



1) a) 10 234

		2	3	8
	×		4	3
<hr/>				
		7	1	4
		1	2	
	9	5	2	0
	1	3		
<hr/>				
1	0	2	3	4

(238 × 3)

(238 × 40)

b) 41 172

		5	6	4
	×		7	3
<hr/>				
	1	6	9	2
		1	1	
3	9	4	8	0
	4		2	
<hr/>				
4	1	1	7	2

(564 × 3)

(564 × 70)

c) 29 960

		8	5	6
	×		3	5
<hr/>				
	4	2	8	0
		2	3	
2	5	6	8	0
	1	1		
<hr/>				
2	9	9	6	0

(856 × 5)

(856 × 30)

- 2) a) 34 558cm²
 b) 22 230cm²
 c) 73 584cm²

1) a) Laila has not used zero as a placeholder when multiplying 2 × 40. She has recorded the answer as 8 rather than 80.

		5	2	2
	×		4	4
<hr/>				
	2	0	8	8
<hr/>				
2	0	8	8	0
<hr/>				
2	2	9	6	8

(522 × 4)

(522 × 40)



b) Laila has not recorded the regrouped thousands digit following 50 × 20.

		6	5	3
	×		2	3
<hr/>				
	1	9	5	9
		1		
1	3	0	6	0
	1			
<hr/>				
1	5	0	1	9

c) When Laila added the two products together to find the total, she added all the regrouped digits as well.

		2	3	7
	×		6	2
<hr/>				
		4	7	4
		1		
1	4	2	2	0
	2	4		
<hr/>				
1	4	6	9	4

(522 × 4)

(522 × 40)

- 2) a) 20 536
 b) 20 328
 c) 208

1)

		4	2	7
	×		3	2
<hr/>				
		8	5	4
1	2	8	1	0
<hr/>				
1	3	6	6	4

		6	5	3
	×		4	6
<hr/>				
	3	9	1	8
2	6	1	2	0
<hr/>				
3	0	0	3	8



2) Children may first notice that B must be 5, because it's the only number that multiplies with another number (C) to make a product that also ends in a 5. C could therefore either be 3 (3 × 5 = 15) or 7 (7 × 5 = 35).

Children may then notice that C + D = 5, so C and D must be 2 or 3. C must therefore be 3.

C = 3, so A × 3 = D. If A were 2, this would give 6, adding the regrouped 1 to make D = 7. However, in the hundreds column, A × C = 2 × 3 = 6. This does not work with the letters for the first product. Therefore, A must be 7 and D must be 2.

		7	7	5
	×		3	3
<hr/>				
	2	3	2	5
2	3	2	5	0
<hr/>				
2	5	5	7	5

Number	Letter
2	D
3	C
5	B
7	A



1) Identify the missing digits in these calculations.

		4	<input type="text"/>	<input type="text"/>
	×		<input type="text"/>	2
<hr/>				
		8	5	4
1	2		1	0
1	<input type="text"/>	6	<input type="text"/>	4

		<input type="text"/>	5	3
	×		<input type="text"/>	6
<hr/>				
	3	<input type="text"/>	<input type="text"/>	8
2		1	2	0
<input type="text"/>	<input type="text"/>	0	3	8

2) Each letter matches a number – either 2, 3, 5 or 7. Can you work out which letter corresponds to which number to solve the calculation correctly? The zero placeholder has been put into the calculation for you.

