

# Instruction Coach<sup>TM</sup> Mathematics










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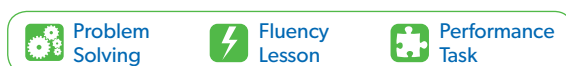
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# Chapter 1

## Operations and Algebraic Thinking

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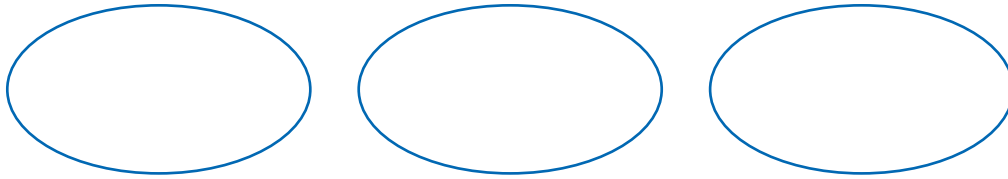
# Representing Multiplication

**UNDERSTAND** Use models to show **multiplication**.

Show  $3 \times 5$  as 3 groups of 5 objects. Find the total number of objects.

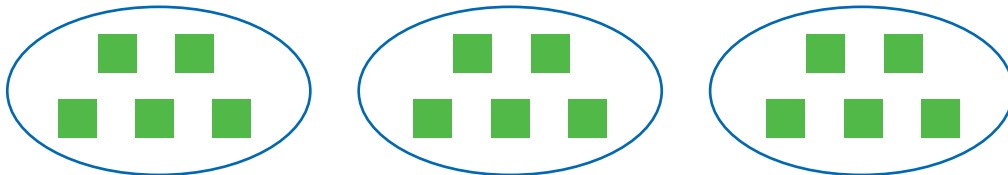
1

Make 3 groups.



2

Put 5 objects in each group.



3

Count the total number of objects.

$$5 + 5 + 5 = 15$$

There are 15 objects in all.

3 groups of 5 objects is a total of 15 objects.

▶  $3 \times 5 = 15$

## ← Connect

Multiply.  $3 \times 5$

1

Find how many groups there are.

The first **factor** is 3.

There are 3 equal groups.

2

Find how many are in each group.

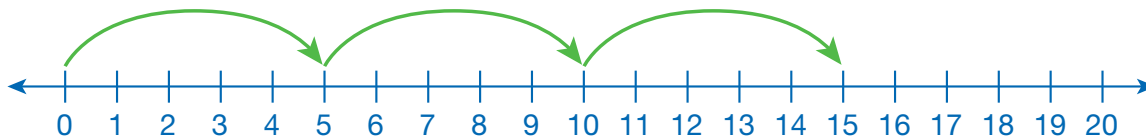
The second factor is 5.

There are 5 in each group.

3

Find the **product**.

Skip count by 5. Skip count three times.



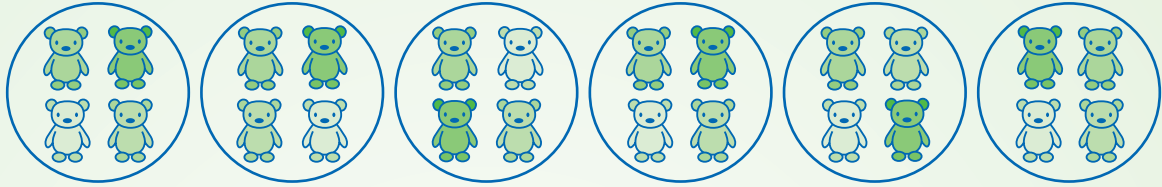
The total is 15.

►  $3 \times 5 = 15$

TRY

Use skip counting to multiply  
 $3 \times 4$ .

**EXAMPLE** Jeff has these counting bears.



Find the total number of bears.

1

Write how many groups there are.

There are 6 equal groups.

The first factor is 6.

2

Write how many are in each group.

There are 4 bears in each group.

The second factor is 4.

3

Find the total number of bears.

Add.  $4 + 4 + 4 + 4 + 4 + 4 = 24$

The total is 24.

The product is 24.

4

Write a multiplication number sentence.

A number sentence uses numbers and symbols.

$6 \times 4 = 24$

► Jeff has 24 counting bears.

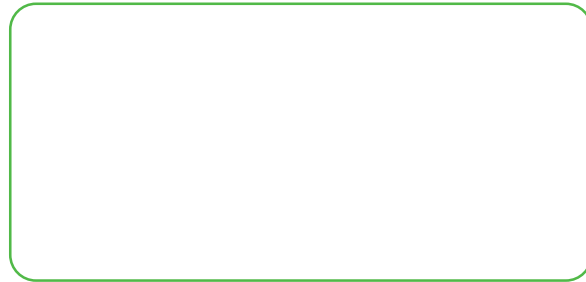
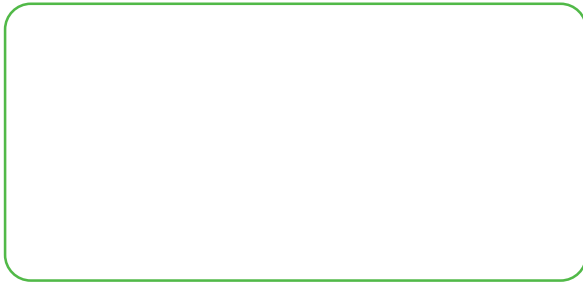
**DISCUSS**

Explain how you can show 10 as a product of 5 and 2.

