>1</td><td>8</td></tr><tr><td></td><td></td><td>6</td><td>1</td><td>9</td><td>1</td></tr><tr><td></td><td></td><td>1</td><td></td><td>1</td><td></td></tr></table></td>	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td>4</td><td>6</td><td>7</td><td>3</td></tr><tr><td></td><td>+</td><td>1</td><td>5</td><td>1</td><td>8</td></tr><tr><td></td><td></td><td>6</td><td>1</td><td>9</td><td>1</td></tr><tr><td></td><td></td><td>1</td><td></td><td>1</td><td></td></tr></table>									Th	H	T	O			4	6	7	3		+	1	5	1	8			6	1	9	1			1		1	
		Th	H	T	O																																			
		4	6	7	3																																			
	+	1	5	1	8																																			
		6	1	9	1																																			
		1		1																																				

Year 4

Subtract two 4-digit numbers — no exchange

Refer to methods taught in Year 3, subtraction of two numbers across 10.

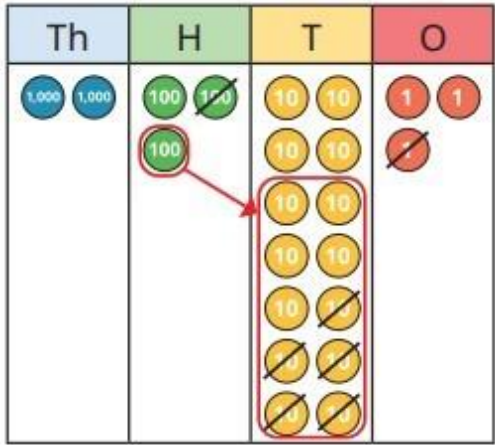
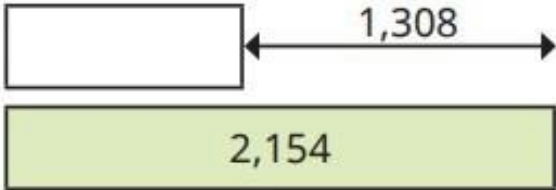
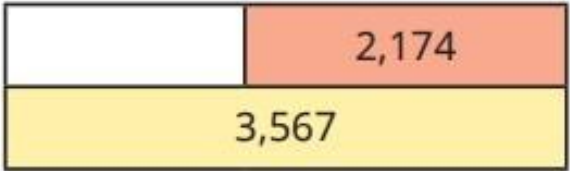
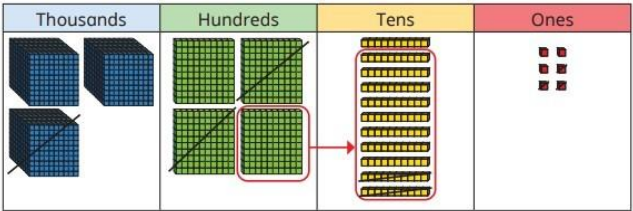


	Th	H	T	O
	3	4	5	4
-	1	2	2	4
	2	2	3	0

Year 4

Subtract two 4-digit numbers — once exchange

Refer to methods taught in Year 3, subtraction of two numbers across 10.

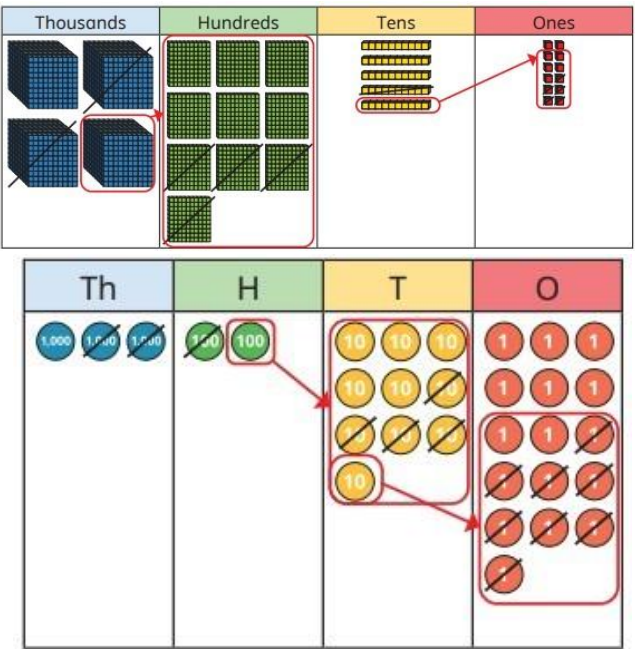


		Th	H	T	O
		3	3 4	1	6
	-	1	2	2	3
		2	1	9	3

Year 4

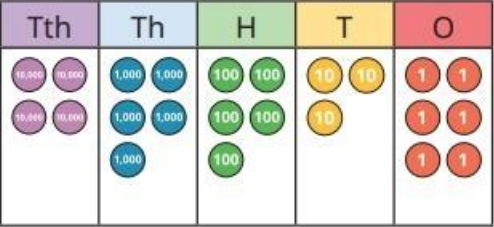
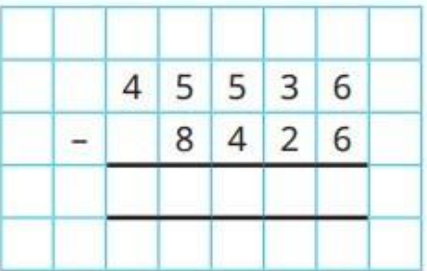
Subtract two 4-digit numbers — more than one exchange

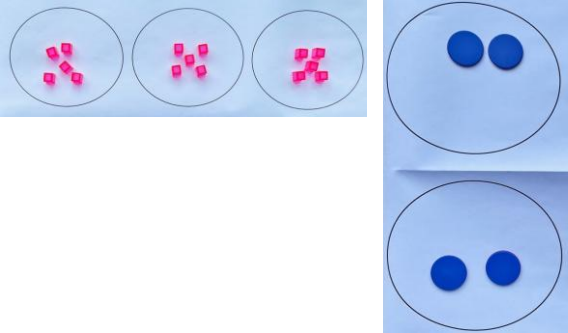
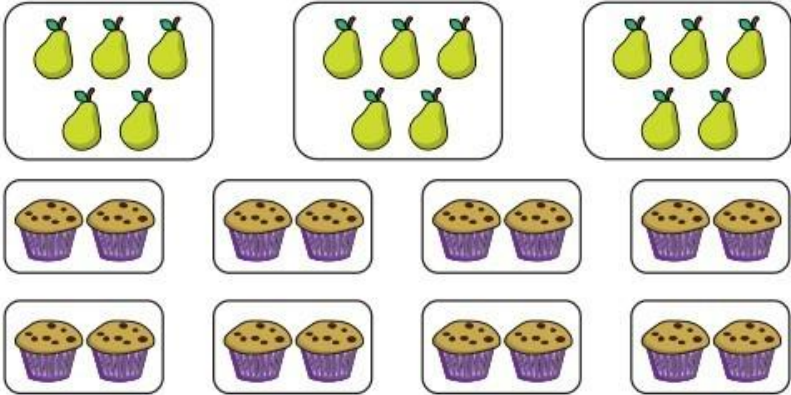
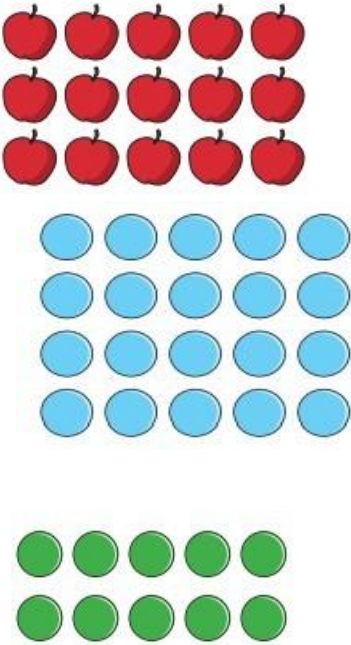
Refer to methods taught in Year 3, subtraction of two numbers across 10.



