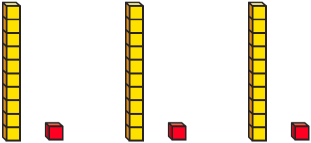
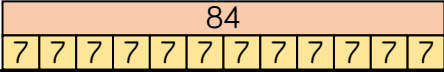

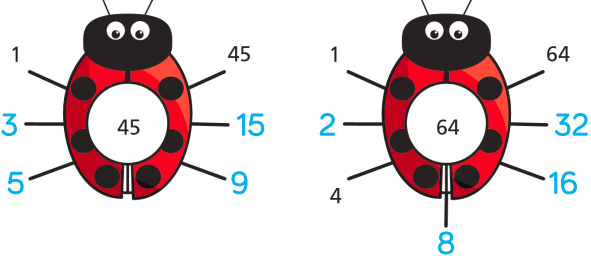


Question	Answer
1	 <p>33</p>
2	$5 \times 11 = 55$ $9 \times 11 = 99$ $6 \times 11 = 66$ $10 \times 11 = 110$ $7 \times 11 = 77$ $4 \times 11 = 44$ $3 \times 11 = 33$ $12 \times 11 = 132$
3	<p>a) Yes. Up to 9×11, the multiple is a repeated digit, so the two digits add together must be even. Students can treat 10, 11 and 12×11 individually.</p> <p>b) Up to 9×11, the multiple is a repeated digit. For 10, 11 and 12×11, the answer is a 3-digit number where the first and last digits are the two digits in the original number and the middle digit is those digits added together.</p>
4	Dora has 60 crayons.
5	<p>a) Ron has divided his bar into 12 sections and written 12 in each section.</p> <p>b)</p> 
6	<p>a) 144</p> <p>b)</p> 
7	<p>a) 55</p> <p>b) 7 more teams are needed.</p>
8	<p>a) No. The next multiple is 60 and $6 + 0 = 6$</p> <p>b) 3, 6, 9, 12, 6, 9, 12, 15, 9, 3, 6, 9 All the sums are multiples of 3. Initially, the sums increase by 3 for four terms, then go back to the second term and increase by 3 for four terms. However, after that it is harder to see a pattern.</p>

Y4 - Spring - Block 1 - Step 2 - Multiply 3 numbers Answers

Question	Answer															
1	a) $2 \times 5 = 10$ $2 \times 5 = 10$ $2 \times 5 = 10$ b) $3 \times 2 \times 5 = 6 \times 5 = 30$															
2	a) 40 b) 60 c) 80 Multiply two of the numbers together and then multiply by the third number.															
3	a) 60 b) 48 c) 56 d) 60 e) 180 f) 120															
4	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 20%; text-align: center;">True</th> <th style="width: 20%; text-align: center;">False</th> </tr> </thead> <tbody> <tr> <td>$7 \times 8 = 7 \times 4 \times 2$</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>$12 \times 4 = 2 \times 4 \times 6$</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>$3 \times 2 \times 8 = 5 \times 8$</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td>$2 \times 7 \times 4 = 4 \times 7 \times 2$</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <p>Children may discuss the order of the numbers in the calculation.</p>		True	False	$7 \times 8 = 7 \times 4 \times 2$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$12 \times 4 = 2 \times 4 \times 6$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	$3 \times 2 \times 8 = 5 \times 8$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	$2 \times 7 \times 4 = 4 \times 7 \times 2$	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	True	False														
$7 \times 8 = 7 \times 4 \times 2$	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
$12 \times 4 = 2 \times 4 \times 6$	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
$3 \times 2 \times 8 = 5 \times 8$	<input type="checkbox"/>	<input checked="" type="checkbox"/>														
$2 \times 7 \times 4 = 4 \times 7 \times 2$	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
5	a), b) possible answers: $3 \times 5 \times 6 = 90$ $3 \times 6 \times 5 = 90$ $5 \times 3 \times 6 = 90$ $5 \times 6 \times 3 = 90$ $6 \times 3 \times 5 = 90$ $6 \times 5 \times 3 = 90$ There are six different multiplications. They all have the same answer.															
6	72 102															
7	a), b) multiple possible answers, e.g.: $1 \times 1 \times 30 = 30$ $1 \times 2 \times 15 = 30$ $2 \times 3 \times 5 = 30$															
8	a) 2, 5, 6 3, 4, 5 b) There are two different ways. c) children's scores															
9	a) 240															