# Multiplication Models

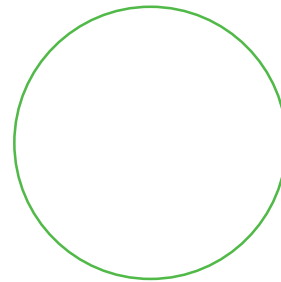
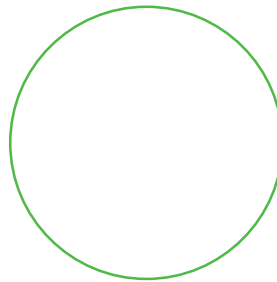
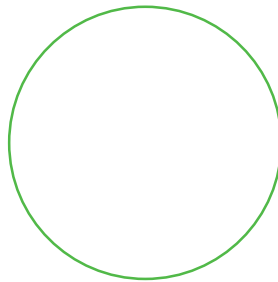
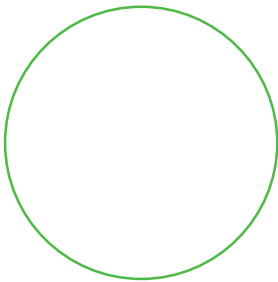
Draw objects in each group to show the multiplication. Write the total.

1.  $2 \times 6 =$  \_\_\_\_\_



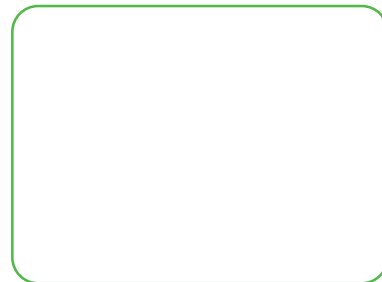
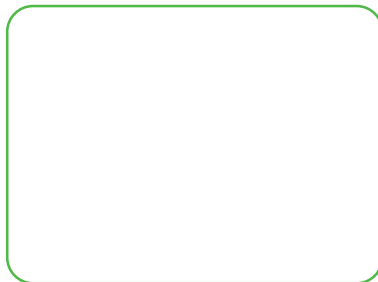
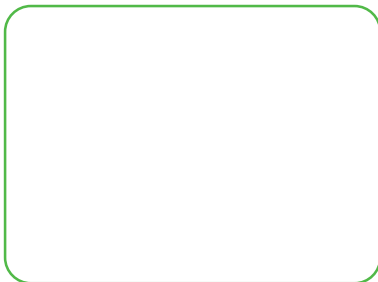
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2.  $4 \times 3 =$  \_\_\_\_\_



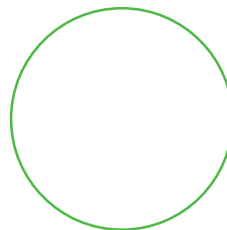
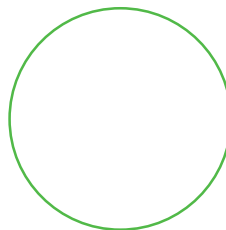
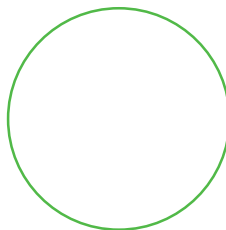
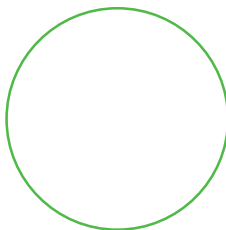
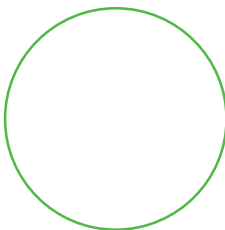
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3.  $3 \times 7 =$  \_\_\_\_\_



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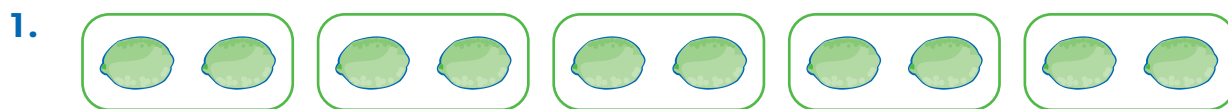
4.  $5 \times 3 =$  \_\_\_\_\_