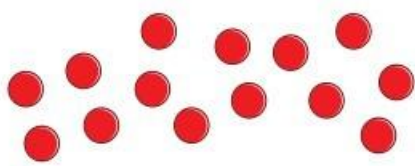
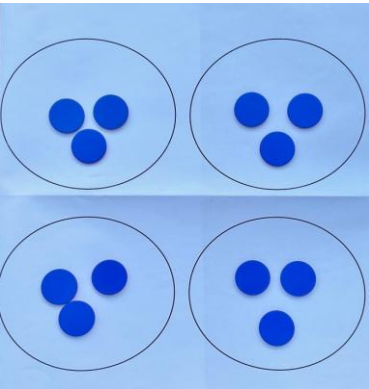
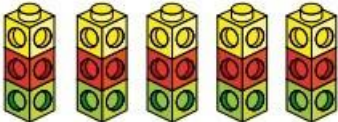
		Th	H	T	O
		³ 4	¹ 0	⁴ 5	¹ 2
	-	2	4	1	5
		1	6	3	7

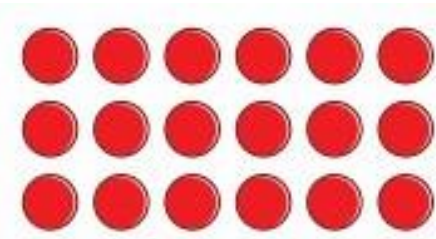
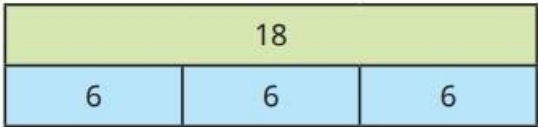
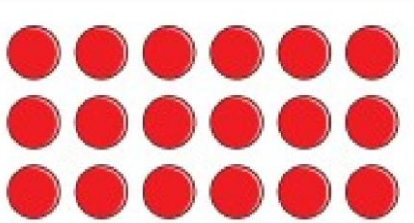
Year 5	Mental strategies		<table><tr><th>TTh</th><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> ● ● ● ● ● </td><td> ● ● ● ● ● ● ● ● </td><td> ● ● ● ● ● </td><td> ● ● ● ● ● </td><td></td></tr></table> ► 48,650 – 3,000 ► 43,650 – 200 ► 43,650 – 10 ► 48,650 – 3,210 ► 48,650 – 7,100 ► 48,650 – 5,030 1,050 800 900 1,000 1,100 1,200 1,300 Use the number line to help you work out the calculations. ► 1,050 + 100 ► 1,050 – 100 The number line shows a method for adding 99 mentally. + 100 + 99 - 1	TTh	Th	H	T	O	● ● ● ● ●	● ● ● ● ● ● ● ●	● ● ● ● ●	● ● ● ● ●		3724 + 999 3724 + 990 3724 – 999 3724 – 990																																					
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● ● ● ● ●	● ● ● ● ● ● ● ●	● ● ● ● ●	● ● ● ● ●																																																
Year 5	Add whole numbers with more than four digits	Refer to Year 3, add two numbers ((across a 100) and add two numbers ((across a 100)).	<table><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr><tr><td> 1,000 1,000 1,000 1,000 </td><td> 100 100 100 </td><td> 10 10 10 10 10 </td><td> 1 1 1 1 1 1 1 1 </td></tr><tr><td></td><td> 100 100 100 100 </td><td> 10 10 10 </td><td> 1 1 1 1 1 1 </td></tr></table> 10	Th	H	T	O	1,000 1,000 1,000 1,000	100 100 100	10 10 10 10 10	1 1 1 1 1 1 1 1		100 100 100 100	10 10 10	1 1 1 1 1 1	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>4</td><td>3</td><td>5</td><td>6</td><td></td></tr><tr><td></td><td>+</td><td></td><td>4</td><td>3</td><td>5</td><td></td></tr><tr><td></td><td></td><td>4</td><td>7</td><td>9</td><td>1</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td></tr></table>										4	3	5	6			+		4	3	5				4	7	9	1						1		
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				1																																															

Year 5	Subtract whole numbers with more than four digits	Refer to methods taught in Year 3, subtraction of two numbers across 10.		
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Mul pli ca on and divison	Objec ve	Concrete	Pictorial	Abstract
Year 3	Equal groups	Representa on shown with cubes or counters but if it is possible to use the actual objects spoken about in ques ons, please use these. 		
Year 3	Use arrays			3×5 5×3 4×5 5×4 2×5 5×2

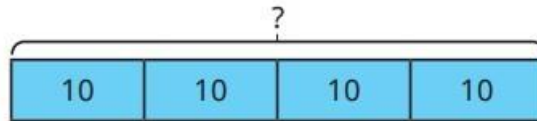
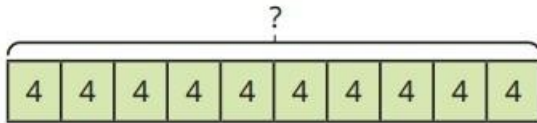
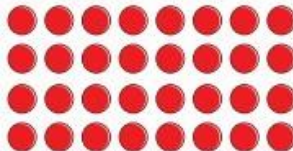
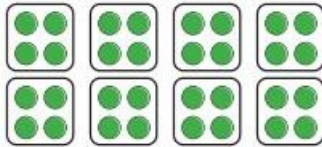
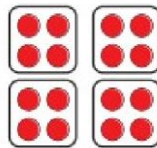
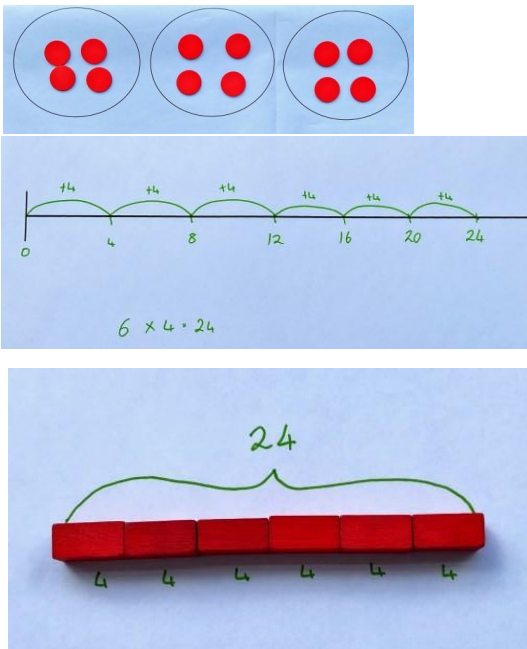
Year 3	Multiples of 2		<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>21</td><td>22</td><td>23</td><td>24</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																																																																														
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Year 3	Sharing and grouping	Refer to multiples and arrays to support children with this objective.	Difference between sharing and grouping—add this in 	
Year 3	Multiply by 3		 5 towers, in each tower, there are 3 cubes. How many cubes altogether?  3 vases, 9 flowers in each vase there are 9 flowers. How many flowers altogether?	5×3 3×5 3×9 9×3

Year 3	Divide by 3	Use resources found in Year 3 making arrays and multiply by 3	 There are _____ strawberries altogether. There are _____ strawberries on each plate.  	_____ ÷ 3 = _____ _____ ÷ 3 = _____ 18 ÷ 3 = 6
Year 3	The 3 times table			1 x 3 = _____ 2 x 3 = _____ 3 x 3 = _____ 4 x 3 = _____ 5 x 3 = _____ 24 = _____ x 8 12 = _____ x 3 _____ x 3 = 21 _____ = 5 x 3 2 _____ x 6 = 3

Year 3

Multiply by 4



4×5

5×4

4×4

4×8

8×4

4×8

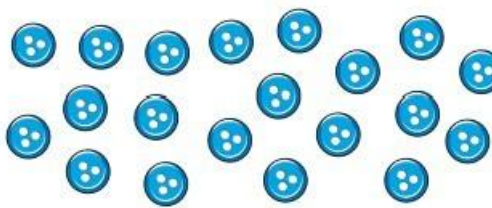
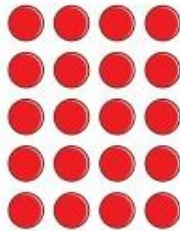
8×4

4×10

10×4

4×10

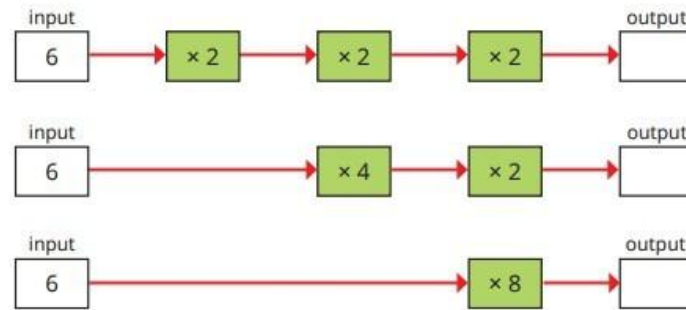
10×4

Year 3	Divide by 4	Refer to Year 4, mul ply by 4 for resources to use.	 24 24																																																			
Year 3	mes table	Refer to Year 4, mul ply by 4 for resources to use.	<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>  Add picture of 4 mes table on a number line	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	
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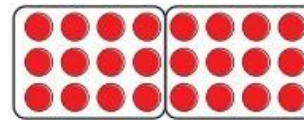
Year 3

Multiply by 8

Refer to Year 4, multiply by 4 and adapt to multiplying by 8.