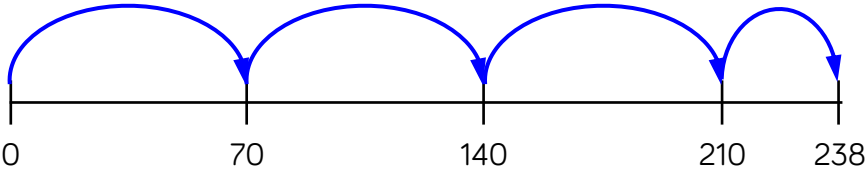
Y4 – Spring – Block 1 – Step 3 – Factor pairs Answers

Question	Answer															
1	a) $1 \times 18 = 18$ $2 \times 9 = 18$ $3 \times 6 = 18$ b) 1, 2, 3, 6, 9, 18															
2	a) 1 and 12, 2 and 6, 3 and 4 b) 1 and 15, 3 and 5 c) 1 and 24, 2 and 12, 3 and 8, 4 and 6 24															
3																
4	1 and 72, 2 and 36, 3 and 24, 4 and 18, 6 and 12, 8 and 9															
5	<table border="0"> <thead> <tr> <th></th> <th>True</th> <th>False</th> </tr> </thead> <tbody> <tr> <td>8 and 2 are both factors of 10</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>5 and 50 are both factors of 50</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>25 has only three factors.</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>All the factors of 15 are odd.</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		True	False	8 and 2 are both factors of 10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5 and 50 are both factors of 50	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25 has only three factors.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	All the factors of 15 are odd.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	True	False														
8 and 2 are both factors of 10	<input type="checkbox"/>	<input checked="" type="checkbox"/>														
5 and 50 are both factors of 50	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
25 has only three factors.	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
All the factors of 15 are odd.	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
6	multiple possible answers, e.g.: 6 has two factor pairs: 1 and 6, 2 and 3 7 has one factor pair: 1 and 7															
7	a) Yes. 12 has three factor pairs: 1 and 12, 2 and 6, 3 and 4 18 has three factor pairs: 1 and 18, 2 and 9, 3 and 6 b) multiple possible answers, e.g.: 32 and 50															
8	2, 3, 4, 6, 9, 12, 18															
9	28															

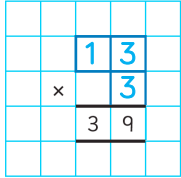
Y4 – Spring – Block 1 – Step 4 – Efficient multiplication Answers

Question	Answer
1	<p>a) $20 \times 4 + 8 \times 4 = 80 + 32 = 112$ $4 \times 28 = 112$</p> <p>b) Most children will find the first method easier, because it involves two easier multiplications.</p> <p>c) multiple possible answers, e.g: $(30 \times 4) - (2 \times 4)$</p>
2	<p>a) Mo: $30 \times 6 = 180$ $5 \times 6 = 30$ $180 + 30 = 210$</p> <p>Amir: $35 \times 2 = 70$ $70 \times 3 = 210$</p> <p>Annie: $5 \times 6 = 30$ $30 \times 7 = 210$</p> <p>b) Amir's and Annie's methods were more efficient than Mo's as they required only two calculations compared to Mo's three calculations.</p>
3	<p>a) He has subtracted 4 instead of adding it.</p> <p>b) 84</p>
4	3,564
5	<p>$43 \times 5 = 215$</p> <p>$62 \times 5 = 310$</p> <p>$74 \times 5 = 370$</p>
6	<p>a) 200</p> <p>b) 200</p> <p>c) Children need to justify the method they prefer.</p> <p>d) Another method could be: $25 \times 4 \times 2$</p>

