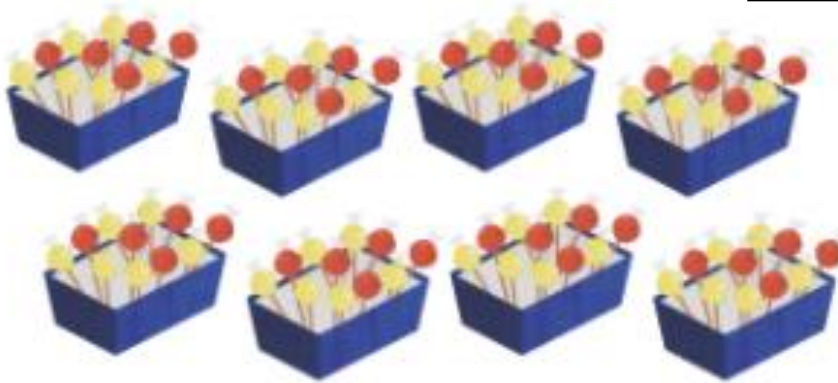



# Multiplying 2-Digit Numbers

## In Focus

What do we need to know to work out this answer?



How many  are there in 8 boxes?

We are going to look at 3 different methods of solving this problem.

## Let's Learn

1

$$8 \times 11 = \square$$

Method 1

I know it.  
It's 88.



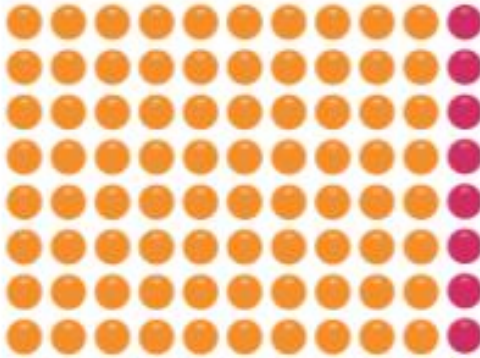
Method 1 is really easy if you know your 8 or 11 times table!

Method 2 partitions 11 into 10 and 1 to make it easier to work out.

```

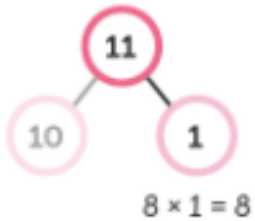
graph TD
    11((11)) --- 10((10))
    11 --- 1((1))
  
```

$$8 \times 11 = 80 + 8$$
$$= \square$$



$$8 \times 1 = 8$$

Method 3 uses a written method, multiplying by ones then tens.

 $8 \times 11 = \square$ 

$8 \times 10 = 80$

$$\begin{array}{r} 11 \\ \times 8 \\ \hline 88 \end{array}$$

$$\begin{array}{r} \phantom{0}1 \phantom{0}1 \\ \times \phantom{0}8 \\ \hline \phantom{0}8 \phantom{0}0 \\ + \phantom{0}8 \phantom{0}0 \\ \hline \phantom{0}8 \phantom{0}8 \end{array}$$

[illegible]

This is a different way of looking at method 3.

2  $23 \times 3 =$

$20 \times 3 = 60$

20	3
20	3
20	3

$3 \times 3 = 9$

$23 \times 3 = 60 + 9$   
 $=$

	2	3
x		3
<hr/>		
		9
+	6	0
<hr/>		
	<input type="text"/>	<input type="text"/>
<hr/>		



## Guided Practice

1 Multiply.

$12 \times 4 =$

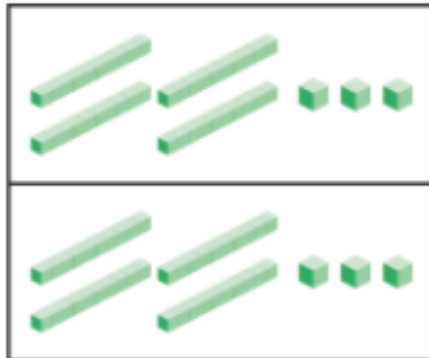


	1	2
x		4
<hr/>		
		<input type="text"/>
+	<input type="text"/>	<input type="text"/>
<hr/>		
	<input type="text"/>	<input type="text"/>
<hr/>		

Use the pictures to help you with the guided practice questions.

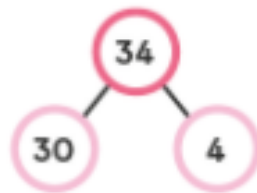
- 2 Find the product of 43 and 2.

$$43 \times 2 = \square$$



$$\begin{array}{r} 43 \\ \times 2 \\ \hline \end{array}$$

- 3 Find the value of  $34 \times 2$ .