Ron has drawn an array to help him work out 3×8

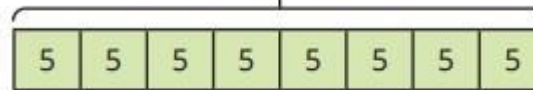


I can multiply 3 by 4 and then double it.



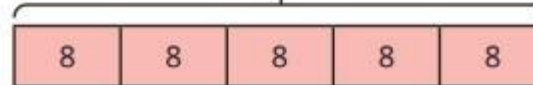
A

?



B

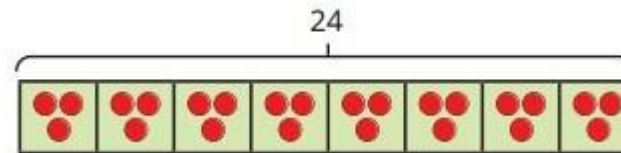
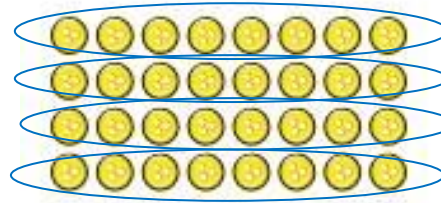
?



Year 3

Divide by 8

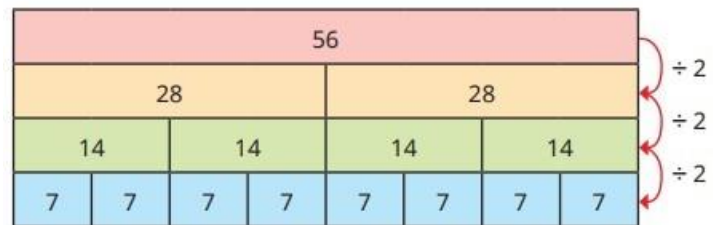
Refer to Year 4, multiply by 4 and adapt to divide by 8.



Dexter is working out $56 \div 8$



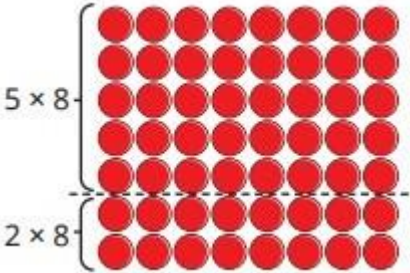
To divide a number by 8, I can halve it, halve it again and then halve it once more.



Year 3

The8mestable

Refer to Year 4, mul ply by 4 and adapt to mul plying by 8.



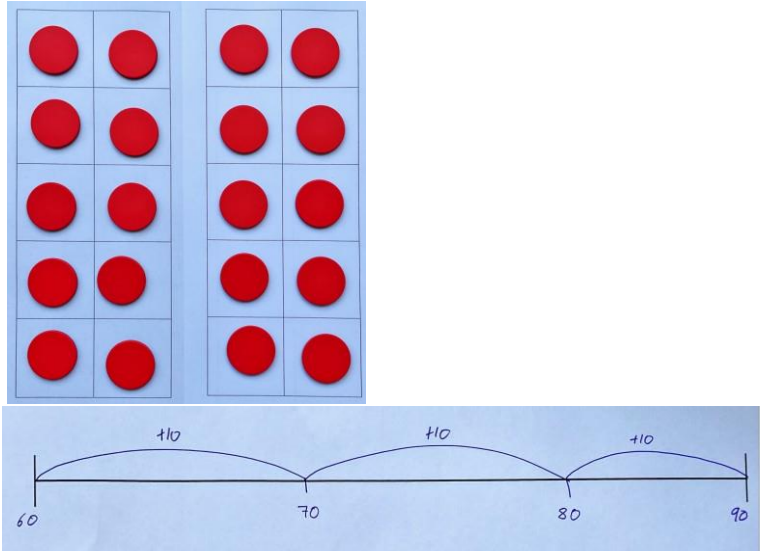
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31	32	33	34	35	36	37	38	39	40
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61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Par oning:

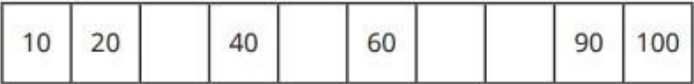
$$7 \times 8 = 5 \times 8 + 2 \times 8$$
$$= 40 + 16$$
$$= 56$$

Year 3

Multiples of 10



Number tracks



Tens frames



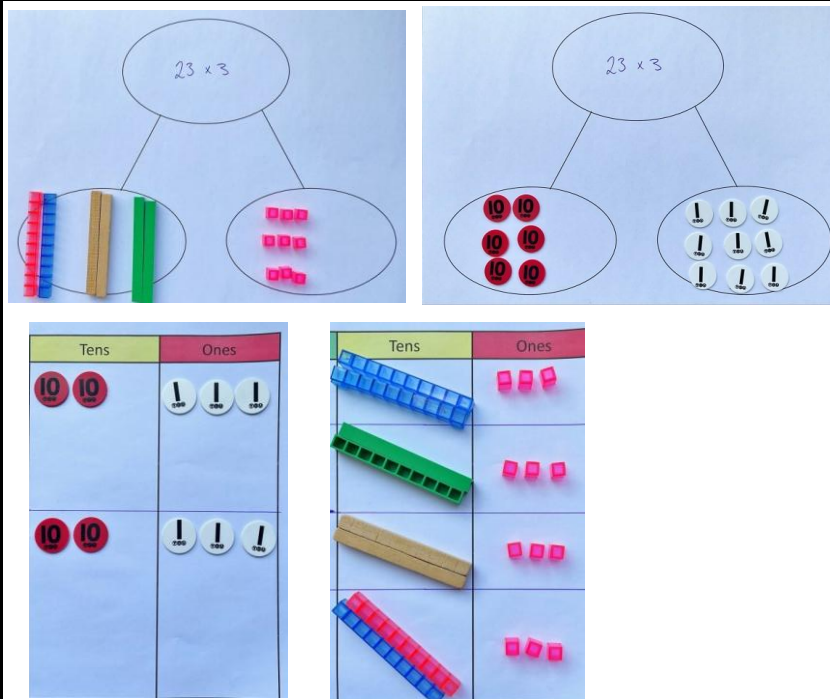
Place value chart

Hundreds	Tens	Ones

- 14 x 10
- 19 x 10
- 10 x 23
- 10 x 26

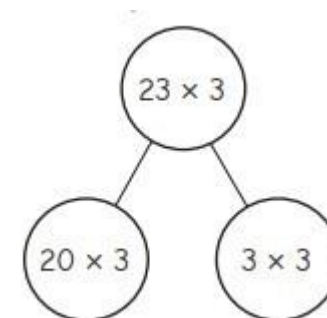
Year 3

Multiply `-digitnumberbya1` `-digitnumber(noexchange)`



Tens	Ones
	
	

