

Multiply 4-digits by 2-digits

1 Complete the multiplication.

		1	2	3	4	
x				2	1	
		1	2	3	4	
		2	4	6	8	0
		2	5	9	1	4

(1,234 × 1)

(1,234 × 20)

2 Tommy is calculating $1,234 \times 26$

a) Complete his working out.

		1	2	3	4	
x				2	6	
		7	4	0	4	
		2	4	6	8	0
		3	2	0	8	4

(1,234 × 6)

(1,234 × 20)

b) Fill in the grid to check Tommy's working is accurate. You may use place value counters to help.

x	1,000	200	30	4
20	20,000	4,000	600	80
6	6,000	1,200	180	24



3 Rosie is calculating $2,541 \times 42$

Here is Rosie's working.

		2	5	4	1	
x				4	2	
		4	0	8	2	
		8	0	6	4	
		1	2	1	4	6

a) Rosie has made two mistakes. What are they?

She hasn't correctly exchanged
She has multiplied by 4 not 40

b) What is the correct answer?

106,722

4 Work out the multiplications.

a) $4,284 \times 23$

b) $2,142 \times 46$

		4	2	8	4	
x				2	3	
		1	2	8	5	2
		8	5	6	8	0
		9	8	5	3	2

		2	1	4	2	
x				4	6	
		1	2	8	5	2
		8	5	6	8	0
		9	8	5	3	2

What do you notice?





Y5 WEDNESDAY

B

Copy and complete.

$$\begin{array}{r} 68 \\ \times 45 \\ \hline \end{array} \quad \begin{array}{l} (68 \times 5) \\ (68 \times 40) \end{array}$$

$$\begin{array}{r} 238 \\ \times 29 \\ \hline \end{array} \quad \begin{array}{l} (238 \times 9) \\ (238 \times 20) \end{array}$$

Work out

- | | | | |
|----|----------------|----|-----------------|
| 3 | 59×23 | 11 | 236×16 |
| 4 | 45×28 | 12 | 385×24 |
| 5 | 73×34 | 13 | 147×19 |
| 6 | 62×29 | 14 | 359×15 |
| 7 | 48×36 | 15 | 248×27 |
| 8 | 56×42 | 16 | 137×38 |
| 9 | 37×37 | 17 | 329×26 |
| 10 | 84×25 | 18 | 164×43 |

19 6 7 8 9

Using each of the above numbers once only to make two 2-digit numbers, find:

- the largest possible product
- the smallest possible product.

Y5 ANSWERS



B

1 3060

2 6902

3 1357

4 1260

5 2482

6 1798

7 1728

8 2352

9 1369

10 2100

11 3776

12 9240

13 2793

14 5385

15 6696

16 5206

17 8554

18 7052

19 a) 8352

b) 5372

Lesson 4: Multiplying numbers up to 4 digits by a 2-digit number

→ pages 38–40

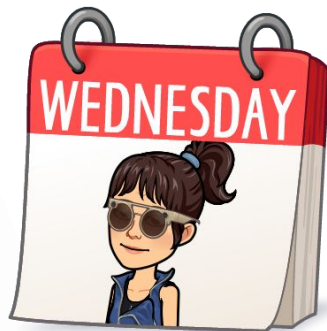
1. a) $3,125 \times 15 = 46,875$

$$\begin{array}{r} \times \\ 3 \quad 1 \quad 2 \quad 5 \\ \hline 1 \quad 5 \quad 0 \quad 0 \quad 0 \\ 3 \quad 0 \quad 0 \quad 0 \quad 0 \\ \hline 4 \quad 6 \quad 8 \quad 7 \quad 5 \end{array}$$

b) $5,123 \times 13 = 66,599$

	3,000	100	20	5
10	30,000	1,000	200	50
5	15,000	500	100	25

	5,000	100	20	3
10	50,000	1,000	200	30
3	15,000	300	60	9



$$\begin{array}{r} \times \\ 5 \quad 1 \quad 2 \quad 3 \\ \hline 1 \quad 5 \quad 3 \quad 6 \quad 9 \\ 5 \quad 1 \quad 2 \quad 3 \quad 0 \\ \hline 6 \quad 6 \quad 5 \quad 9 \quad 9 \end{array}$$

c) $1,972 \times 24 = 47,328$

2. a) $365 \times 24 = 8,760$

There will be 8,760 hours in 2021.

b) $3,600 \times 24 = 86,400$

There are 86,400 seconds in a day.

