

Name _____

Choose a Strategy to Multiply Basic Facts

Let's Build

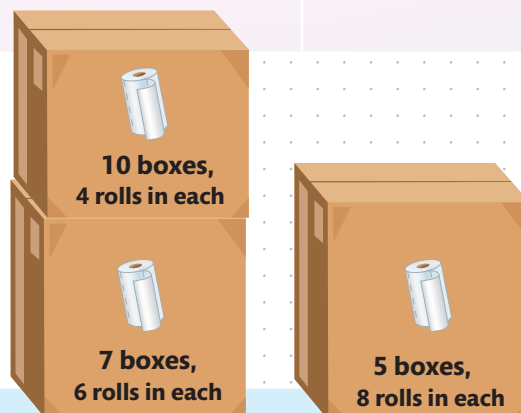
Lesson 3-8

I can ... choose a strategy to solve multiplication problems.

Explore and Share

A school needs to order rolls of paper towels. The paper towels come in boxes that are packaged in cartons of different sizes. Find the total number of rolls of paper towels in each carton.

Choose a strategy to help you solve.



Ask yourself:

- Can I break apart one factor and add?
- Can I use 10s facts and subtract?
- Can I break apart one factor and multiply?
- Is there another strategy I can use?

I can use **reasoning** to choose a strategy.



Essential Question

How Can You Use Different Strategies to Find Products?

Animation



Visual Learning

- A** Mrs. Epstein buys 6 cases of juice boxes for 45 third graders. Are there enough juice boxes for all of the third-grade students? You can use choose a strategy to find the product of 6×8 .



Look below for some strategies you have learned.



B Mia's Choice

I will **break apart one factor** and use addition.

6 groups of 8 is the same as 5 groups of 8 plus 1 group of 8.

$$\begin{aligned} 6 \times 8 &= (5 + 1) \times 8 \\ &= (5 \times 8) + (1 \times 8) \end{aligned}$$

$$5 \times 8 = 40$$

$$1 \times 8 = 8$$

$$40 + 8 = 48$$

$$6 \times 8 = 48$$

C Juan's Choice

I will **use 10s facts** and use subtraction.

6 groups of 8 is the same as 6 groups of 10 minus 6 groups of 2.

$$\begin{aligned} 6 \times 8 &= 6 \times (10 - 2) \\ &= (6 \times 10) - (6 \times 2) \end{aligned}$$

$$6 \times 10 = 60$$

$$6 \times 2 = 12$$

$$60 - 12 = 48$$

$$6 \times 8 = 48$$

D Ana's Choice

I will **break apart one factor** and use multiplication.

6 groups of 8 is the same as 2 times 3 groups of 8.

$$6 \times 8 = (2 \times 3) \times 8$$

$$2 \times (3 \times 8) = ?$$

$$2 \times 24 = ?$$

$$24 + 24 = 48$$

48 is greater than 45, so there are enough juice boxes.

Talk About Math Ideas

What are some other ways you can break apart the two factors?

Guided Practice**Do You Understand?**

1. Show two different ways to find 8×9 . Which strategy would you use and why?

Do You Know How?

In **2** and **3**, choose a strategy to find each product.

2. 7×5

3. 8×6

Practice and Problem Solving

In **4-12**, choose a strategy to find each product.

Consider the numbers in the problem to help decide what strategy to use.

**Lesson Help**

4. $7 \times 7 = \underline{\hspace{2cm}}$

5. $8 \times 2 = \underline{\hspace{2cm}}$

6. $\underline{\hspace{2cm}} = 4 \times 6$

7. $\underline{\hspace{2cm}} = 4 \times 4$

8. $\underline{\hspace{2cm}} = 8 \times 9$

9. $\underline{\hspace{2cm}} = 5 \times 6$

10.
$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$$

- 13. Look for Relationships** Use the given facts to help find the missing products at the right. What patterns do you see in these facts?

$$10 \times 5 = 50 \text{ so } 9 \times 5 = ?$$

$$10 \times 7 = 70 \text{ so } 9 \times 7 = ?$$

$$10 \times 10 = 100 \text{ so } 9 \times 10 = ?$$

Think: How can I use 10s facts to solve 9s facts?



- 14.** During Chinese New Year, children get red envelopes with money from their family. Mia received 9 red envelopes. Each envelope had \$6 in it. How much money did Mia receive? Show how you know.

- 15. Critique Reasoning** David wants to buy new shoes and a jersey. The shoes cost \$56. The jersey costs \$42. David has \$88 and says that is enough money. Do you agree? Explain.

- 16. Higher Order Thinking** Mr. Evans needs to put 32 students into 8 equal groups. What strategy would you use to help Mr. Evans figure out how many students are in each group? Explain your thinking.

Assessment Practice

- 17.** Find 6×8 .

Ⓐ 14
Ⓑ 24
Ⓒ 38
Ⓓ 48

- 18.** Find 7×9 .

Ⓐ 16
Ⓑ 49
Ⓒ 63
Ⓓ 79