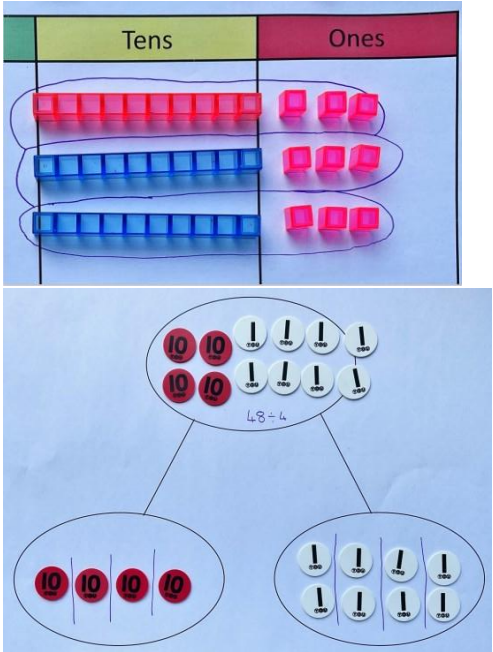
Tens	Ones
	
	
	
	



- | |
|--------|
| 32 x 3 |
| 23 x 2 |
| 12 x 4 |
| 41 x 2 |
| 21 x 5 |
| 42 c 2 |
| 52 x 2 |
| 21 x 6 |

Year 3

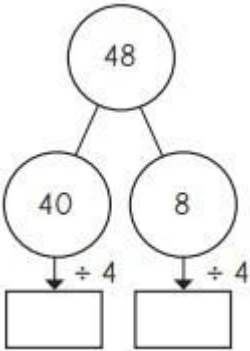
Divide a 2-digit number by a 1-digit number (no exchange)



$39 \div 3$



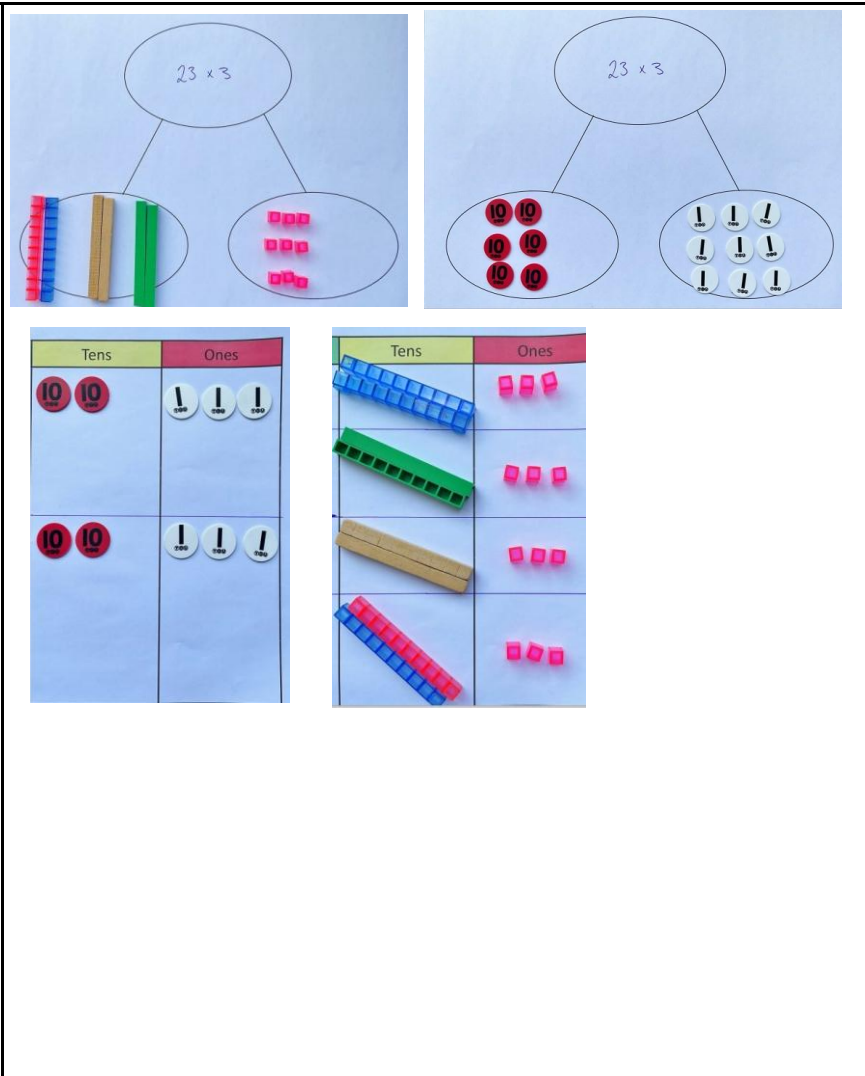
$48 \div 4$

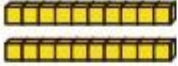
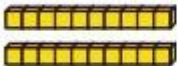


$84 \div 4$
 $66 \div 2$
 $66 \div 3$
 $69 \div 3$

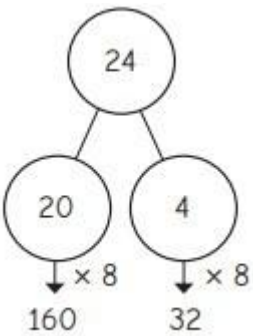
Year 3

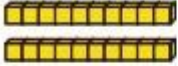
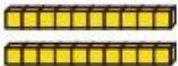
Mulplya2	-digitumnumberbya1	-digitumnumber(withexchange)
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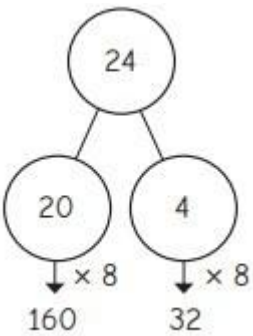
Tens	Ones
	
	
	
	

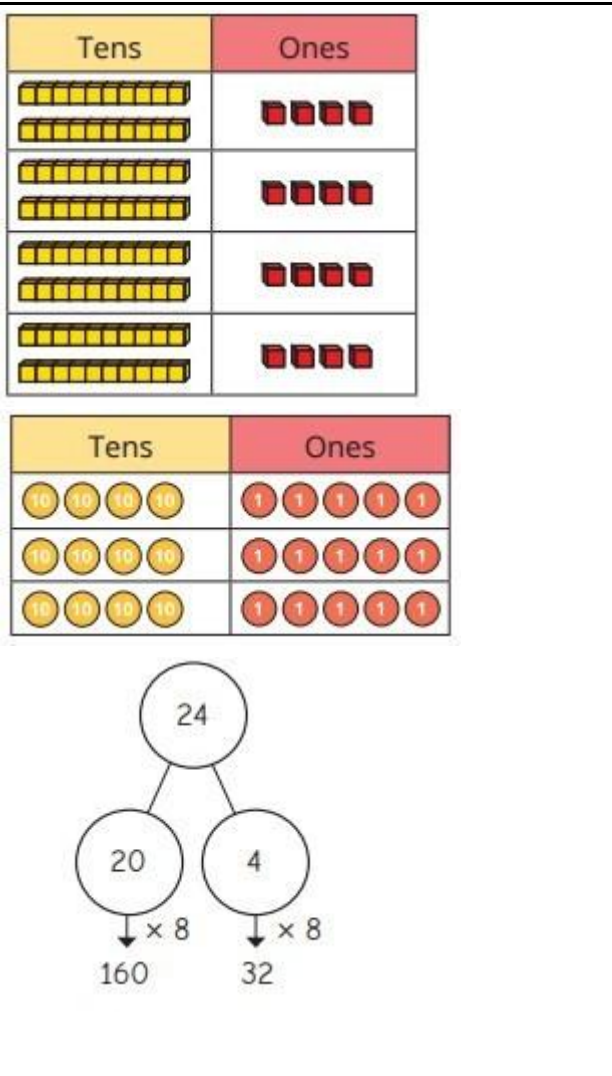
Tens	Ones
	
	
	



Tens	Ones
	
	
	
	

Tens	Ones
	
	
	

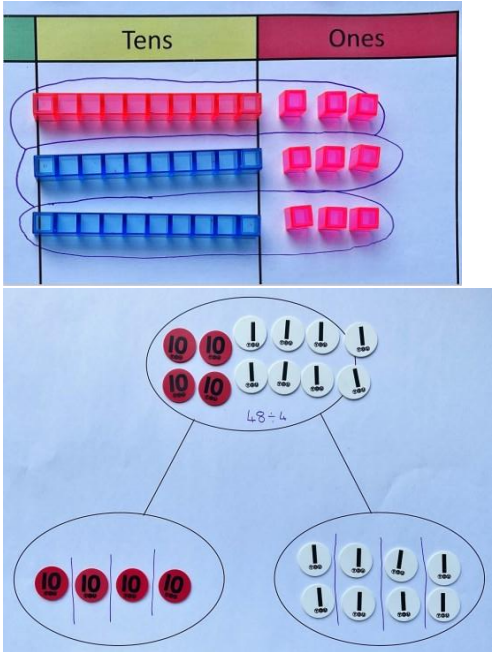




13 x 4
23 x 4
14 x 8
25 x 3

Year 3

Divide a 2-digit number by a 1-digit number (flexible partitioning)



Ron uses place value counters to work out $42 \div 3$
First, he shares the tens into 3 equal groups.
He has 1 ten and 2 ones left over.

