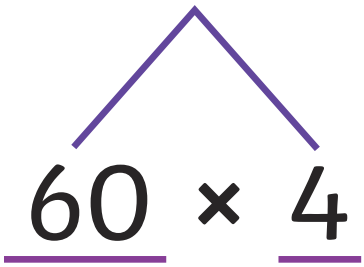
Multiplication Strategies

Multiplication Magic



Draw the wizard's hat to find the facts to calculate.

$$6 \times 4 = 24$$

Multiply the answer by 10/100/1000.

$$60 \times 4 = 24$$

Write your final answer.

$$60 \times 4 = 240$$

Remember

- Draw the wizard's hat.
- Use your multiplication facts to calculate.
- If we know: 6 × 4 = 24.
- Then we know 60 × 4 = 240.

6 × 4 = 24

60 × 4 = 240

60 × 40 = 2,400

6,000 × 40 = 240,000

Multiplication Strategies

Partial Product Method

50 + 2 and 30 + 8

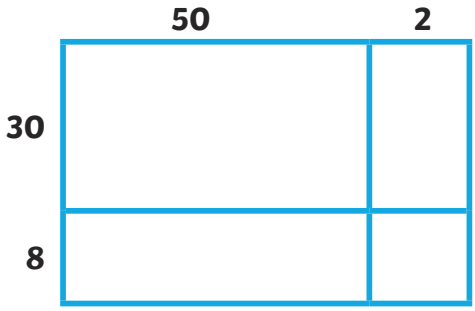
Multiply each decomposed number together and add the products.

$$
\begin{aligned}
50 \times 30 &= 1{,}500 \\
2 \times 30 &= 60 \\
50 \times 8 &= 400 \\
2 \times 8 &= 16 \\
&\underline{\quad\quad 1{,}976}
\end{aligned}
$$

52 × 38 = 1,976

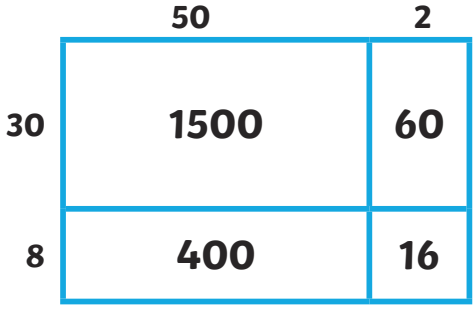
Multiplication Strategies

Area Model



Draw a rectangle.

Write the decomposed numbers at the top and left of the rectangle.



Multiply the decomposed numbers.

1,500
400
60
16
1,976

Add the products.

52 × 38 = 1,976

Multiplication Strategies

Column Method

52 × 38	Write the numbers above each other in columns.
52 × 38 416	Multiply 52 × 8.
52 × 38 416 1,560	Multiply 52 × 30.
416 + 1,560 416	Add the products.

52 × 38 = 1,976

Multiplication Strategies

Expanded Column Method

- Line up the ones and the tens.
- Multiply the ones.
- Multiply the tens.
- Add the totals together.

42	
× 6	
12	(2 × 6)
240	(40 × 6)
252	

42 × 6 = 252

Multiplication Strategies

Column Method

3-digit × 2-digit regrouping not shown

368 × 24	Write the numbers above each other in columns.
368 × 24 1,472	Multiply 368 × 4.
368 × 24 1,472 7,360	Multiply 368 × 20.
1,472 + 7,360 8,832	Add the products.

368 × 24 = 8,832

Multiplication Strategies

Column Method

4-digit × 2-digit regrouping not shown

5,368 **× 24**	Write the numbers above each other in columns.
5,368 **× 24** **21,472**	Multiply 5,368 × 4.
5,368 **× 24** **21,472** **107,360**	Multiply 5,368 × 20.
21,472 **+ 107,360** **128,832**	Add the products.

5,368 × 24 = 128,832

Multiplication Strategies

Column Method

5-digit × 2-digit regrouping not shown

25,368	
× 24	Write the numbers above each other in columns.
25,368	
× 24	
101,472	Multiply 25,368 × 4.
25,368	
× 24	
101,472	
507,360	Multiply 25,368 × 20.
101,472	
+ 507,360	
608,832	Add the products.

25,368 × 24 = 608,832

Multiplication Strategies

Column Method

6-digit × 2-digit regrouping not shown

125,368
× 24 Write the numbers above each other in columns.

125,368
× 24
501,472 Multiply 125,368 × 4.

125,368
× 24
501,472
2,507,360 Multiply 125,368 × 20.

501,472
+ 2,507,360
3,008,832 Add the products.

125,368 × 24 = 3,008,832

Multiplication Strategies

Multiplying by 10

Use place value to work out how to multiply by 10.

674 × 10 = ?

If you multiply a number by 10, the digits move one place value to the left.

Thousands	Hundreds	Tens	Ones
	6	7	4

Thousands	Hundreds	Tens	Ones
6	7	4	0

Use place value to work out how to multiply by 100.

Ten Thousands	Thousands	Hundreds	Tens	Ones
		6	7	4

Ten Thousands	Thousands	Hundreds	Tens	Ones
6	7	4	0	0

Use place value to work out how to multiply by 100.

674 × 100 = 67,400

Multiplication Strategies

Multiplying Decimals by 10

If you multiply a number by 10, the digits move one place value to the left.

6.74 × 10 = ?

If you multiply a number by 10, the digits move one place value to the left.

Hundreds	Tens	Ones	Tenths	Hundredths
		6 .	7	4

Hundreds	Tens	Ones	Tenths	Hundredths
	6	7 .	4	

6.74 × 10 = 67.4

Use place value to work out how to multiply by 100.

Hundreds	Tens	Ones	Tenths	Hundredths
		6 .	7	4

Hundreds	Tens	Ones	Tenths	Hundredths
6	7	4 .		

If you multiply a number by 100, the digits move two places to the left.

6.74 × 100 = 674