		A	A	B
	×		C	C
<hr/>				
	D	C	D	B
D	C	D	B	0
D	B	B	A	B

Number	Letter
2	
3	
5	
7	

<hr/>				
<hr/>				

Diving into Mastery



Multiply 3 Digits by 2 Digits

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



Diving



Deeper



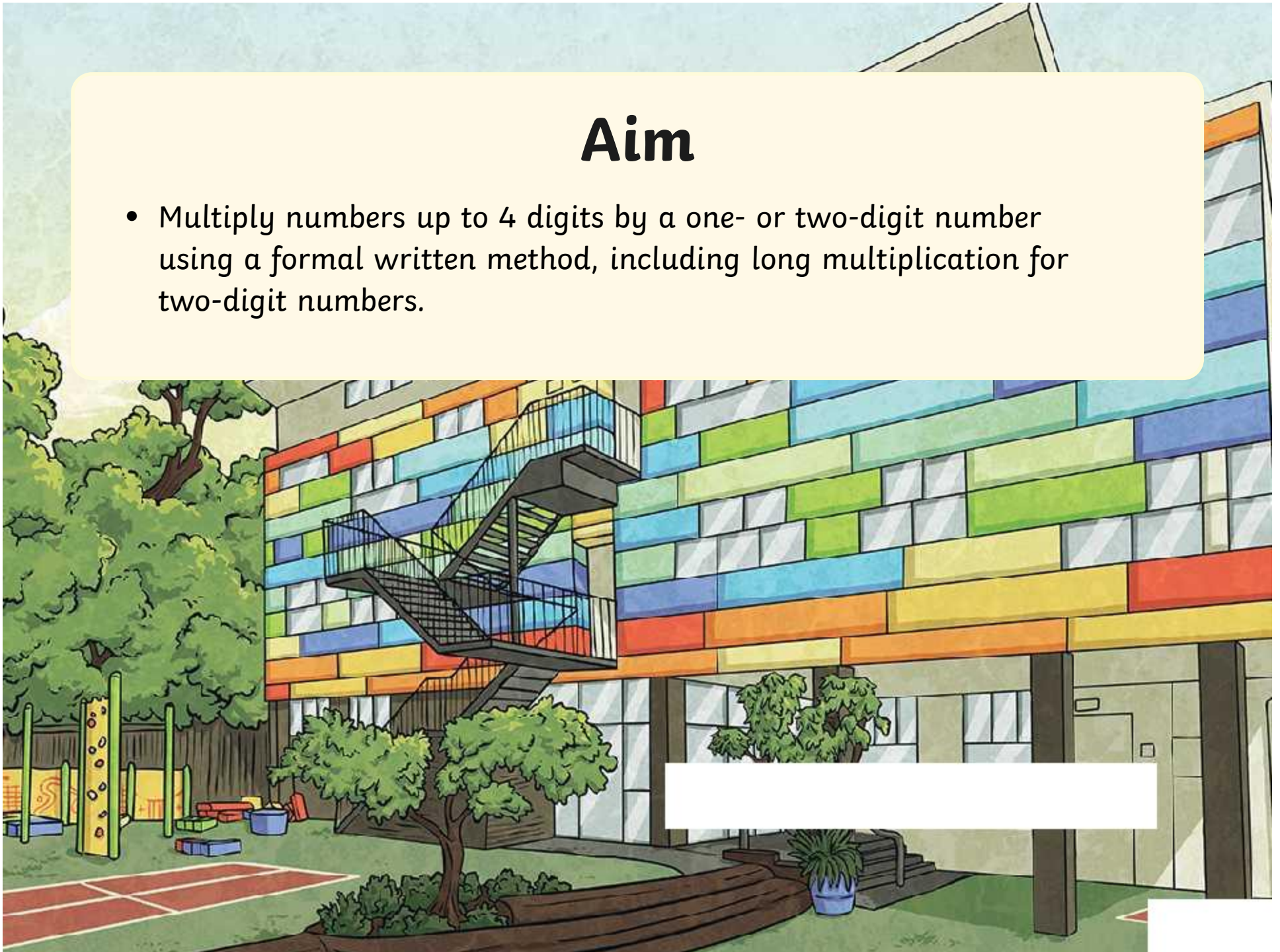
Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

Aim

- Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.



Multiply 3 Digits by 2 Digits

Diving



Complete these calculations using long multiplication.

$$328 \times 73 = 23\,944$$

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

(328 × 3)

(328 × 70)

$$357 \times 21 = 7497$$

		3	5	7	
	×		2	1	
		3	5	7	
7	1	4	0		
	1	1			
		7	4	9	7

(357 × 1)

(357 × 20)

Multiply 3 Digits by 2 Digits

Diving



Ms Green, the Twinkl School site manager, is working out the area of the class flowerbeds ready for the children to plant some seeds.

What is the area of each flower bed?

Green = **18 788cm²**

Blue = **45 080cm²**

Yellow = **19 845cm²**



Multiply 3 Digits by 2 Digits

Deeper



Alex has been practising long multiplication. For each question, spot the mistake he has made and explain where he has gone wrong. Then, complete the calculation and work out the correct answer.

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

Alex has not used zero as a placeholder when calculating 5×20 , so the answer to this has been recorded as 10 rather than 100.

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

Alex did not record the regrouped ten from 5×3 .

Multiply 3 Digits by 2 Digits

Deeper



Twinkl Primary School is ordering stationery ready for September.

357 boxes of pencils and 223 boxes of pens are ordered. Pens come in boxes of 26 and pencils come in boxes of 34.