Tens	Ones
10	
10	
10	

Ron exchanges the remaining ten for 10 ones.
Then he shares the ones into 3 equal groups.

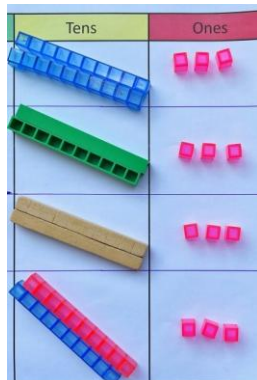
Tens	Ones
10	1 1 1 1 1
10	1 1 1 1 1
10	1 1 1 1 1

$42 \div 3 = 14$

- $48 \div 3$
- $52 \div 4$
- $65 \div 5$
- $72 \div 6$

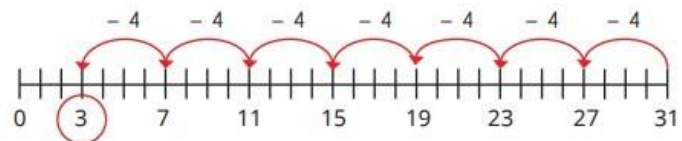
Year 3

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



Repeated subtraction

$$31 \div 4$$



$$94 \div 4$$

Alex uses place value counters to work out $94 \div 4$

First, she shares the tens into 4 equal groups.

Tens	Ones
10 10	
10 10	
10 10	
10 10	



She needs to exchange the remaining ten for 10 ones.

Alex shares as many of the ones as possible into 4 equal groups.

Tens	Ones
10 10	1 1 1 1
10 10	1 1 1 1
10 10	1 1 1 1
10 10	1 1 1 1



$$94 \div 4 = 23 \text{ r}2$$

$$76 \div 3$$

$$62 \div 5$$

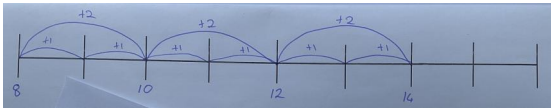
$$58 \div 4$$

$$83 \div 6$$

Year 4

Multiples of 3

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



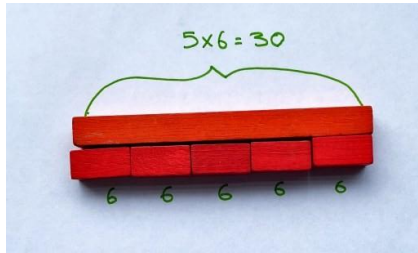
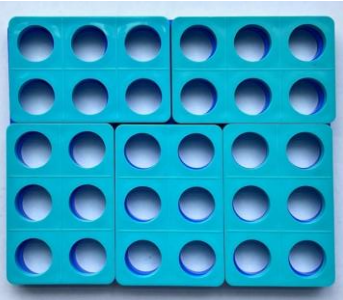
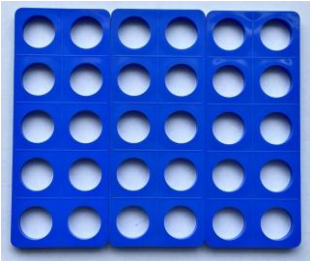
Number track

3	6		12		18	21	24			33	36
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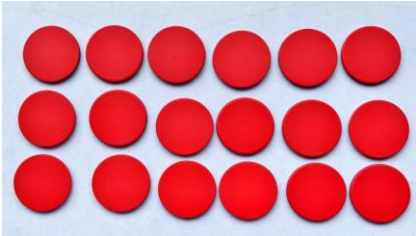
Hundred square

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

$30 \div 6$

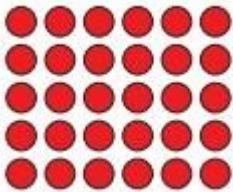


6×3



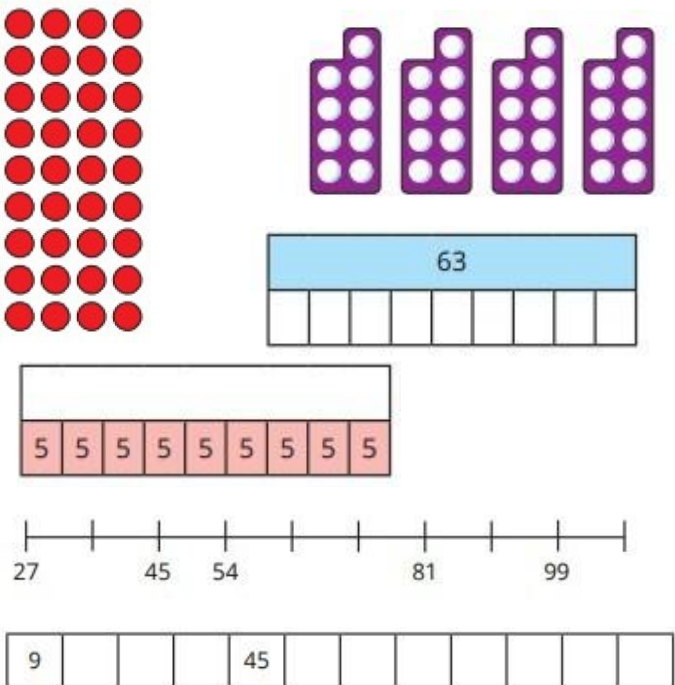
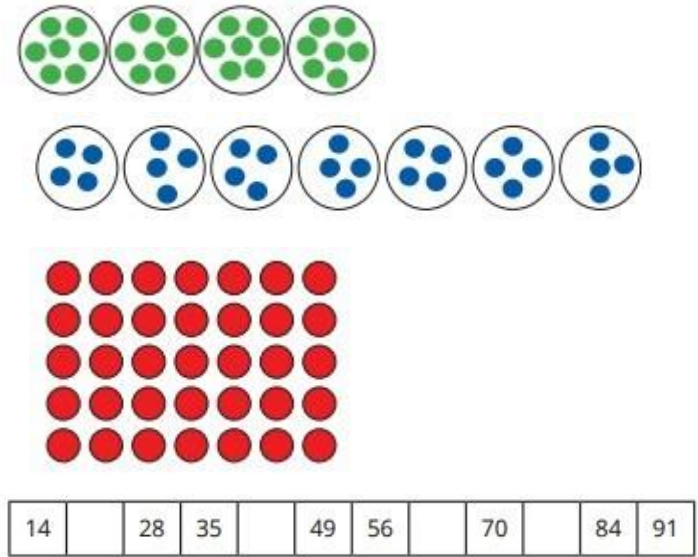
48					