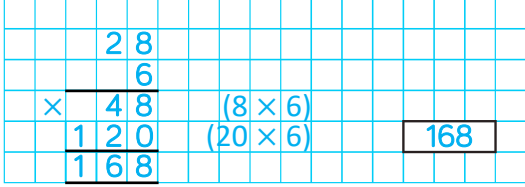
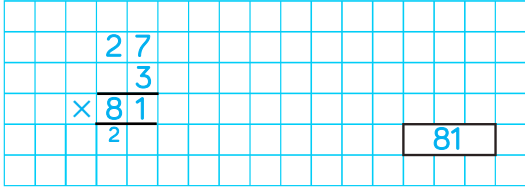
Y4 - Spring - Block 1 - 5 - Written methods Answers

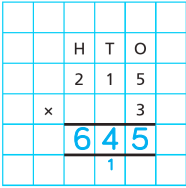
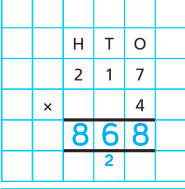
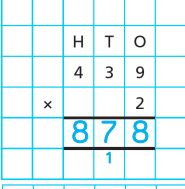
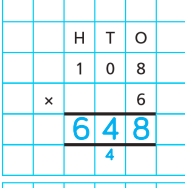
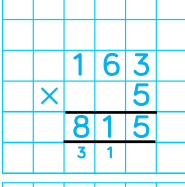
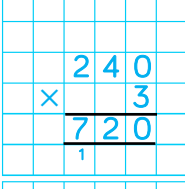
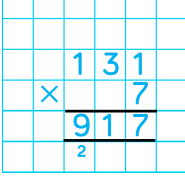
Question	Answer
1	$3 \times 28 = 84$ $3 \times 36 = 108$
2	a) They add 10×6 three times and then add 4×6 b) 160 224 224
3	<p>Mo has only added 10×7 twice instead of three times.</p> <p> $10 \times 7 = 70$ $10 \times 7 = 70$ $10 \times 7 = 70$ $4 \times 7 = 28$ </p> 
4	a) Amir partitions 43 into $40 + 3$. He then multiplies each part by 5 and adds them together.. b) $32 \times 6 = 192$ $8 \times 42 = 336$ $7 \times 31 = 217$
5	210
6	<p>Children may choose mental calculation or written method for different calculations.</p> $4 \times 59 = 236$ $3 \times 33 = 99$ $5 \times 36 = 180$ $9 \times 32 = 288$ $7 \times 21 = 147$ $6 \times 25 = 150$

Question	Answer																																																																																																																																												
1	$3 \times 3 \text{ ones} = 9$ $3 \times 2 \text{ tens} = 60$ $9 + 60 = 69$ $3 \times 23 = 69$ There are 69 marbles in total.																																																																																																																																												
2	$2 \times 4 = 8$ $2 \times 20 = 40$ $2 \times 24 = 48$																																																																																																																																												
3	Both methods work out 43×2 and multiply each digit by 2 The place value chart uses concrete resources (counters) but the column method just uses numbers.																																																																																																																																												
4	a) <table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>T</td><td>O</td><td></td></tr> <tr><td></td><td></td><td>2</td><td>4</td><td></td></tr> <tr><td></td><td>x</td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>4</td><td>8</td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table> b) <table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>T</td><td>O</td><td></td></tr> <tr><td></td><td></td><td>4</td><td>4</td><td></td></tr> <tr><td></td><td>x</td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>8</td><td>8</td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table> c) <table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>3</td><td>1</td><td></td></tr> <tr><td></td><td>x</td><td></td><td>3</td><td></td></tr> <tr><td></td><td></td><td>9</td><td>3</td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table> d) <table border="1"> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td>4</td><td>2</td><td></td></tr> <tr><td></td><td>x</td><td></td><td>2</td><td></td></tr> <tr><td></td><td></td><td>8</td><td>4</td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>								T	O				2	4			x		2				4	8																			T	O				4	4			x		2				8	8																			3	1			x		3				9	3																								4	2			x		2				8	4																
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Question	Answer
7	
8	<p>a) Multiply each digit by 2</p> <p>b) 4×22 ✓ 3×23 ✓ 3×33 ✓</p> <p>12×4 ✓ 3×32 ✓ 4×20 ✓</p> <p>Some children's answers may differ.</p>












































