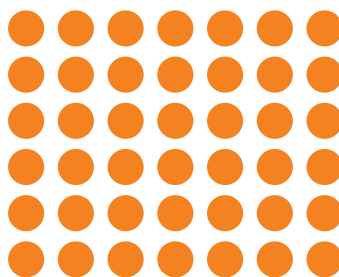


Explore Multiplying with 7, 8, and 9

In previous lessons, you learned multiplication facts for 0, 1, 2, 3, 4, 5, 6, and 10. This lesson will help you learn the facts for 7, 8, and 9. Use what you know to try to solve the problem below.

Katie and Scott are both finding 6×7 . They each break apart the problem in a different way. Show two different ways to break apart 6×7 and find the product.



Learning Targets



- Apply properties of operations as strategies to multiply and divide.
- Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations.

SMP 1, 2, 3, 4, 5, 6, 7

TRY IT



Math Toolkit

- square tiles
- counters
- 1-centimeter grid paper
- multiplication models
- number lines



DISCUSS IT

Ask your partner: How did you get started?

Tell your partner: A model I used was . . . It helped me . . .

CONNECT IT

1 LOOK BACK

Explain why you can break apart 6×7 in more than one way to find the product.

2 LOOK AHEAD

Just as with other factors you have worked with, you can break apart the factors 7, 8, and 9 in more than one way.

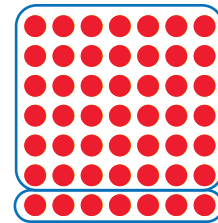
Use two different ways to break apart 7×7 to find its product.

- a. You can use the problem you just solved. Show how you can use 6×7 to find 7×7 .

What is 6×7 ?

How many more is 7×7 ? more

So, what is 7×7 ?



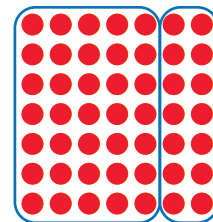
- b. You can use problems you solved in previous lessons.

Fill in the blanks to show how the array is broken apart here.

$$7 \times 7 = (7 \times \dots) + (7 \times \dots)$$

$$= \dots + \dots$$

$$= \dots$$



3 REFLECT

Which of the two models above do you think is easier, or would you choose another way?

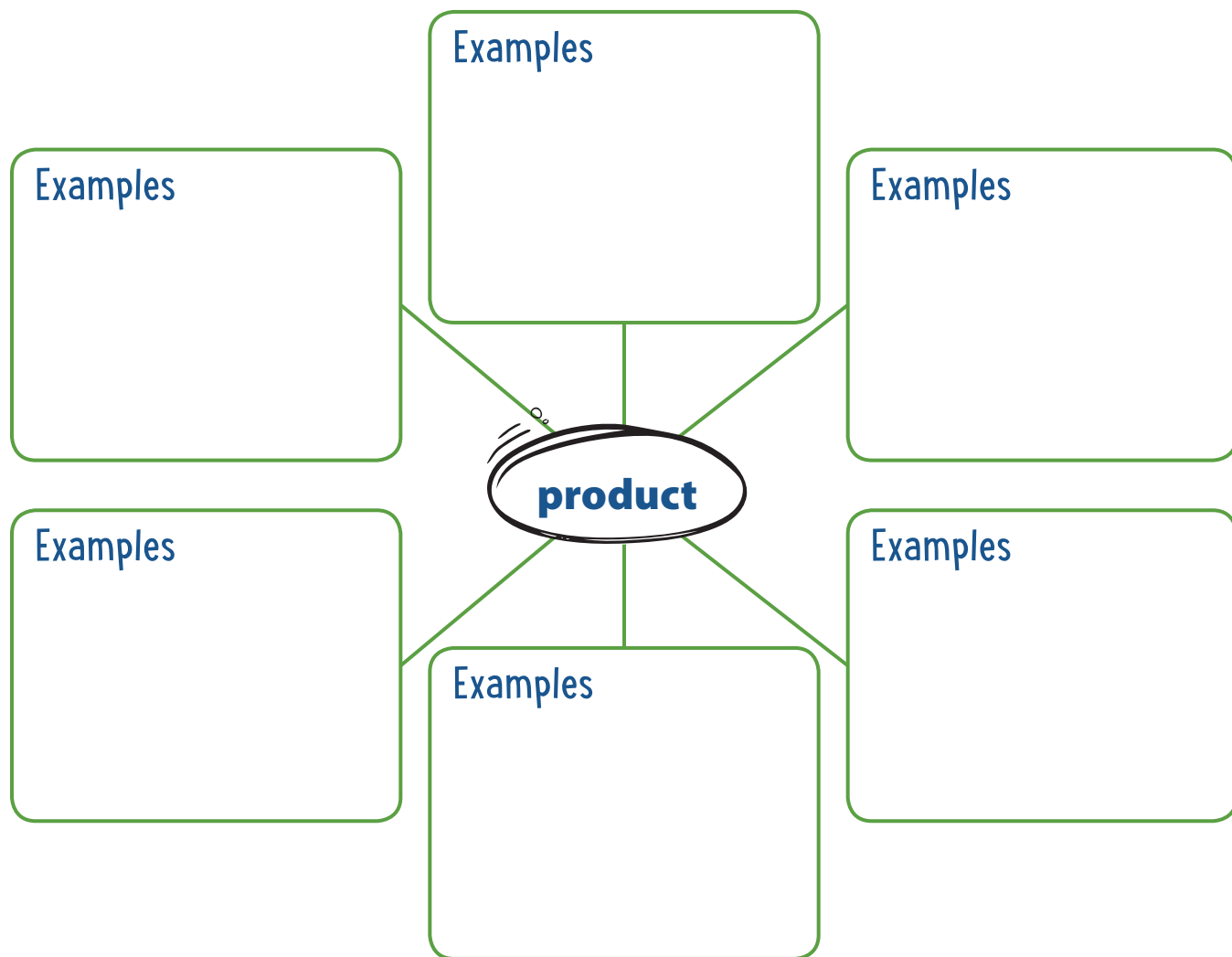
.....

.....

.....

Prepare for Multiplying 7, 8, and 9

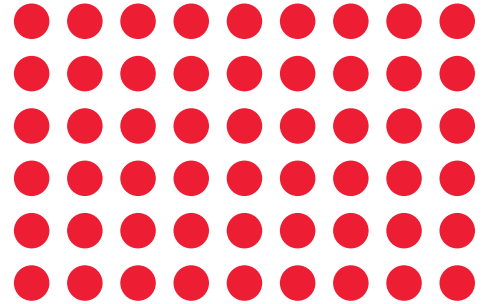
- 1 Think about what you know about multiplication. Fill in each box. Use words, numbers, and pictures. Show as many ideas as you can.



- 2 Explain how you can use the facts $8 \times 5 = 40$ and $8 \times 2 = 16$ to find 8×7 .

- 3 Solve the problem. Show your work.

Hana and Mario are both finding 6×9 . They each break apart the problem in a different way. Show two different ways to break apart 6×9 and find the product.



- 4 Check your answer. Show your work.