How many pencils have they ordered altogether?

$$357 \times 34 = 12\,138$$

What is the total number of pens that they ordered?

$$223 \times 26 = 5798$$

Multiply 3 Digits by 2 Digits

Deepest



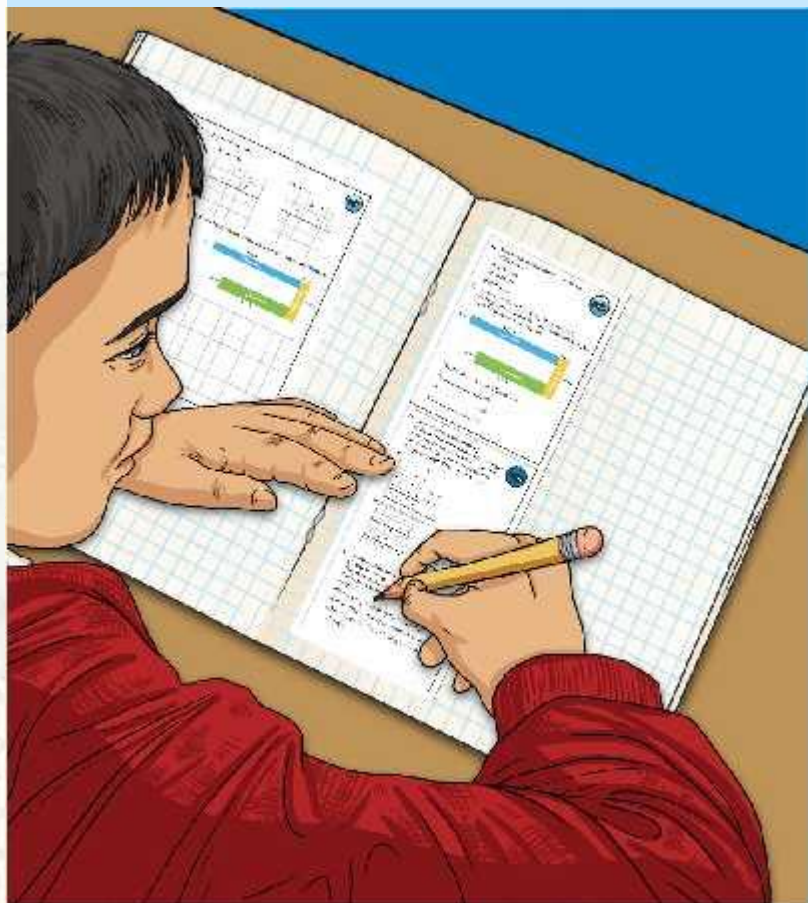
Identify the missing digits in these calculations.

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

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

Multiply 3 Digits by 2 Digits

Dive in by completing your own activity!



30. Level 1

31. Calculate

32. Draw an

33. Use the same information to complete the following.

20	30	40
10	20	30
5	10	15
2	4	6
1	2	3

30	40	50
20	30	40
10	20	30
5	10	15
2	4	6
1	2	3

40	50	60
30	40	50
20	30	40
10	20	30
5	10	15
2	4	6
1	2	3

34. Use the information to complete the following.

100	200	300
50	100	150
20	40	60
10	20	30
5	10	15
2	4	6
1	2	3

35. Use the information to complete the following.

100	200	300
50	100	150
20	40	60
10	20	30
5	10	15
2	4	6
1	2	3

36. Use the information to complete the following.

100	200	300
50	100	150
20	40	60
10	20	30
5	10	15
2	4	6
1	2	3

37. Use the information to complete the following.

100	200	300
50	100	150
20	40	60
10	20	30
5	10	15
2	4	6
1	2	3

38. Use the information to complete the following.

100	200	300
50	100	150
20	40	60
10	20	30
5	10	15
2	4	6
1	2	3

39. Use the information to complete the following.

100	200	300
50	100	150
20	40	60
10	20	30
5	10	15
2	4	6
1	2	3

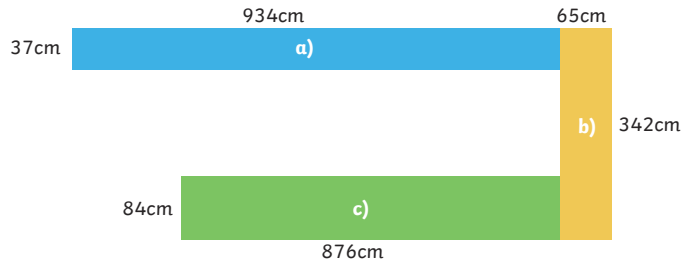


1) Complete these calculations using long multiplication.



- a) 238×43
- b) 564×73
- c) 856×35

2) Mr Star, the Twinkl Academy site manager, is working out the area of the class flowerbeds ready for the children to plant some seeds.



What is the area of each flowerbed?

