

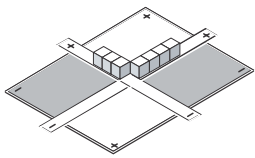
## Lab 4-1: The Factor Track: Multiplication as Area

The product of two numbers can be shown as a rectangle. One factor is the width. The other factor is the length.

**Example:** Use the Factor Track to model the factors and product for  $3 \times 4$ .

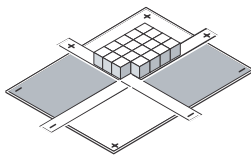
**Step 1.**

Model the factors on the Factor Track. Build one factor horizontally and one factor vertically.



**Step 2.**

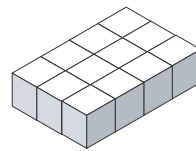
Solve. Build the product rectangle. Remove the Factor Track when you are finished.



**Step 3.**

Read the mat. Count the blocks in the product rectangle.

Product : 12 blocks



**Step 4.**

Record.

$$3 \times 4 = 12$$

**Try It**

1. What two dimensions of a rectangle represent the factors?

\_\_\_\_\_

2. Explain how any whole number can be modeled by a rectangle. \_\_\_\_\_

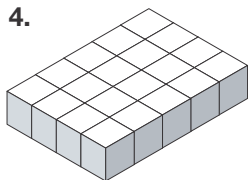
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3. Why does it help to remove the Factor Track after building the product rectangle?

\_\_\_\_\_

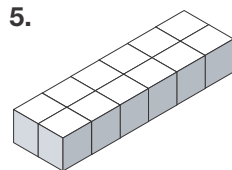
**Practice**

Write two multiplication sentences for each rectangular model.



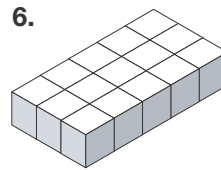
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Use Algeblocks to multiply.

7.  $2 \times 5 =$  \_\_\_\_\_

8.  $4 \times 1 =$  \_\_\_\_\_

9.  $3 \times 6 =$  \_\_\_\_\_

10.  $4 \times 2 =$  \_\_\_\_\_

11.  $3 \times 2 =$  \_\_\_\_\_

12.  $5 \times 3 =$  \_\_\_\_\_