10	10	10	1	1	1	1
10	10	10	1	1	1	1

$$\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$$

- 4 Multiply.

(a)  $3 \times 31 = \square$

(b)  $41 \times 2 = \square$

# Worksheet 6

## Multiplying 2-Digit Numbers

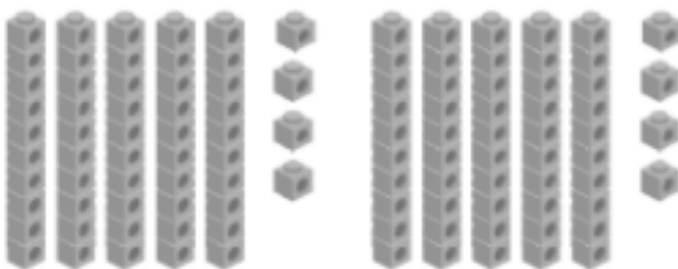
1 Multiply.

(a)  $12 \times 3 =$



$$\begin{array}{r} 12 \\ \times 3 \\ \hline \\ + \\ \hline \end{array}$$

(b)  $54 \times 2 =$



$$\begin{array}{r} 54 \\ \times 2 \\ \hline \\ + \\ \hline \end{array}$$

(c)  $22 \times 4 =$

20	2
20	2
20	2
20	2

$$\begin{array}{r} 22 \\ \times 4 \\ \hline \\ + \\ \hline \end{array}$$

- 2 Sam and Amira found the product of 41 and 2 in two different ways.



$$\begin{array}{l} \boxed{40} \times 2 = \boxed{80} \\ \boxed{1} \times 2 = \boxed{2} \\ \boxed{80} + \boxed{2} = \boxed{\phantom{00}} \\ 41 \times 2 = \boxed{\phantom{00}} \end{array}$$

41  
  
 40    1



$$\begin{array}{r} 41 \\ \times 2 \\ \hline 82 \end{array}$$

Use their methods to find the product of 23 and 3.

Sam's method



$$\begin{array}{l} \boxed{\phantom{00}} \times 3 = \boxed{\phantom{00}} \\ \boxed{\phantom{00}} \times 3 = \boxed{\phantom{00}} \\ \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}} \\ 23 \times 3 = \boxed{\phantom{00}} \end{array}$$

23  
  
 20   

Amira's method



$$\begin{array}{r} 23 \\ \times 3 \\ \hline \\ + \\ \hline \end{array}$$

- 3 Multiply.

(a)  $31 \times 3 = \boxed{\phantom{00}}$

(b)  $4 \times 21 = \boxed{\phantom{00}}$

(c)  $34 \times 2 = \boxed{\phantom{00}}$

(d)  $2 \times 22 = \boxed{\phantom{00}}$

(e)  $14 \times 2 = \boxed{\phantom{00}}$

(f)  $32 \times 2 = \boxed{\phantom{00}}$

(g)  $3 \times 33 = \boxed{\phantom{00}}$

(h)  $2 \times 43 = \boxed{\phantom{00}}$

(i)  $51 \times 2 = \boxed{\phantom{00}}$

(j)  $42 \times 2 = \boxed{\phantom{00}}$

## Extension

Have a go at this journal activity

---

Here are three incorrect multiplications.

	<b>T</b>	<b>O</b>
	6	1
×		5
<hr/>		
	3	5

	<b>T</b>	<b>O</b>
	7	4
×		7
<hr/>		
4	9	8

	<b>T</b>	<b>O</b>
	2	6
×		4
<hr/>		
8	2	4

Correct the multiplications.

## Worksheet 6

### Multiplying 2-Digit Numbers

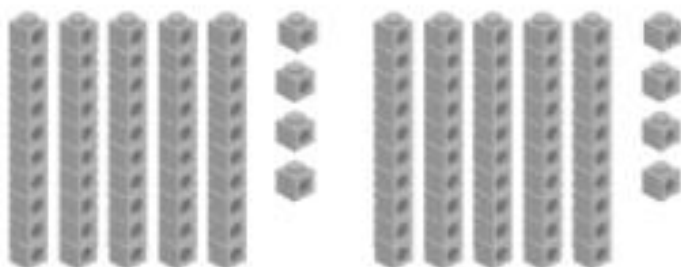
1 Multiply.

