

Multiplying 3-Digit Numbers

In Focus

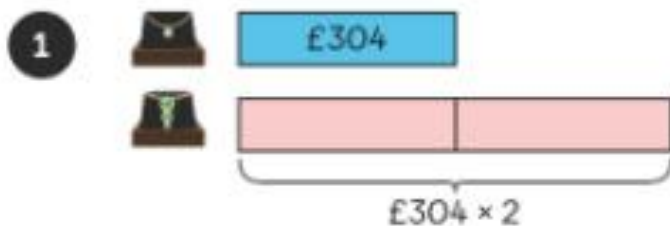


This costs twice as much.

How much does  cost?

What type of calculation do we need to do to find out the answer?

Let's Learn



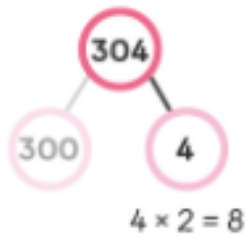
100	100	100		1	1	1	1
100	100	100		1	1	1	1

$$\begin{array}{r}
 300 \times 2 = 600 \\
 4 \times 2 = 8 \\
 \hline
 304 \times 2 = 608
 \end{array}$$

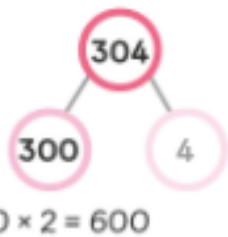
This method uses a bar model

 costs £608.

2 $304 \times 2 =$



$$\begin{array}{r} 304 \\ \times 2 \\ \hline 8 \end{array}$$



$$\begin{array}{r} 304 \\ \times 2 \\ \hline 8 \\ + 600 \\ \hline 608 \end{array}$$

In this method, we partition 304 in to 300 and 4

3 $3 \times 123 =$



$3 \times 100 = 300 \quad 3 \times 20 = 60 \quad 3 \times 3 = 9$

$3 \times 123 = 300 + 60 + 9$
 $=$

$$\begin{array}{r} 123 \\ \times 3 \\ \hline 9 \\ 60 \\ + 300 \\ \hline 369 \end{array}$$

This is a different calculation, but it uses the same methods.

multiply the ones
 multiply the tens
 multiply the hundreds

Guided Practice

1 Multiply.

(a) $143 \times 2 = \square$

100 10 10 10 10 1 1 1

$100 \times 2 = \square$

$40 \times 2 = \square$

$3 \times 2 = \square$

$143 \times 2 = \square$

(b) $3 \times 212 = \square$

100 100 10 1 1

$200 \times 3 = \square$

$10 \times 3 = \square$

$2 \times 3 = \square$

$212 \times 3 = \square$

2 Multiply.

(a) $101 \times 7 = \square$

$$\begin{array}{r} 101 \\ \times 7 \\ \hline \end{array}$$

+

$2 \times 413 = 413 \times 2$



(b) $2 \times 413 = \square$

$$\begin{array}{r} 413 \\ \times 2 \\ \hline \end{array}$$

+

3 Multiply.

(a) $302 \times 3 = \square$

$$\begin{array}{r} 302 \\ \times 3 \\ \hline \end{array}$$

$4 \times 112 = 112 \times 4$



(b) $4 \times 112 = \square$

$$\begin{array}{r} 112 \\ \times 4 \\ \hline \end{array}$$

4 Find the product of 3 and 312.

Worksheet 9

Multiplying 3-Digit Numbers

1 Multiply to find:

(a) $431 \times 2 =$

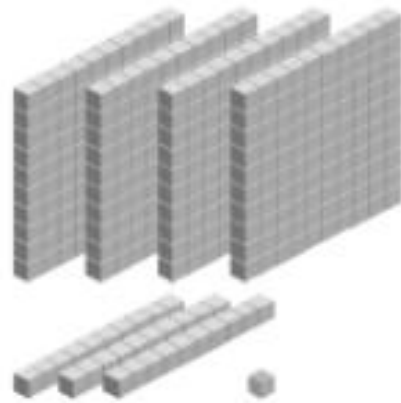
$400 \times 2 =$

$30 \times 2 =$

$1 \times 2 =$

+ +

$=$



(b) $323 \times 3 =$

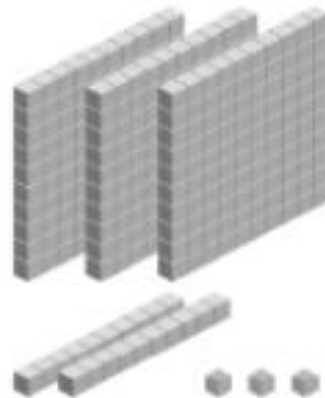
$300 \times 3 =$

$20 \times 3 =$

$3 \times 3 =$

+ +

$=$



Use the pictures of the base 10 to help you. You can draw out your own if you need to

2 Fill in the blanks to calculate:

(a) $403 \times 2 = \square$

$\square \times 2 = \square$

$\square \times 2 = \square$

$\square + \square = \square$

403

$$\begin{array}{r} 403 \\ \times \quad 2 \\ \hline \\ + \\ \hline \\ \hline \end{array}$$

