

Reasoning and Problem Solving

Step 1: Multiply 4-Digits with 1-Digit

National Curriculum Objectives:

Mathematics Year 5: (5C7a) [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](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Identify and correct mistakes when multiplying a 4-digit number by a 1-digit number with no exchanges. 1 error to find.

Expected Identify and correct mistakes when multiplying a 4-digit number by a 1-digit number with one exchange. 1 error to find.

Greater Depth Identify and correct mistakes when multiplying a 4-digit number by a 1-digit number with more than one exchange. 2 errors to find.

Questions 2, 5 and 8 (Problem Solving)

Developing Find the missing digits in a calculation when there are no exchanges.

Expected Find the missing digits in a calculation when there is only 1 exchange.

Greater Depth Find the missing digits in a calculation when there is more than 1 exchange.

Questions 3, 6 and 9 (Reasoning)

Developing Use knowledge of multiplying a 4-digit number by a 1-digit number to answer a word problem. No exchanges.

Expected Use knowledge of multiplying a 4-digit number by a 1-digit number to answer a word problem. Exchange in one column only.

Greater Depth Use knowledge of multiplying a 4-digit number by a 1-digit number to answer a word problem. Exchange in more than one column.

[More resources](#) which follow the same small steps as White Rose.

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Multiply 4-Digits with 1-Digit

Multiply 4-Digits with 1-Digit

1a. Mateo has completed the following calculations.

$$4,341 \times 2 = 8,682$$

$$1,203 \times 3 = 3,609$$

$$3,213 \times 3 = 6,536$$

$$2,122 \times 4 = 8,488$$

Mark and correct his work.



PS

1b. Elspeth has completed the following calculations.

$$2,231 \times 3 = 6,693$$

$$1,001 \times 9 = 9,009$$

$$3,310 \times 3 = 9,933$$

$$2,413 \times 2 = 4,826$$

Mark and correct her work.



PS

2a. Work out the missing numbers.

Th	H	T	O
	2	4	
			2
2		8	8

x



PS

2b. Work out the missing numbers.

Th	H	T	O
2		3	
			3
	0	9	3

x



PS

3a. A PC costs £1,202.

Mr Costa buys 4 for his business.

He says,

The total cost of the PCs is £4,846.



Is he correct? Prove it.



R

3b. A family weekend away costs £1,032.

The Juarez and Adams families go away for the weekend.

Mrs Juarez says,

The total cost for the 2 families is £2,064.



Is she correct? Prove it.



R

Multiply 4-Digits with 1-Digit

Multiply 4-Digits with 1-Digit

4a. Freddie has completed the following calculations.

$$2,231 \times 4 = 8,924$$

$$1,207 \times 4 = 4,828$$

$$2,613 \times 3 = 7,839$$

$$4,283 \times 2 = 8,466$$

Mark and correct his work.



PS

4b. Susan has completed the following calculations.

$$1,902 \times 4 = 7,608$$

$$1,121 \times 5 = 5,605$$

$$4,207 \times 2 = 8,414$$

$$2,631 \times 3 = 7,863$$

Mark and correct her work.



PS

5a. Work out the missing numbers.

Th	H	T	O
	6	4	3
3		8	6

x



PS

5b. Work out the missing numbers.

Th	H	T	O
2	4		
			3
	2	9	6

x



PS

6a. A family holiday costs £2,174.

The Jones family have invited the Liu family to join them.

Mr Jones says,

The total cost of the holiday for both families will be £4,346.



Is he correct? Prove it.



R

6b. A TV package costs £3,281.

Three families from Alpha Street buy the same package from the shop.

Mrs Best says,

The total cost of the 3 packages will be £9,843.



Is she correct? Prove it.



R

Multiply 4-Digits with 1-Digit

Multiply 4-Digits with 1-Digit

7a. Elias has completed the following calculations.

$$2,432 \times 5 = 12,160$$

$$3,567 \times 2 = 7,139$$

$$1,458 \times 4 = 5,934$$

$$2,687 \times 3 = 8,061$$

Mark and correct his work.



PS

7b. Erin has completed the following calculations.

$$1,734 \times 5 = 8,650$$

$$2,931 \times 8 = 23,441$$

$$3,049 \times 6 = 18,294$$

$$2,173 \times 4 = 8,692$$

Mark and correct her work.



PS

8a. Work out the missing numbers.

TTh	Th	H	T	O	
	4		8	1	
				5	x
	1	4	0	5	



PS

8b. Work out the missing numbers.

TTh	Th	H	T	O	
	3	7	6	2	
					x
1	5		4	8	



PS

9a. A decorator charges £1,278 per room.

Alison has decided to have 6 rooms decorated.

She says,

The total cost of the decorating will be £7,652.



Is she correct? Prove it.



R

9b. Mr Suarez's car costs £9,615.

He decides to buy his wife the same car.

He says,

The total cost of the 2 cars will be £19,230.



Is he correct? Prove it.



R

Reasoning and Problem Solving

Multiply 4-Digits with 1-Digit

Developing

1a. 8,682 ✓

3,609 ✓

6,536 x ; 9,639

8,488 ✓

2a.

Th	H	T	O
1	2	4	4
			2
2	4	8	8

x

3a. No, Mr Costa is not correct.

£1,202 x 4 = £4,808

Expected

4a. 8,924 ✓

4,828 ✓

7,839 ✓

8,466 x ; 8,566

5a.

Th	H	T	O
1	6	4	3
			2
3	2	8	6

x

6a. No, Mr Jones is not correct.

£2174 x 2 = £4,348

Greater Depth

7a. 12,160 ✓

7,139 x ; 7,134

5,934 x ; 5,832

8,061 ✓

8a.

TTh	Th	H	T	O
	4	2	8	1
				5
2	1	4	0	5

x

9a. No, Alison is not correct.

£1,278 x 6 = £7,668

Reasoning and Problem Solving

Multiply 4-Digits with 1-Digit

Developing

1b. 6,693 ✓

9,009 ✓

9,933 x ; 9,930

4,826 ✓

2b.

Th	H	T	O
2	0	3	1
			3
6	0	9	3

x

3b. Yes, Mrs Juarez is correct.

£1,032 x 2 = £2,064

Expected

4b. 7,608 ✓

5,605 ✓

8,414 ✓

7,863 x ; 7,893

5b.

Th	H	T	O
2	4	3	2
			3
7	2	9	6

x

6b. Yes, Mrs Best is correct.

£3,281 x 3 = £9,843

Greater Depth

7b. 8,650 x ; 8,670

23,441 x ; 23,448

18,294 ✓

8,692 ✓

8b.

TTh	Th	H	T	O
	3	7	6	2
				4
1	5	0	4	8

x

9b. Yes, Mr Suarez is correct.

£9,615 x 2 = £19,230