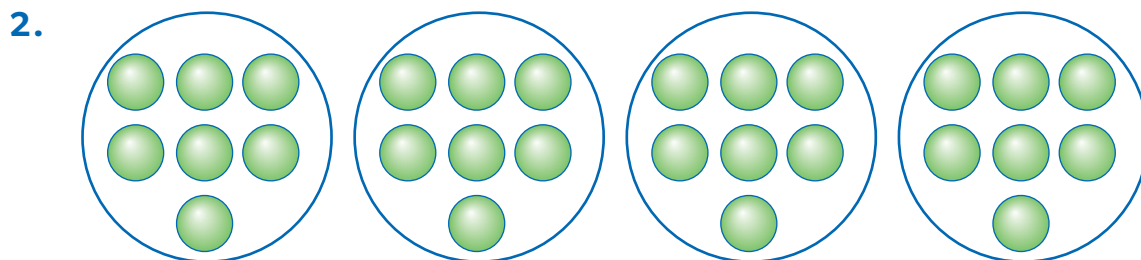


# Practice

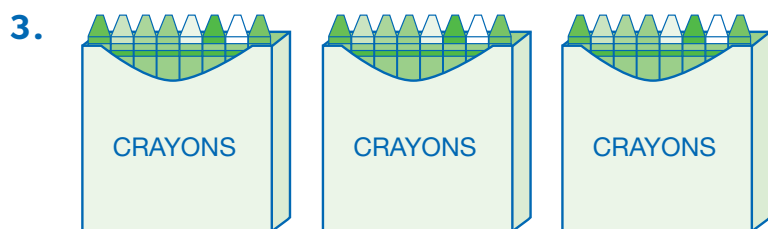
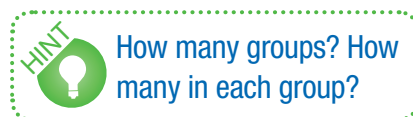
Fill in the missing numbers to match the picture.



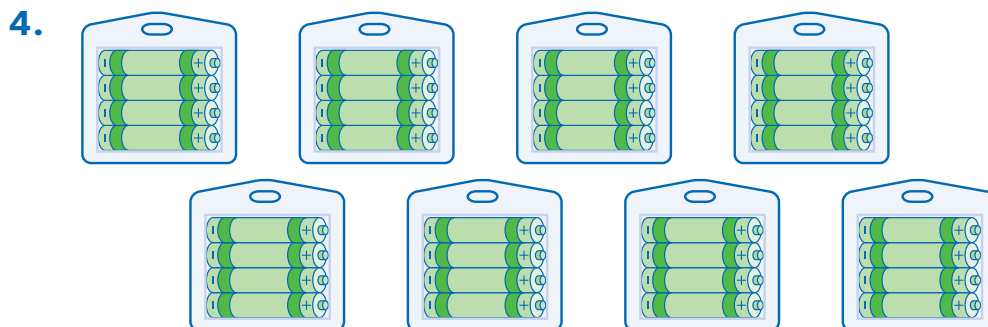
$$5 \times 2 = \underline{\quad}$$



$$4 \times 7 = \underline{\quad}$$



$$3 \times 8 = \underline{\quad}$$

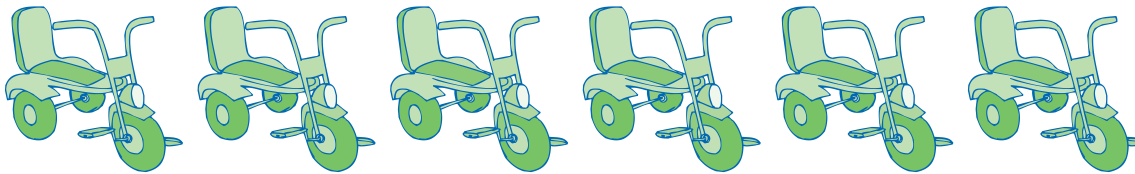


$$8 \times 4 = \underline{\quad}$$

**REMEMBER** The factors tell how many groups and how many in each group. The product tells the total.

How many in all? Write a multiplication number sentence.

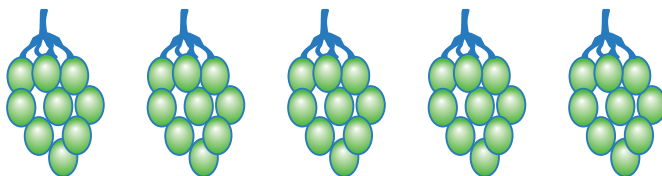
5. How many wheels in all?



\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ wheels

6. How many grapes in all?



\_\_\_\_\_ × \_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ grapes

**Solve.**

7. The students are in 5 groups. Each group has 4 students. How many students are there in all?

\_\_\_\_\_

8. Katie has 4 bags of oranges. Each bag has 8 oranges. How many oranges does Katie have?

\_\_\_\_\_

9. **EXPLAIN** What does the multiplication fact  $2 \times 6 = 12$  mean?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

10. **DRAW** Show that  $7 \times 2 = 14$  by drawing a picture.