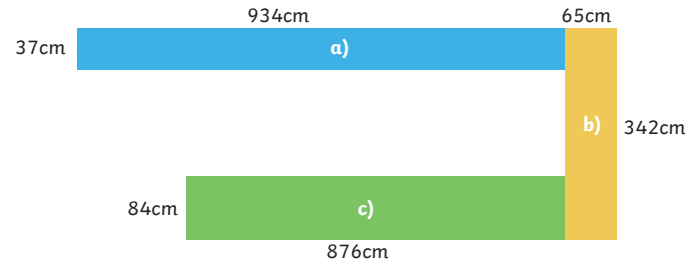
- a) _____ cm^2
- b) _____ cm^2
- c) _____ cm^2

1) Complete these calculations using long multiplication.



- a) 238×43
- b) 564×73
- c) 856×35

2) Mr Star, the Twinkl Academy site manager, is working out the area of the class flowerbeds ready for the children to plant some seeds.



What is the area of each flowerbed?

- a) _____ cm^2
- b) _____ cm^2
- c) _____ cm^2

1) Laila has been practising long multiplication. For each question, spot the mistake she has made and explain where she has gone wrong. Then, complete the calculation and work out the correct answer.



a)

	5	2	2	
x		4	4	
<hr/>				
2	0	8	8	(522 x 4)
2	0	8	8	(522 x 40)
<hr/>				
4	1	7	6	
<hr/>				
	1			

b)

		6	5	3	
	x		2	3	
<hr/>					
	1	9	5	9	
		1			
1	2	0	6	0	
<hr/>					
1	4	0	1	9	
<hr/>					
	1	1			

c)

		2	3	7	
	x		6	2	
<hr/>					
		4	7	4	
			1		
1	4	2	2	0	
		2			
<hr/>					
1	7	1	0	4	
<hr/>					
	1	1			

2) Twinkl Garden Centre is ordering bulbs and packets of seeds for spring. They order 604 boxes of bulbs and 726 packets of seeds. There are 34 bulbs in a box and 28 packets of seeds in a bag.

- a) How many bulbs will arrive in total?
- b) How many packets of seeds will arrive in total?
- c) How many more bulbs will they have than packets of seeds?

1) Laila has been practising long multiplication. For each question, spot the mistake she has made and explain where she has gone wrong. Then, complete the calculation and work out the correct answer.



a)

	5	2	2	
x		4	4	
<hr/>				
2	0	8	8	(522 x 4)
2	0	8	8	(522 x 40)
<hr/>				
4	1	7	6	
<hr/>				
	1			

b)

		6	5	3	
	x		2	3	
<hr/>					
	1	9	5	9	
		1			
1	2	0	6	0	
<hr/>					
1	4	0	1	9	
<hr/>					
	1	1			

c)

		2	3	7	
	x		6	2	
<hr/>					
		4	7	4	
			1		
1	4	2	2	0	
		2			
<hr/>					
1	7	1	0	4	
<hr/>					
	1	1			

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- a) How many bulbs will arrive in total?
- b) How many packets of seeds will arrive in total?
- c) How many more bulbs will they have than packets of seeds?

1) Identify the missing digits in these calculations.



		4	<input type="text"/>	<input type="text"/>			<input type="text"/>	5	3
	×		<input type="text"/>	2		×		<input type="text"/>	6
		8	5	4		3	<input type="text"/>	<input type="text"/>	8
1	2		1	0	2		1	2	0
1	<input type="text"/>	6	<input type="text"/>	4	<input type="text"/>	<input type="text"/>	0	3	8

2) Each letter matches a number – either 2, 3, 5 or 7. Can you work out which letter corresponds to which number to solve the calculation correctly? The zero placeholder has been put into the calculation for you.

		A	A	B	Number	Letter
	×		C	C	2	
	D	C	D	B	3	
D	C	D	B	0	5	
D	B	B	A	B	7	

1) Identify the missing digits in these calculations.



		4	<input type="text"/>	<input type="text"/>			<input type="text"/>	5	3
	×		<input type="text"/>	2		×		<input type="text"/>	6
		8	5	4		3	<input type="text"/>	<input type="text"/>	8
1	2		1	0	2		1	2	0
1	<input type="text"/>	6	<input type="text"/>	4	<input type="text"/>	<input type="text"/>	0	3	8

2) Each letter matches a number – either 2, 3, 5 or 7. Can you work out which letter corresponds to which number to solve the calculation correctly? The zero placeholder has been put into the calculation for you.

		A	A	B	Number	Letter
	×		C	C	2	
	D	C	D	B	3	
D	C	D	B	0	5	
D	B	B	A	B	7	