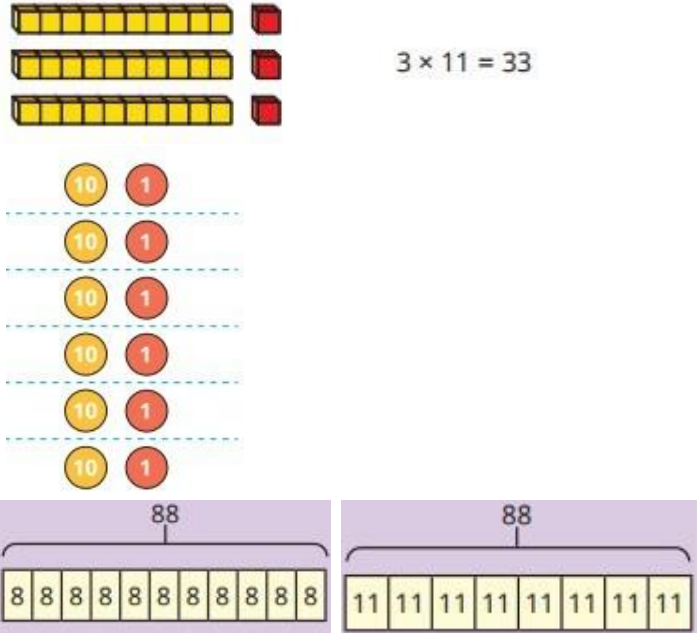
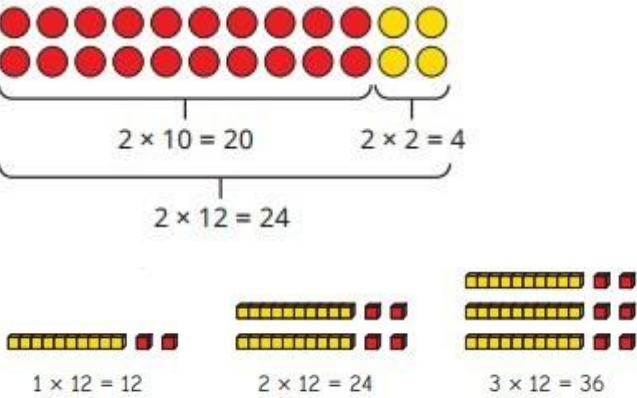
9	9	9	9	9	9



6	12	18							60		
---	----	----	--	--	--	--	--	--	----	--	--

$6 + 6 + 6 + 6 + 6$

Yea 4	Multiply and divide by 9	Refer to strategies used in Year 4, multiply and divide by 6		7×9 3×9 9×9 19×9 $108 \div 9$ $81 \div 9$ $27 \div 9$ $63 \div 9$
Year 4	Multiply and divide by 7	Refer to strategies used in Year 4, multiply and divide by 6		6×7 9×7 11×7 7×3 $28 \div 7$ $84 \div 7$ $56 \div 7$

Year 4	mentable and division facts	Refer to strategies used in Year 4, multiply and divide by 6.	 3 × 11 = 33	5 × 11 8 × 11 10 × 11 11 × 6 11 × 7
Year 4	mentable and division facts	Refer to strategies used in Year 4, multiply and divide by 6.	 2 × 10 = 20 2 × 2 = 4 2 × 12 = 24 1 × 12 = 12 2 × 12 = 24 3 × 12 = 36	5 × 12 8 × 12 12 × 10 7 × 12 12 × 6 12 × 12

Year 4

Multiply three numbers



$2 \times 4 = \underline{\quad}$



$2 \times 4 = \underline{\quad}$

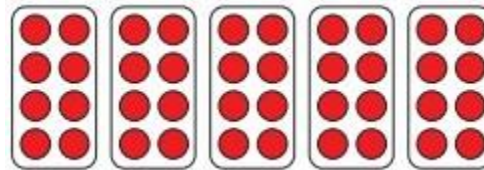


$2 \times 4 = \underline{\quad}$

$$\left. \begin{array}{l} 2 \times 4 = \underline{\quad} \\ 2 \times 4 = \underline{\quad} \\ 2 \times 4 = \underline{\quad} \end{array} \right\} 3 \times 2 \times 4 = 3 \times 8 = \underline{\quad}$$

$2 \times 4 \times 3$

$4 \times 2 \times 5$



$5 \times 2 \times 6$

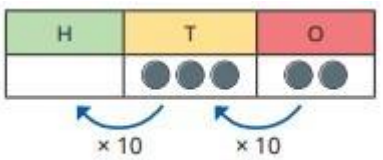
$8 \times 4 \times 5$

$2 \times 8 \times 6$

$7 \times 4 \times 2$

$3 \times 5 \times 4$

Year 4	Factorpairs	Complete the factor pairs of 12 and the sentences.  $1 \times \underline{\quad} = 12$  $\underline{\quad} \times 6 = 12$  $\underline{\quad} \times \underline{\quad} = 12$	$18 = 1 \times 18$ $18 = 2 \times 9$ $18 = 3 \times 6$
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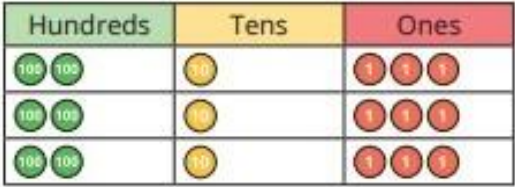
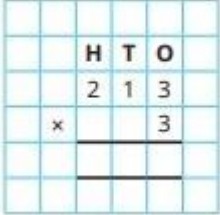
Year 4	Multiply by 10	13 x 10 	23×10 16×10 31×10 10×82 10×43
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Year 4	Divide by 10		<
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Year 4	Multiply by 100		23 x 100 <table><tr><td>Th</td><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td></td><td>●●</td><td>●●●</td></tr></table> ↓ x 100 <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></table>	Th	H	T	O			●●	●●●	Th	H	T	O	●●	●●●			41 x 100 94 x 100 83 x 100
Th	H	T	O																	
		●●	●●●																	
Th	H	T	O																	
●●	●●●																			

Year 4	Divide by 100	400 ÷ 100  3400 ÷ 100 <table border="1"> <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> </table> ↓ ÷ 100 <table border="1"> <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> </table>	Th	H	T	O	●●	●●			●●	●●			Th	H	T	O			●●	●●			●●	●●
Th	H	T	O																							
●●	●●																									
●●	●●																									
Th	H	T	O																							
		●●	●●																							
		●●	●●																							

Year 4	Multiply a 2-digit number by a 1-digit number	34 x 2 <table border="1"> <tr> <th colspan="3">Tens</th> <th colspan="4">Ones</th> </tr> <tr> <td>10</td> <td>10</td> <td>10</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>10</td> <td>10</td> <td>10</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> </table>	Tens			Ones				10	10	10	1	1	1	1	10	10	10	1	1	1	1	<table border="1"> <tr><td></td><td></td><td>T</td><td>O</td></tr> <tr><td></td><td></td><td>3</td><td>4</td></tr> <tr><td></td><td>x</td><td></td><td>2</td></tr> <tr><td></td><td></td><td></td><td>8</td></tr> <tr><td></td><td></td><td>6</td><td>0</td></tr> <tr><td></td><td></td><td>6</td><td>8</td></tr> </table> (4 × 2 = 8) (30 × 2 = 60)			T	O			3	4		x		2				8			6	0			6	8
Tens			Ones																																													
10	10	10	1	1	1	1																																										
10	10	10	1	1	1	1																																										
		T	O																																													
		3	4																																													
	x		2																																													
			8																																													
		6	0																																													
		6	8																																													

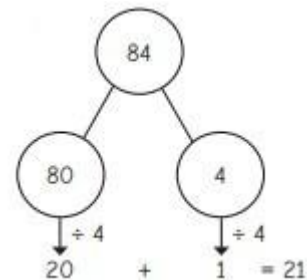
Year 4	Multiply 3-digit number by a 1-digit number			
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Year 4

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

$$84 \div 4$$

Tens	Ones
	
	
	
	



$$85 \div 4$$

Tens	Ones
	
	
	
	

$$97 \div 4$$

Tens	Ones
	
	
	
	

$$84 \div 7$$

$$78 \div 6$$

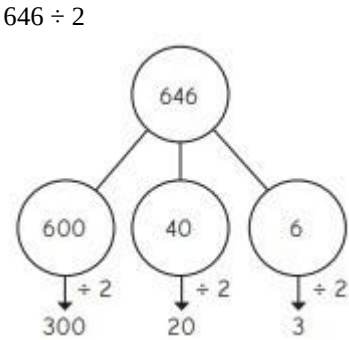
$$96 \div 8$$

Year 4

Divide a 3-digit number by a 1-digit number

639 ÷ 3

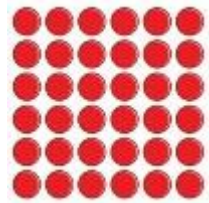
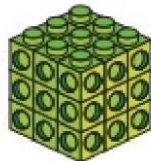
Hundreds	Tens	Ones
100 100	30	1 1 1
100 100	30	1 1 1
100 100	30	1 1 1

