

## Let's Learn

Student's Book p.182

- a There are 18 students in each class.  
How many students are there in 3 classes?



Use the distributive law of multiplication to write  $18 \times 3$  as  $10 \times 3$  and  $8 \times 3$ .



$$\begin{array}{r} 2 \\ \times 18 \\ \hline 54 \end{array}$$

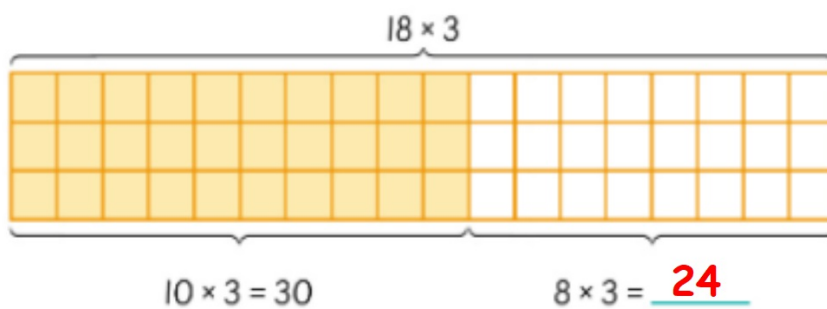
We can estimate the product before multiplying the numbers.

18 is close to 20.

$$\underline{20 \times 3 = 60.}$$

The product is about 60.

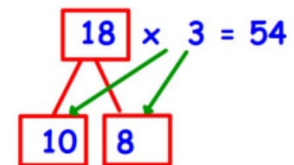
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$$30 + 24 = 54$$

$$\text{So } 18 \times 3 = 54.$$

There are 54 students in 3 classes.

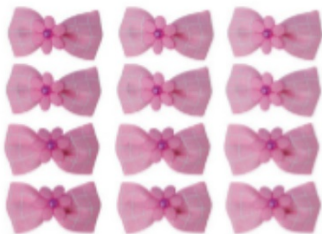


$$\begin{aligned} 3 \times 10 &= 30 \\ 3 \times 8 &= 24 \\ 30 + 24 &= 54 \end{aligned}$$

We break down the 18 into 10 and 8 and then multiply the 3 with the 10 then multiply the 3 with the 8 and add both products together

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- b Caz makes 12 bows every day.  
How many bows does she make in 4 days?



Estimate the product first.

12 is close to 10.

$$10 \times 4 = 40.$$

The product is about 40.

$$\begin{aligned} 12 \times 4 &= 12 \times 2 \times 2 \\ &= 24 \times 2 \\ &= \underline{48} \end{aligned}$$

Caz makes 48 bows in 4 days.

$$\begin{aligned} 12 &= 10 + 2 \\ \text{double } 12 &= \text{double } 10 + \text{double } 2 \\ &= 20 + 4 \\ &= 24 \end{aligned}$$



$$\begin{array}{c} 12 \times 4 = 48 \\ \swarrow \quad \searrow \\ 10 \quad 2 \end{array}$$

$$10 \times 4 = 40$$

$$2 \times 4 = 8$$

$$40 + 8 = 48$$

We break down the 12 into 10 and 2 and then multiply the 4 with the 10 then multiply the 4 with the 2 and add both products together

$$\begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array}$$

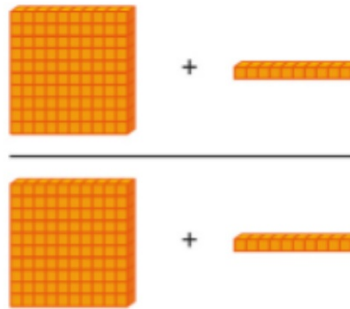
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- c Each bus can carry 22 people.  
How many people can 5 buses carry?

Multiply a number by 5 is the same as multiply the number by 10 and then half it.



$$\begin{aligned} 22 \times 5 &= 22 \times 10 \div 2 \\ &= 220 \div 2 \\ &= \text{Half of } 200 + \text{Half of } 20 \\ &= 100 + 10 \\ &= 110 \end{aligned}$$



5 buses can carry 110 people.

18

We replace 5 by (10÷2)

we then can multiply  $22 \times 10$  giving us the product 220  
then we divide 220 by 2 ( which is taking the half of it)

$$\begin{array}{r} 22 \times 5 = \\ \swarrow \quad \searrow \\ 20 \quad 2 \end{array}$$

$$\begin{array}{r} 1 \\ 22 \\ \times 5 \\ \hline 110 \end{array}$$

way 1

vertical  
distribution  
multiplication

	tens	ones
	2	2
x		5
	1	1
		0

multiply the ones first  
then multiply the tens

way 2

$$\begin{array}{c} \text{22} \times 5 = 110 \\ \text{20} \quad \text{2} \end{array}$$

$$20 \times 5 = 100$$

$$2 \times 5 = 10$$

$$100 + 10 = 110$$