Y4 – Spring – Block 1 – Step 6 – Multiply 2-digits by 1-digit Answers

Question	Answer
1	160 204
2	<p>Rosie has multiplied 4 by the ones part and tens part of 37 separately and then added them together.</p>  <p>The grid shows the multiplication of 48 by 6. The numbers 48 and 6 are written in the top three rows. The multiplication is shown as 48 times 6, with the result 288. The grid is divided into two parts: the left part shows the multiplication of 48 by 6, and the right part shows the multiplication of 20 by 6, with the result 168.</p>
3	<p>Dani has multiplied 2×8 and carried the ten to the next column to add to 4×8</p>  <p>The grid shows the multiplication of 81 by 2. The numbers 81 and 2 are written in the top three rows. The multiplication is shown as 81 times 2, with the result 162. The grid is divided into two parts: the left part shows the multiplication of 81 by 2, and the right part shows the multiplication of 20 by 2, with the result 40.</p>
4	<p>a) 228 b) 213 c) 405 d) 260 e) 232 f) 68</p>
5	£280
6	136

Question	Answer
1	a) 124×3 b) 372
2	a) 639 b) 864 c) 530 d) 636 e) 836 f) 951
3	
4	a)  b)  c)  d)  e)  f) 

Y4 - Spring - Block 1 - Step 7 - Multiply 3-digits by 1-digit Answers (continued)

Question	Answer
5	468 km
6	a) Ron Teddy both neither b) 1,225
7	784
8	Bag A weighs 85 g more than bag B.

Question	Answer										
1	<p>a) </p> <p>b) <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table></p> <p>c) 14 d) Yes.</p>	Tens	Ones								
Tens	Ones										
											
											
											
											
2	<p>a) <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table></p> <p>b) £14</p>	Tens	Ones								
Tens	Ones										
											
											
											
3	24										
4	<p>a) 15 b) 19 c) 23</p>										
5	<p>a) Tommy's Both 40 and 12 are in the 4 times-table. b) 13</p>										
6	<p>a) $48 \div 3 = 16$ $30 \div 3 = 10$ $18 \div 3 = 6$ $48 \div 3 = 16$ b) 24 c) 13 d) 25</p>										
7	<p>a) All of the divisions are dividing 96 96 is being divided by a different number in each division. b) $96 \div 8 = 12$ $96 \div 4 = 24$ $96 \div 2 = 48$ c) When the number being divided by halves, the answer doubles.</p>										

Y4 – Spring – Block 1 – Step 8 – Divide 2-digits by 1-digit (1) Answers

Question	Answer
1	a) Rosie has divided each type of counter into three equal groups. b) 31
2	a) 22 b) 43 c) 10 d) 12 e) 13 f) 21
3	a) No. He can exchange 1 ten counter for 10 ones. This will give him 12 ones that he can then divide into 4 equal groups. b) 14
4	a) 24 b) 23 c) 13 d) 8 e) 15 f) 16
5	5 is not divisible by 3, so 1 ten will go into each group, leaving 2 tens to be exchanged for 20 ones.
6	Amir partitioned 68 into 60 and 8. He divided each of these by 4 and added the answers together.
7	a) 14 b) 24 c) 17 d) 14
8	23
9	$98 \div 8 = 98 \div 8$ $51 \div 3 > 64 \div 4$ $95 \div 5 < 63 \div 3$ $98 \div 7 < 95 \div 5$

