

Break Apart a Factor

What You Need

- 20 tiles
- Recording Sheet

Check Understanding

Explain how you can solve  $5 \times 3$  if you do not know this fact.

What You Do

1. Take turns. Pick a letter, read the problem, and make an array of tiles to match.
2. Decide how you want to break apart the array. Think: *Which row or column will you break apart? What two numbers do you have now?*
3. Write the two new multiplication problems on the **Recording Sheet**. Write their products as an addition problem. Then add to find the answer to each problem.
4. Your partner checks your work.
5. Repeat until all the letters are used.

A	$8 \times 2$
B	$6 \times 3$
C	$4 \times 3$
D	$5 \times 2$
E	$4 \times 4$
F	$9 \times 2$

Go Further!

Choose a letter. Work together to break apart the array in a different way than you did for the **Recording Sheet**. Then solve.



Break Apart a Factor

**A**

$$8 \times 2$$

$$\underline{\quad} \times \underline{\quad} \quad \underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} + \underline{\quad}$$

$$8 \times 2 = \underline{\quad}$$

**B**

$$6 \times 3$$

$$\underline{\quad} \times \underline{\quad} \quad \underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} + \underline{\quad}$$

$$6 \times 3 = \underline{\quad}$$

**C**

$$4 \times 3$$

$$\underline{\quad} \times \underline{\quad} \quad \underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} + \underline{\quad}$$

$$4 \times 3 = \underline{\quad}$$

**D**

$$5 \times 2$$

$$\underline{\quad} \times \underline{\quad} \quad \underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} + \underline{\quad}$$

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

**E**

$$4 \times 4$$

$$\underline{\quad} \times \underline{\quad} \quad \underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} + \underline{\quad}$$

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

**F**

$$9 \times 2$$

$$\underline{\quad} \times \underline{\quad} \quad \underline{\quad} \times \underline{\quad}$$

$$\underline{\quad} + \underline{\quad}$$

$$9 \times 2 = \underline{\quad}$$

You can break apart the array to get facts you know. I don't know  $8 \times 3$ , but I know  $4 \times 3$ .

