

Reasoning and Problem Solving

Step 5: Multiply 4-Digits by 2-Digits

National Curriculum Objectives:

Mathematics Year 5: (5C6a) [Multiply and divide numbers mentally drawing upon known facts](#)

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 Find missing numbers in a multiplication calculation. No exchange. Digit cards to support.

Expected Find missing numbers in a multiplication calculation. Up to one exchange per calculation.

Greater Depth Find missing numbers in a multiplication calculation. One or more exchanges per calculation.

Questions 2, 5 and 8 (Problem Solving)

Developing Use multiplication to find missing numbers in a calculation to achieve a given answer. No exchange.

Expected Use multiplication to find missing numbers in a calculation to achieve a given answer. Up to one exchange per calculation.

Greater Depth Use multiplication to find missing numbers in a calculation to achieve a given answer. One or more exchanges per calculation.

Questions 3, 6 and 9 (Reasoning)

Developing Explain whether a word problem is correct by multiplying 4-digits by 2-digits. No exchange.

Expected Explain whether a word problem is correct by multiplying 4-digits by 2-digits. Up to one exchange per calculation.

Greater Depth Explain whether a word problem is correct by multiplying 4-digits by 2-digits. One or more exchanges per calculation.

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

Did you like this resource? Don't forget to [review](#) it on our website.

Multiply 4-Digits by 2-Digits

Multiply 4-Digits by 2-Digits

1a. Work out the missing numbers using the digit cards below.

$$\begin{array}{r}
 1 \quad 2 \quad 3 \quad 4 \\
 \times \quad \square \quad 1 \\
 \hline
 \square \quad 2 \quad 3 \quad 4 \quad (1,234 \times 1) \\
 1 \quad 2 \quad 3 \quad \square \quad 0 \quad (1,234 \times 10) \\
 \hline
 \square \quad 3 \quad 5 \quad 7 \quad 4
 \end{array}$$



4 1 1 1

PS

1b. Work out the missing numbers using the digit cards below.

$$\begin{array}{r}
 3 \quad 3 \quad 2 \quad 1 \\
 \times \quad 1 \quad \square \\
 \hline
 6 \quad \square \quad 4 \quad 2 \quad (3,321 \times 2) \\
 \square \quad 3 \quad 2 \quad 1 \quad 0 \quad (3,321 \times 10) \\
 \hline
 3 \quad 9 \quad 8 \quad \square \quad 2
 \end{array}$$



5 6 3 2

PS

2a. Use two of these digit cards to create a multiplication to equal approximately 25,000.

$$2,124 \times \underline{\hspace{2cm}}$$

1 2 3 6



PS

2b. Use two of these digit cards to create a multiplication to equal approximately 15,000.

$$1,233 \times \underline{\hspace{2cm}}$$

1 2 3 6

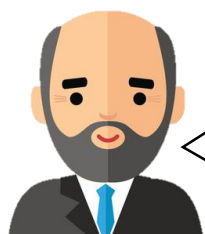


PS

3a. A sofa costs £1,213.

12 families buy a sofa each.

The furniture salesperson says,



The total cost is
£15,556

Is he correct? Explain your answer.



R

3b. A car costs £3,422.

11 families buy a car each.

The car sales person says,

The total cost is
£37,642



Is she correct? Explain your answer.



R

Multiply 4-Digits by 2-Digits

Multiply 4-Digits by 2-Digits

4a. Work out the missing numbers.

$$\begin{array}{r} 6224 \\ \times \boxed{} 2 \\ \hline 1 \boxed{} 448 \\ 1 \\ 622 \boxed{} 0 \\ \hline \boxed{} 4688 \end{array}$$



PS

4b. Work out the missing numbers.

$$\begin{array}{r} 4321 \\ \times 1 \boxed{} \\ \hline 12 \boxed{} 63 \\ \boxed{} 3210 \\ \hline 561 \boxed{} 3 \\ \hline 1 \end{array}$$



PS

5a. Use two of these digit cards to create a multiplication to equal approximately 17,000.

1,422 x _____

1

2

3

8



PS

5b. Use two of these digit cards to create a multiplication to equal approximately 26,000.

2,143 x _____

1

2

3

8



PS

6a. A TV package costs £1,419 per house.

11 houses on Brook Street buy this package.

The TV salesperson says,

The total cost is
£15,609



Is she correct? Explain your answer.



R

6b. A holiday costs £3,208 per family.

14 families buy the same holiday.