Y3 – Spring – Block 1 – Step 7 – Divide 2-digits by 1-digit (3) Answers

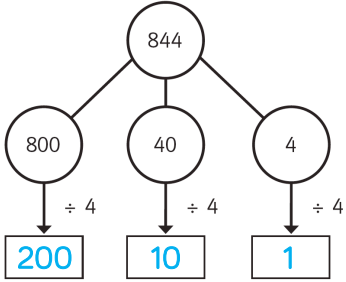
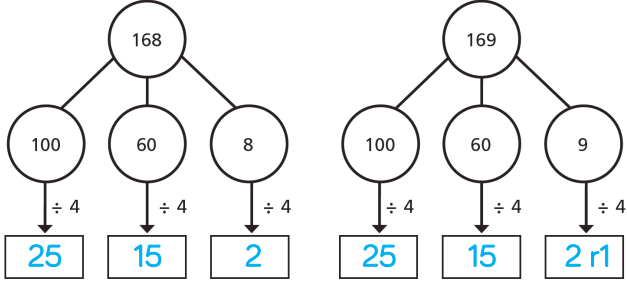
Question	Answer
1	There are 4 groups of 4 There is 1 lolly stick remaining. $17 \div 4 = 4$ remainder 1 Mo can make 4 squares.
2	There are 5 groups of 3 There are 2 lolly sticks remaining. $17 \div 3 = 5$ remainder 2 Mo can make 5 triangles.
3	There are 3 groups of 5 There are 2 lolly sticks remaining. $17 \div 5 = 3$ remainder 2 Mo can make 3 pentagons.
4	a) 5 remainder 3 b) 4 remainder 3 c) 7 remainder 2
5	No. 6 is larger than 4, so she can subtract another 4 $34 \div 4 = 8$ remainder 2
6	a) $29 \div 6 = 4$ remainder 5 b) $29 \div 7 = 4$ remainder 1 c) $29 \div 2 = 14$ remainder 1
7	75 has 5 ones so it is in the 5 times-table. 1
8	a) 21 remainder 3 b) 25 remainder 2 c) 14 remainder 4
9	51

Y4 – Spring – Block 1 – Step 9 – Divide 2-digits by 1-digit (2) Answers

Question	Answer
1	<p>a) Whitney has divided 49 into the largest possible four equal groups. This leaves one counter over.</p> <p>b) 49 is not exactly divisible by 4 so there is a remainder.</p> <p>c) $49 \div 4 = 12 \text{ r}1$</p> <p>d) $50 \div 4 = 12 \text{ r}2$ $51 \div 4 = 12 \text{ r}3$ The remainder goes up by 1 each time.</p>
2	<p>a) 15 r2</p> <p>b) 5 r1</p> <p>c) 22 r1</p> <p>d) 6 r2</p> <p>e) 8 r1</p> <p>f) 11 r3</p> <p>g) 24 r2</p> <p>h) 11 r4</p>
3	<p>a) $36 \div 4 = 9$ $37 \div 4 = 9 \text{ r}1$ $38 \div 4 = 9 \text{ r}2$ $39 \div 4 = 9 \text{ r}3$ $40 \div 4 = 10$</p> <p>b) $70 \div 5 = 14$ $71 \div 5 = 14 \text{ r}1$ $72 \div 5 = 14 \text{ r}2$ $73 \div 5 = 14 \text{ r}3$ $74 \div 5 = 14 \text{ r}4$</p> <p>c) $45 \div 3 = 15$ $46 \div 3 = 15 \text{ r}1$ $47 \div 3 = 15 \text{ r}2$ $48 \div 3 = 16$ $49 \div 3 = 16 \text{ r}1$</p> <p>d) $92 \div 4 = 23$ $91 \div 4 = 22 \text{ r}3$ $90 \div 4 = 22 \text{ r}2$ $89 \div 4 = 22 \text{ r}1$ $88 \div 4 = 22$</p>
4	<p>a) Dora has spotted a pattern. As the number being divided increases by 1, the remainder increases by 1</p> <p>b) The largest possible remainder when dividing by 4 is 3. 76 is exactly divisible by 4, so there is no remainder.</p>
5	<p>a) $75 \div 6 = 12 \text{ r}3$</p> <p>b) The number of eggs left over when she has completely filled the egg boxes.</p> <p>c) Annie can fill 12 boxes with 3 eggs left over.</p>