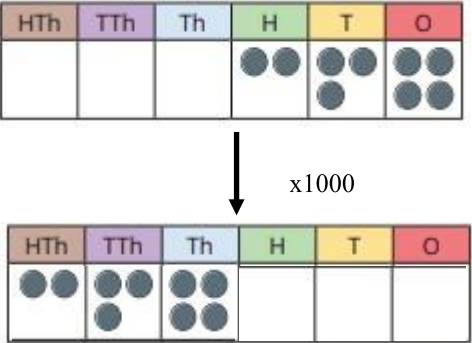
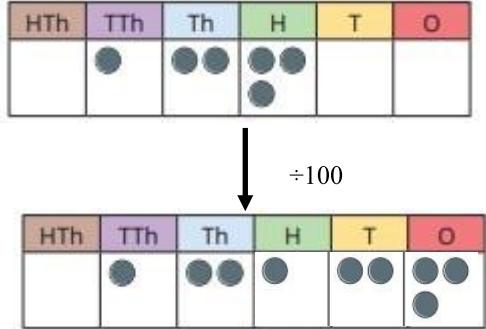


435 ÷ 3

Hundreds	Tens	Ones
100	30 30 30 30	1 1 1 1 1
100	30 30 30 30	1 1 1 1 1
100	30 30 30 30	1 1 1 1 1
100	30	1 1 1 1 1

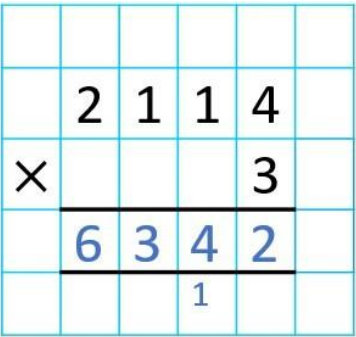
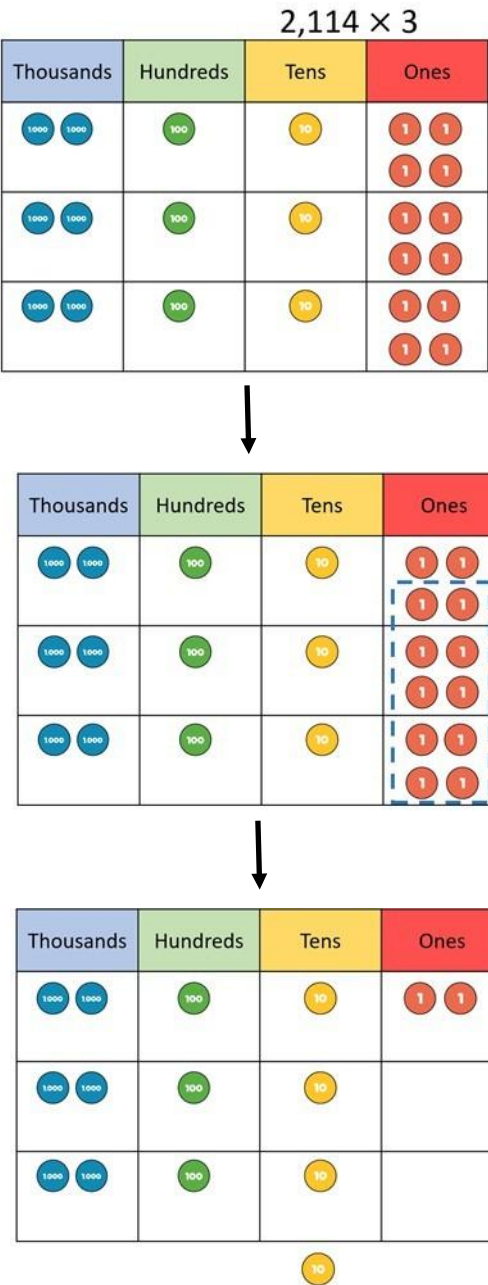
Year 5	Multiples and common multiples	Multiples of 5 <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>21</td><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><tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr><tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td></tr><tr><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td></tr><tr><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td></tr><tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</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	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	multiples of 6 multiples of 9
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																																																																																														
Year 5	Factors and common factors	Factors of 20 Common factors of 12 and 15 Both numbers can be arranged in one row, so 1 is a common factor. 12 can be arranged in two rows but 15 cannot, so 2 is not a common factor.	20 = 1 x 20 20 = 2 x 10 20 = 4 x 5 factors of 20 factors of 24																																																																																																				

Year 5	Primenumbers		Arrays for 5: 5 x 1  This array does not work  There is no other way to arrange 5, so it must be a prime number	<table><tr><th>Prime</th><th>Composite</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>	Prime	Composite																			
Prime	Composite																								
Year 5	Squarenumbers		 9 3 x 3 =  6 x 6 = 36	3² = 9 6² = 36																					
Year 5	Cubednumbers		3³ = 27 	<table><tr><th>Size of cube</th><th>Calculation</th><th>Number of cubes</th></tr><tr><td>1³</td><td></td><td>1</td></tr><tr><td>2³</td><td></td><td>8</td></tr><tr><td>3³</td><td>3 × 3 × 3</td><td></td></tr><tr><td>4³</td><td></td><td></td></tr><tr><td>5³</td><td></td><td></td></tr><tr><td>6³</td><td>6 × 6 × 6</td><td></td></tr></table>	Size of cube	Calculation	Number of cubes	1 ³		1	2 ³		8	3 ³	3 × 3 × 3		4 ³			5 ³			6 ³	6 × 6 × 6	
Size of cube	Calculation	Number of cubes																							
1 ³		1																							
2 ³		8																							
3 ³	3 × 3 × 3																								
4 ³																									
5 ³																									
6 ³	6 × 6 × 6																								

Year 5	Multiply by 10, 100 and 1 000			4×10 4×100 4×1000 204×10 204×100 204×1000
Year 5	Divide by 10, 100 and 1 000			$64\,000 \div 10$ $64\,000 \div 100$ $64\,000 \div 1000$ $5300 \div 100$ $460 \div 10$ $62\,000 \div 1000$

Year 5

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



Th	Th	M	T	O

TTh	Th	H	T	O
	 	  		  
	 	  		  
	 	  		  
	 	  		  
	 	  		  

Tth	Th	H	T	O

TTh	Th	M	T	O
	 	  		   
	  	   		   
	  	    		

TTh	Th	H	T	O
	 	   		
	 	   		
	 	   		
	 	   		
	 	   	 	

TTh	Th	H	T	O
				
				
				
				
				

Tth	Th	H	T	O
	 	  		
	 	  		
	 	  		
	 			
	 		 	

TTh	Th	H	T	O
	 	      		
	    	      		
	    			
	    		 	

TTh	Th	H	T	O
	 	  		
	 			
	 			
	 			
	 			
	 		 	

TTh	Th	H	T	O	
	                       	                       			

[illegible]

	3	5	0	4
×				5
				0
			2	

	3	5	0	4
×				5
			2	0
			2	

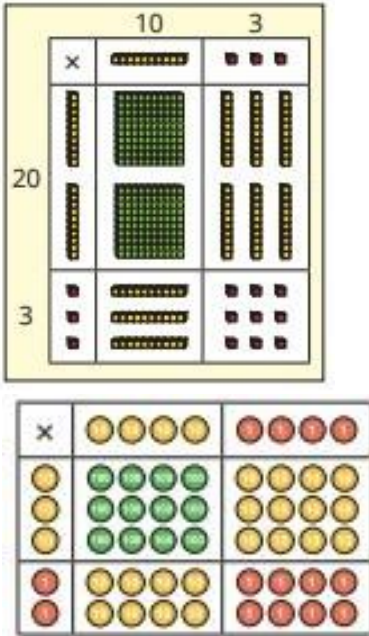
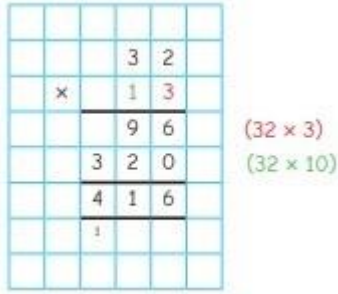
	3	5	0	4
×				5
			2	0
	2		2	

