Name _____ Date _____

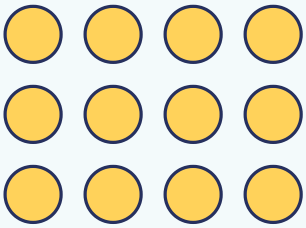
Fact families

One picture of equal groups gives four facts: two × and two ÷.

1 Learn



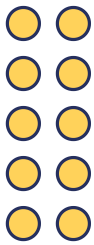
An **array** is things set out in equal rows. Every array tells you a whole **fact family**: two multiplication facts and two division facts.



12 cakes on a tray

3 rows of **4**: 3 × 4 = 12
4 columns of **3**: 4 × 3 = 12
12 shared into 3 rows: 12 ÷ 3 = 4
12 shared into 4 columns: 12 ÷ 4 = 3

Write the fact family for 5 rows of 2



1. Count the rows (5) and how many in each row (2). Find the total: 10.
2. Write the two × facts. The order can swap: 5 × 2 = 10 and 2 × 5 = 10.
3. Write the two ÷ facts. Start with the total: 10 ÷ 5 = 2 and 10 ÷ 2 = 5.

Flip's tip: in a ÷ fact, the **total comes first**. 12 ÷ 3 means 12 shared into 3 groups. 3 ÷ 12 is something quite different!

Warm up: fill the gaps.

2 × 5 = ☐ **4 × 3 =** ☐ **20 ÷ 5 =** ☐ **24 ÷ 8 =** ☐

Grown-ups: read the facts aloud as "3 groups of 4 is 12" and "12 shared into 3 is 4". Saying "groups of" helps children see why it's × and not +.

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2 Try it together a child and a grown-up, about 10 minutes



Pasta arrays

You need: about 30 pieces of dry pasta (or buttons, or spoons) and a table.

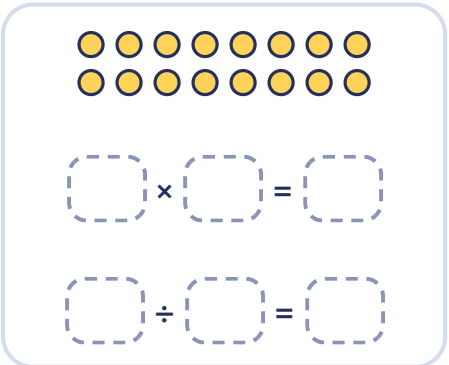
1. Make an array: **2 rows of 5**. Check every row has the same number.
2. Say the four facts out loud: 2 × 5, 5 × 2, 10 ÷ 2 and 10 ÷ 5. Write them in the table.
3. Now make **3 rows of 8**, and write its four facts.
4. Take turns: one person makes an array and the other says its fact family.

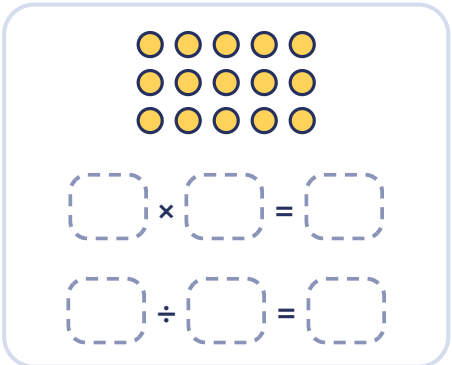
Rows	In each row	Total	The four facts

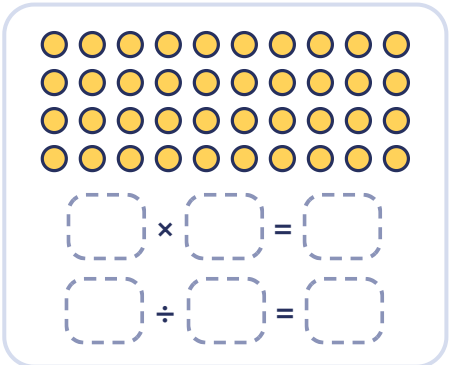
Grown-ups: turn the array round by a quarter turn: 2 rows of 5 becomes 5 rows of 2. The total doesn't change, which is why 2 × 5 and 5 × 2 are the same.

3 Practise

A. Write a × fact and a ÷ fact for each array.







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B. Finish each fact family.

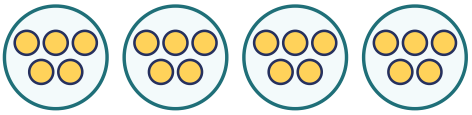
5 × 8 = 40

□ × □ = □
□ ÷ □ = □
□ ÷ □ = □

18 ÷ 3 = 6

□ ÷ □ = □
□ × □ = □
□ × □ = □

C. There are 4 plates with 5 strawberries on each. Ring **every** number sentence that matches.



4 + 5 = 9 **4 × 5 = 20** **5 × 4 = 20** **20 ÷ 4 = 5**
4 ÷ 20 = 5

D. Write a number sentence for each story, and solve it.

3 boxes with 10 pens in each. How many pens?

_____

24 sweets shared equally between 4 children. How many each?

_____

Challenge

Mia says, "12 ÷ 3 and 3 ÷ 12 are the same, because 3 × 4 and 4 × 3 are the same." Is Mia right? Explain.

_____

_____

_____

I can… Tick when you can.

- ☐ write a × fact and a ÷ fact for an array
- ☐ write all four facts in a fact family
- ☐ put the total first in a ÷ fact