Y4 - Spring - Block 1 - Step 9 - Divide 2-digits by 1-digit (2) Answers (continued)

Question	Answer
6	Daffodils 12 Tulips 15 Crocuses 24 Daffodils 1 Tulips 3 Crocuses 2 7

Question	Answer
1	a) Jack has divided 844 into four equal groups. b) $844 \div 4 = 211$
2	a) 105 b) 106 c) 105 d) 301
3	 <p>The diagram shows the number 844 in a circle at the top. Three lines branch down to three smaller circles containing 800, 40, and 4. Below each of these circles is a downward arrow with a small $\div 4$ next to it. Under each arrow is a rectangular box containing the result: 200, 10, and 1 respectively.</p> <p>$844 \div 4 = 211$</p>
4	212 cm
5	Whitney could have partitioned her number different ways, e.g. $800 + 20 + 36$, but she has done the simplest partitioning for completing the division. a) 117 b) 112 c) 162 d) 121
6	 <p>The diagram shows two partitioning trees. The left tree starts with 168 in a circle, branching to 100, 60, and 8. Each is divided by 4 to give 25, 15, and 2. The right tree starts with 169 in a circle, branching to 100, 60, and 9. Each is divided by 4 to give 25, 15, and 2 r1.</p> <p>$168 \div 4 = 42$ $169 \div 4 = 42 \text{ r}1$</p> <p>The first two parts of the partitioning of the numbers are the same, but the final number is different. In the left-hand calculation there is no remainder, but there is a remainder in the right-hand calculation.</p>
7	a) 43 b) 124 r3 c) 216 d) 274 r2

Y4 - Spring - Block 1 - Step 10 - Divide 3-digits by 1-digit Answers (continued)

Question	Answer
8	a) 3 cm b) 5 cm c) 7 cm Yes. 839 pieces, each 1 cm long
9	a) Yes, e.g. 555 b) No. c) No. It is only possible to make a number that is divisible by 3. It is not possible to make a number that is not divisible by 3 using exactly 15 counters.

Y4 – Spring – Block 1 – Step 11 – Correspondence problems Answers

Question	Answer
1	a) cheese on white cheese on brown tuna on white tuna on brown chicken on white chicken on brown b) $2 \times 3 = 6$ There are 6 combinations. c) 8
2	$2 \times 5 = 10$ There are 10 combinations of pizza.
3	a) No. He has added together the number of rides and number of games. He should have multiplied them. b) big dipper, hook-a-duck big dipper, basketball big dipper, coconut shy big dipper, lucky dip big dipper, test-your-strength dodgems, hook-a-duck dodgems, basketball dodgems, coconut shy dodgems, lucky dip dodgems, test-your-strength carousel, hook-a-duck carousel, basketball carousel, coconut shy carousel, lucky dip carousel, test-your-strength Mo can make 15 different choices.
4	Aisha has more choices. Aisha has $3 \times 5 = 15$ choices and Kim has $2 \times 6 = 12$ choices.
5	a) 36 b) There are 24 combinations.
6	$5 \times 4 \times 2 = 40$ There are 40 combinations.