(a)  $12 \times 3 =$  36



$$\begin{array}{r} \phantom{00}12 \\ \times \phantom{00}3 \\ \hline \phantom{00}6 \\ + \phantom{00}30 \\ \hline \phantom{00}36 \end{array}$$

(b)  $54 \times 2 =$  108



$$\begin{array}{r} \phantom{00}54 \\ \times \phantom{00}2 \\ \hline \phantom{00}8 \\ + \phantom{00}100 \\ \hline \phantom{00}108 \end{array}$$

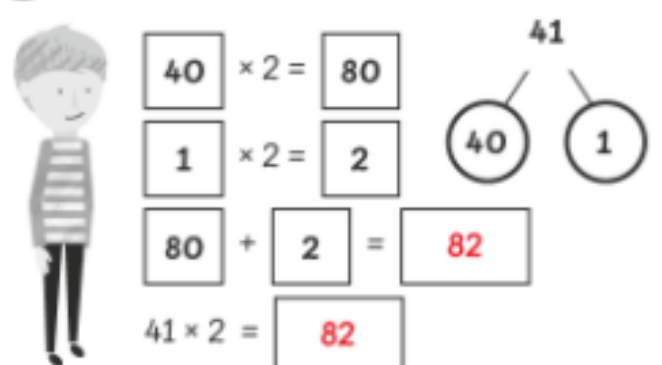
(c)  $22 \times 4 =$  88

20	2
20	2
20	2
20	2


$$\begin{array}{r} \phantom{00}22 \\ \times \phantom{00}4 \\ \hline \phantom{00}8 \\ + \phantom{00}80 \\ \hline \phantom{00}88 \end{array}$$



- 2 Sam and Amira found the product of 41 and 2 in two different ways.



Sam's method diagram shows a boy on the left. To his right are three rows of boxes:  $\boxed{40} \times 2 = \boxed{80}$ ,  $\boxed{1} \times 2 = \boxed{2}$ , and  $\boxed{80} + \boxed{2} = \boxed{82}$ . Below these is the equation  $41 \times 2 = \boxed{82}$ . To the right of the boxes is a tree diagram for 41, with 41 at the top and 40 and 1 in circles below it.

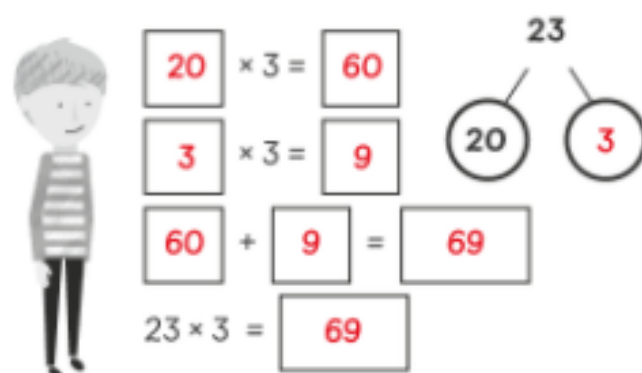


Amira's method diagram shows a girl on the left pointing to a vertical multiplication problem on the right. The problem is:

$$\begin{array}{r} 41 \\ \times 2 \\ \hline 82 \end{array}$$


Use their methods to find the product of 23 and 3.

Sam's method



Sam's method diagram for 23 x 3 shows a boy on the left. To his right are three rows of boxes:  $\boxed{20} \times 3 = \boxed{60}$ ,  $\boxed{3} \times 3 = \boxed{9}$ , and  $\boxed{60} + \boxed{9} = \boxed{69}$ . Below these is the equation  $23 \times 3 = \boxed{69}$ . To the right of the boxes is a tree diagram for 23, with 23 at the top and 20 and 3 in circles below it.

Amira's method



Amira's method diagram for 23 x 3 shows a girl on the left pointing to a vertical multiplication problem on the right. The problem is:

$$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \end{array}$$

- 3 Multiply.

- |                                 |                                |
|---------------------------------|--------------------------------|
| (a) $31 \times 3 = \boxed{93}$  | (b) $4 \times 21 = \boxed{84}$ |
| (c) $34 \times 2 = \boxed{68}$  | (d) $2 \times 22 = \boxed{44}$ |
| (e) $14 \times 2 = \boxed{28}$  | (f) $32 \times 2 = \boxed{64}$ |
| (g) $3 \times 33 = \boxed{99}$  | (h) $2 \times 43 = \boxed{86}$ |
| (i) $51 \times 2 = \boxed{102}$ | (j) $42 \times 2 = \boxed{84}$ |