3. Column multiplication showing:

$5,056 \times 7 = 35,392$; $35,392 \times 2 = 70,784$;

$5,056 \times 14 = 70,784$

An explanation that $2 \times 7 = 14$ so you can first multiply 5,056 by 7 and then the answer by 2 and this will give the same answers as $5,056 \times 14$.

4. $17 \times 379 = 6,443$

The pool has 6,443 litres of water in it, so it is not full.

5. $3,629 \times 55 = 199,595$

Reflect

Reasoning may vary, for example:

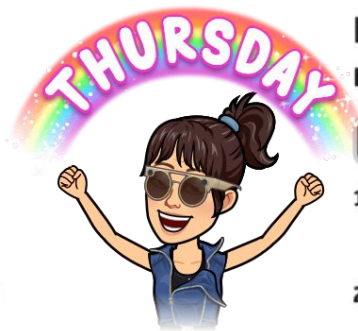
$1,254 \times 21 = 26,334$; $2,508 \times 11 = 27,588$ so $2,508 \times 11$ is larger.

$2,508 \times 11 = 1,254 \times 2 \times 11 = 1,254 \times 22$, which is larger than $1,254 \times 21$ so $2,508 \times 11$ is larger.

Lesson 7: Mental calculations (I)

→ pages 79–81

- 57
 - 396
 - $35 \times 9 = 315$; $10 \times 35 = 350$
- Kate receives 3p change.
 - Ebo spends £4.75 in total. He receives £15.25 change.
- 200
 - 250
 - 300
 - 225
- Explanations may vary, for example: Sofia rounded 98 to 100 and worked out $6 \times 100 = 600$. She added 2 cm to each length of wood, so she needs to subtract 6×2 from her answer. Sofia's mistake was that she subtracted 6 not 12. The correct answer is 588 cm or 5 m and 88 cm.
- Explanations may vary – encourage children to use mental methods to work out that $9 \times 49 = 9 \times 50 - 9 = 441$. Then use mental maths to solve $9 \times 25 = 10 \times 25 - 25 = 225$. Use subtraction to work out $441 - 225 = 216$ and use addition to work out $441 + 225 = 666$.



Lesson 8: Multiplying whole numbers by 10, 100 and 1,000

→ pages 129–131

- $4 \times 100 = 400$
 - $10 \times 6 = 60$ (6 ten counters drawn)
 - $1,000 \times 5 = 5,000$ (5 thousand counters drawn)
- Diagrams matched:

1st diagram → 1×3
 2nd diagram → 100×3
 3rd diagram → $3 \times 1,000$
 4th diagram → 10×10
- $11 \times 1 = 11$
 - $11 \times 100 = 1,100$
 - $11 \times 10 = 110$
 - $11 \times 1,000 = 11,000$
- Errors corrected: $40 \times 100 = 4,000$ (not 400)
 $1,000 \times 20 = 20,000$ (not 2,000)

5.

	TTh	Th	H	T	O
Number				3	7
$\times 10$			3	7	0
$\times 100$		3	7	0	0
$\times 1,000$	3	7	0	0	0

	TTh	Th	H	T
Number				7
$\times 10$			7	0
$\times 100$		7	0	0
$\times 1,000$	7	0	0	0

- $5 \times 10 = 50$
 $50 \times 10 = 500$
 $50 \times 100 = 5,000$
 $5 \times 1,000 = 5,000$
 - $3 \times 1,000 = 3,000$
 $300 \times 10 = 3,000$
 $300 \times 100 = 30,000$
 $300 \times 1 = 300$
 - $15 \times 1,000 = 15,000$
 $100 \times 15 = 1,500$
 $1,500 = 150 \times 10$
 $15,000 = 150 \times 100$
 Children may explain what they notice in different ways; for example:
 Each set of calculations are related.
- Answers will vary; for example:
 $8 \times 100 < 90 \times 10$
 $5 \times 10 \times 10 < 20 \times 100$
 $100 \times 50 > 10 \times 10 \times 10 \times 4$
 $7 \times 10 < 10 \times 10 \times 6 < 10 \times 100$
 - Possible answers (the order of operations may vary):
 $2 \times 1,000 \times 10 = 2,000 \times 10$
 $2 \times 100 \times 100 = 2,000 \times 10$
 $2 \times 1,000 \times 100 = 2,000 \times 100$
 $2 \times 1,000 \times 1,000 = 2,000 \times 1,000$
 $20 \times 100 = 200 \times 10$
 $20 \times 1,000 = 200 \times 100$
 $2,000 \times 10 = 200 \times 100$
 $2,000 \times 100 = 200 \times 1,000$