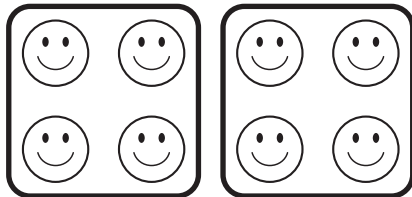


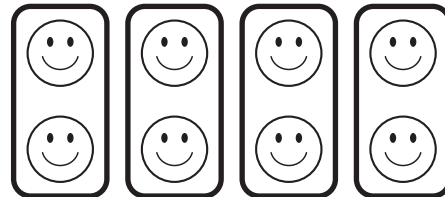
In this sub-unit . . .

- We thought about **division** as the mathematical operation related to separating or splitting things into equal groups.

Here are 8 students
in 2 equal groups.



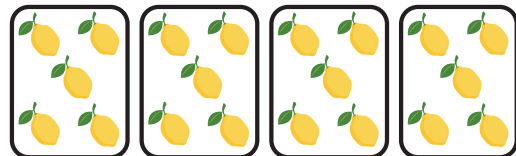
Here are 8 students
in groups of 2.



Math tip: In division problems, you are always given the total number of objects and are trying to determine either the number of groups or the number in each group.

- We used equal-groups drawings and diagrams to represent and solve division problems.

Total	Number of groups	Number in each group
20	4	5



- We wrote equations to represent division problems.

dividend

12

total
number
of objects

÷

divisor

2

number of
groups or objects
in each group

=

quotient

6

objects in each
group or number
of groups

In this sub-unit . . .

- We wrote multiplication and division equations to represent the same division problem because division can be represented as an unknown factor.

$$4 \times ? = 20$$

$$20 \div 4 = ?$$

- We used multiplication and division flexibly to solve equal-groups problems.


A farmer has 20 apples. He puts an equal number of apples in 4 boxes. How many apples are in each box?

I can make a drawing with 4 groups and put 1 apple in each group until I have 20 total.

I can think about what number multiplied by 4 equals 20.

- We used multiplication facts we know to identify related multiplication and division facts.

If I know $5 \times 7 = 35$, then I know $7 \times 5 = 35$, $35 \div 5 = 7$, and $35 \div 7 = 5$.

 **Math tip:** You can use the Commutative Property of Multiplication and the relationship between multiplication and division to determine related facts from known facts.

In this sub-unit . . .

- We multiplied with factors greater than 10 using place value and properties of operations.

$$\begin{aligned} 4 \times 18 \\ 18 &= 10 + 8 \\ 4 \times 10 &= 40 \\ 4 \times 8 &= 32 \\ 40 + 32 &= 72 \end{aligned}$$

$$\begin{aligned} 4 \times 18 \\ 18 &= 2 \times 9 \\ 4 \times 2 &= 8 \\ 8 \times 9 &= 72 \end{aligned}$$

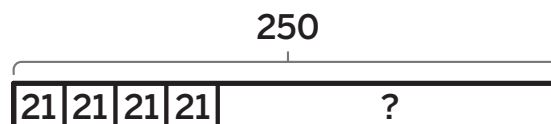
$$\begin{array}{r} 4 \times 18 \\ 3 \\ 18 \\ \times 4 \\ \hline 72 \end{array}$$

- We represented multiplication with factors greater than 10 using base-ten blocks, gridded rectangles, and **area models**.



- We identified known and unknown information and then used addition, subtraction, and multiplication to solve two-step problems.

The farmer collected 250 seeds. He filled 4 seed packets by placing 21 seeds in each packet. He planted the rest of the seeds in 2 neat rows. How many seeds did the farmer plant?



$$4 \times 21 = 84$$

$$250 - 84 = 166$$

So, he planted 166 seeds.