	3	5	0	4
×				5
		5	2	0
	2		2	

	3	5	0	4
×				5
		5	2	0
1	2		2	

	3	5	0	4
×				5
	7	5	2	0
1	2		2	

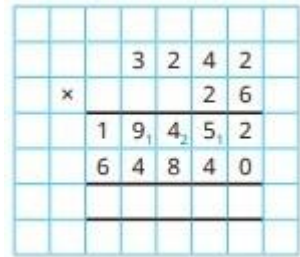
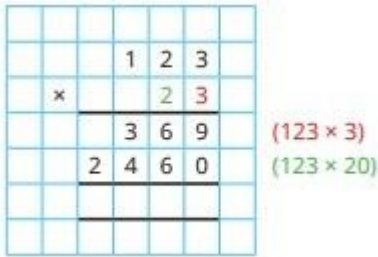
		3	5	0	4
×				5	
	1	7	5	2	0
	1	2		2	

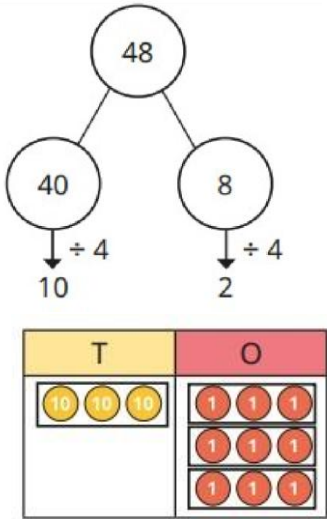
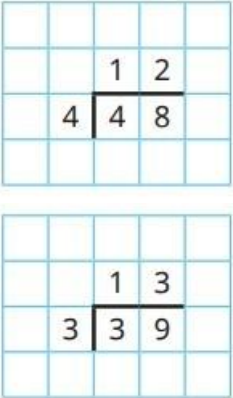
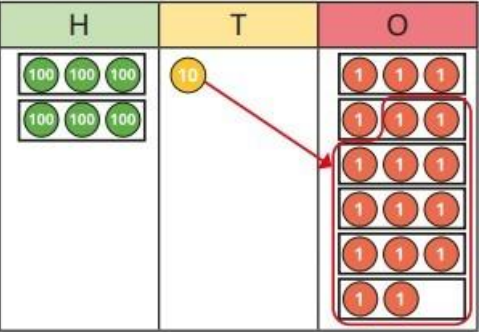
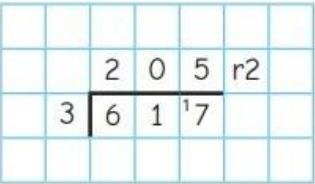
Year 5	Multiply 2-digit number by 2-digit number (area model)		<table><tr><td>×</td><td>40</td><td>4</td></tr><tr><td>30</td><td>1,200</td><td>120</td></tr><tr><td>2</td><td>80</td><td>8</td></tr></table>	×	40	4	30	1,200	120	2	80	8
×	40	4										
30	1,200	120										
2	80	8										
Year 5	Multiply 2-digit number by 2-digit number (long multiplication)	Use resources shown in Year 3 _____ to support children with multiplication steps										

Year 5

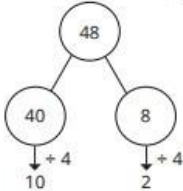
Multiply a 3-digit number by a 2-digit number

Use resources shown in:
Year 3 divide by 3, 4 and 8 to support children with multiplication steps.
Year 4 divide by 6, 9, 7, 11 and 12 to support children with multiplication steps.

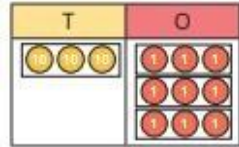


Year 5	Short division of numbers up to 4 digits by a 1 digit number		 The diagram illustrates the division of 48 by 4. At the top, a tree diagram shows 48 branching into 40 and 8. Below 40, an arrow labeled $\div 4$ points to 10. Below 8, an arrow labeled $\div 4$ points to 2. Below this, a place value chart shows the tens (T) and ones (O) columns. The T column contains three 10s, and the O column contains eight 1s. A red box highlights the three 10s in the T column. Below the chart, a number line shows the hundreds (H), tens (T), and ones (O) columns. The H column contains five 100s, the T column contains six 10s, and the O column contains eight 1s. A red arrow points from one 100 in the H column to ten 10s in the T column, indicating the exchange of 100 for 10 tens.	 The first grid shows a multiplication problem: $12 \times 4 = 48$. The second grid shows a multiplication problem: $13 \times 3 = 39$.
Year 5	Division with remainders		 The diagram shows a place value chart with hundreds (H), tens (T), and ones (O) columns. The H column contains two 100s, the T column contains one 10, and the O column contains five 1s. A red arrow points from the 10 in the T column to the ones column, indicating the exchange of 10 for 10 ones. The ones column now contains ten 1s. A red box highlights the ten 1s in the ones column.	 The grid shows a division problem: $205 \div 3 = 68 \text{ r}2$. The dividend 205 is written above the divisor 3, and the quotient 68 with a remainder of 2 is written below the line.

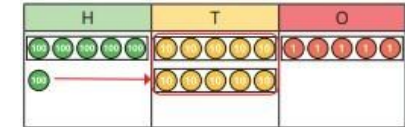
48 ÷ 4



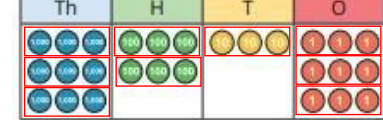
39 ÷ 3



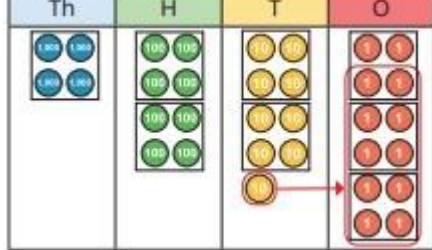
605 ÷ 5



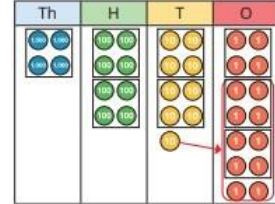
9639 ÷ 3



4892 ÷ 4



4892 ÷ 4



		1	2	
	4	4	8	

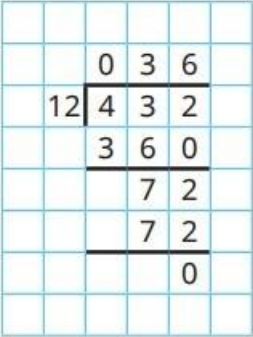
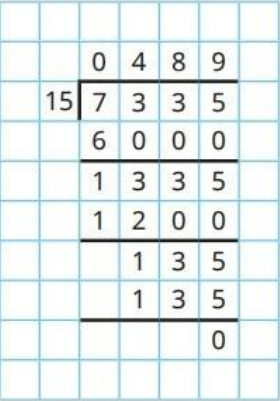
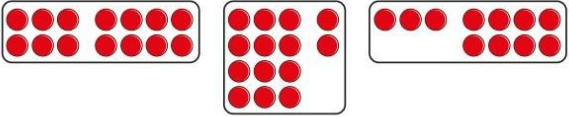
		1	3	
	3	3	9	

		1	2	1
	5	6	0	5

	3	9	6	3

		1	2	2
	4	4	8	9

		1	2	2
	4	4	8	9

Year 6	Using long division to divide 4 digit numbers by 2 digit numbers		Use resources shown in: Year 3 divide by 3, 4 and 8 to support children with multiplication on steps. Year 4 divide by 6, 9, 7, 11 and 12 to support children with multiplication on steps.	 (12 × 30) (12 × 6)  (15 × 400) (15 × 80) (15 × 9)
Year 6	To understand the order of operations		 $3 + 4 \times 2$ $3 \times 4 + 2$ $(3 + 4) \times 2$	$(5 + 2) \times 3$ $6 + 4 \div 2$ $5 + 2 \times 3$ $(6 + 4) \div 2$