(b) $312 \times 3 = \square$

$\square \times 3 = \square$

$\square \times 3 = \square$

$\square \times 3 = \square$

$\square + \square + \square = \square$

312

$$\begin{array}{r} 312 \\ \times \quad 3 \\ \hline \\ + \\ \hline \\ \hline \end{array}$$

3 Multiply.

- | | |
|--|--|
| <p>(a) $102 \times 3 = \square$</p> <p>(c) $4 \times 211 = \square$</p> <p>(e) $333 \times 3 = \square$</p> <p>(g) $2 \times 443 = \square$</p> <p>(i) $220 \times 4 = \square$</p> | <p>(b) $3 \times 321 = \square$</p> <p>(d) $342 \times 2 = \square$</p> <p>(f) $144 \times 2 = \square$</p> <p>(h) $3 \times 203 = \square$</p> <p>(j) $504 \times 2 = \square$</p> |
|--|--|

Extension

Challenge yourself with these activities

$$515 \times 9 =$$

x	500	10	5
9			

$$\begin{array}{r} \underline{\quad}06 \\ \times \quad 2 \\ \hline 412 \end{array}$$

$$\begin{array}{r} 10\underline{\quad} \\ \times \quad 2 \\ \hline 206 \end{array}$$

Is this statement always true, sometimes true, or never true?

“When you multiply a 3-digit number by a 1-digit number, the answer has 4 digits”

Prove your reasoning with examples

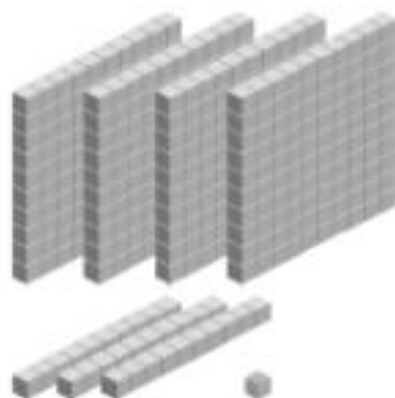
Name: _____ Class: _____ Date: _____

Worksheet 9

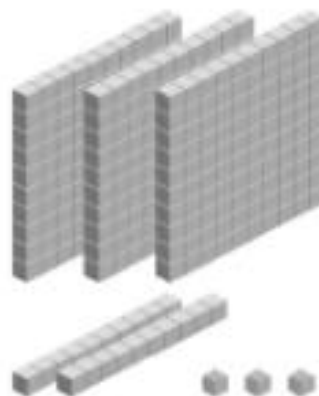
Multiplying 3-Digit Numbers

1 Multiply to find:

$$\begin{aligned} \text{(a)} \quad 431 \times 2 &= \boxed{862} \\ 400 \times 2 &= \boxed{800} \\ 30 \times 2 &= \boxed{60} \\ 1 \times 2 &= \boxed{2} \\ \boxed{800} + \boxed{60} + \boxed{2} \\ &= \boxed{862} \end{aligned}$$



$$\begin{aligned} \text{(b)} \quad 323 \times 3 &= \boxed{969} \\ 300 \times 3 &= \boxed{900} \\ 20 \times 3 &= \boxed{60} \\ 3 \times 3 &= \boxed{9} \\ \boxed{900} + \boxed{60} + \boxed{9} \\ &= \boxed{969} \end{aligned}$$



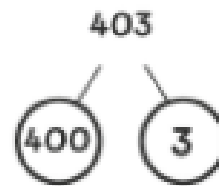
2 Fill in the blanks to calculate:

(a) $403 \times 2 = \boxed{806}$

$\boxed{400} \times 2 = \boxed{800}$

$\boxed{3} \times 2 = \boxed{6}$

$\boxed{800} + \boxed{6} = \boxed{806}$



$$\begin{array}{r} 403 \\ \times \quad 2 \\ \hline 6 \\ + 800 \\ \hline 806 \end{array}$$

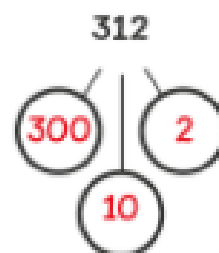
(b) $312 \times 3 = \boxed{936}$

$\boxed{300} \times 3 = \boxed{900}$

$\boxed{10} \times 3 = \boxed{30}$

$\boxed{2} \times 3 = \boxed{6}$

$\boxed{900} + \boxed{30} + \boxed{6} = \boxed{936}$



$$\begin{array}{r} 312 \\ \times \quad 3 \\ \hline 6 \\ \quad 30 \\ + 900 \\ \hline 936 \end{array}$$

3 Multiply.

(a) $102 \times 3 = \boxed{306}$

(b) $3 \times 321 = \boxed{963}$

(c) $4 \times 211 = \boxed{844}$

(d) $342 \times 2 = \boxed{684}$

(e) $333 \times 3 = \boxed{999}$

(f) $144 \times 2 = \boxed{288}$

(g) $2 \times 443 = \boxed{886}$

(h) $3 \times 203 = \boxed{609}$

(i) $220 \times 4 = \boxed{880}$

(j) $504 \times 2 = \boxed{1008}$