The holiday salesperson says,



The total cost is
£45,912

Is he correct? Explain your answer.



R

Multiply 4-Digits by 2-Digits

Multiply 4-Digits by 2-Digits

7a. Work out the missing numbers.

$$\begin{array}{r}
 3 7 3 9 \\
 \times 1 \boxed{} \\
 \hline
 1 8 \boxed{} 9 5 \\
 3 1 4 \\
 3 7 3 9 \boxed{} \\
 \hline
 5 6 0 \boxed{} 5 \\
 \hline
 1 1 1
 \end{array}$$



PS

7b. Work out the missing numbers.

$$\begin{array}{r}
 8 4 6 2 \\
 \times \boxed{} 7 \\
 \hline
 \boxed{} 9 2 3 4 \\
 3 4 1 \\
 4 2 \boxed{} 1 0 0 \\
 2 3 1 \\
 4 \boxed{} 2 3 3 4 \\
 \hline
 1
 \end{array}$$



PS

8a. Use two of these digit cards to create a multiplication to equal approximately 482,000.

$$7,198 \times \underline{\hspace{2cm}}$$



PS

8b. Use two of these digit cards to create a multiplication to equal approximately 501,000.

$$8,946 \times \underline{\hspace{2cm}}$$



PS

9a. A motorbike costs £6,259.

83 customers buy a motorbike.

The motorbike sales person says,

The total cost is
£520,497.



Is she correct? Explain your answer.



R

9b. A caravan costs £9,359.

64 caravans are sold.

The caravan sales person says,

The total cost is
£598,976.



Is he correct? Explain your answer.



R

Reasoning and Problem Solving

Multiply 4-Digits by 2-Digits

Developing

1a.

$$\begin{array}{r}
 1\ 2\ 3\ 4 \\
 \times \quad 1\ 1 \\
 \hline
 1\ 2\ 3\ 4 \quad (1,234 \times 1) \\
 1\ 2\ 3\ 4\ 0 \quad (1,234 \times 10) \\
 \hline
 1\ 3\ 5\ 7\ 4
 \end{array}$$

2a. $2,124 \times 12 = 25,488$

3a. No, he is not correct.

$\pounds 1,213 \times 12 = \pounds 14,556$

Expected

4a.

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

5a. $1,422 \times 12 = 17,064$

6a. Yes, she is correct.

$\pounds 1,419 \times 11 = \pounds 15,609$

Greater Depth

7a.

$$\begin{array}{r}
 3\ 7\ 3\ 9 \\
 \times \quad 1\ 5 \\
 \hline
 1\ 8\ 6\ 9\ 5 \\
 3\ 7\ 3\ 9\ 0 \\
 \hline
 5\ 6\ 0\ 8\ 5
 \end{array}$$

8a. $7,198 \times 67 = 482,266$

9a. No, she is not correct.

$\pounds 6,259 \times 83 = \pounds 519,497$

Reasoning and Problem Solving

Multiply 4-Digits by 2-Digits

Developing

1b.

$$\begin{array}{r}
 3\ 3\ 2\ 1 \\
 \times \quad 1\ 2 \\
 \hline
 6\ 6\ 4\ 2 \quad (3,321 \times 2) \\
 3\ 3\ 2\ 1\ 0 \quad (3,321 \times 10) \\
 \hline
 3\ 9\ 8\ 5\ 2
 \end{array}$$

2b. $1,233 \times 12 = 14,796$

3b. Yes, she is correct.

$\pounds 3,422 \times 11 = \pounds 37,642$

Expected

4b.

$$\begin{array}{r}
 4\ 3\ 2\ 1 \\
 \times \quad 1\ 3 \\
 \hline
 1\ 2\ 9\ 6\ 3 \\
 4\ 3\ 2\ 1\ 0 \\
 \hline
 5\ 6\ 1\ 7\ 3
 \end{array}$$

5b. $2,143 \times 12 = 25,716$

6b. No, he is not correct.

$\pounds 3,208 \times 14 = \pounds 44,912$

Greater Depth

7b.

$$\begin{array}{r}
 8\ 4\ 6\ 2 \\
 \times \quad 5\ 7 \\
 \hline
 5\ 9\ 2\ 3\ 4 \\
 4\ 2\ 3\ 1\ 0\ 0 \\
 \hline
 4\ 8\ 2\ 3\ 3\ 4
 \end{array}$$

8b. $8,946 \times 56 = 500,976$

9b. Yes, he is correct.

$\pounds 9,358 \times 64 = \pounds 598,912$