

4.1

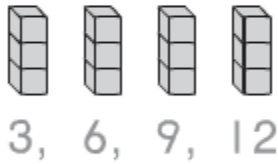
Multiply with 2 and 4

You can skip count to help you find a product.

Find the product. 4×3

Step 1 Use cubes to model 4 groups of 3.

Step 2 Skip count by 3s four times to find how many in all.



4 groups of 3 is equal to 12.

So, $4 \times 3 = 12$.

4.2

Multiply with 5 and 10

You can use an array to multiply with 5.

Find the product. 5×4

Step 1 Make an array to show 5×4 .
Show 5 rows of 4 tiles.

Step 2 Count the tiles.
5 rows of 4 tiles = 20 tiles

So, $5 \times 4 = 20$.



You can use doubles to multiply with 10.

Find the product. 6×10

Think: $5 + 5 = 10$

Multiply with 5. $6 \times 5 = 30$

Then double the product. $30 + 30 = 60$

So, $6 \times 10 = 60$.

4.3

Multiply with 3 and 6

You can use a number line to multiply with 3 or 6.

Find the product. 6×3

The factor 6 tells you to make **6 jumps**.

The factor 3 tells you each jump should be **3 spaces**.

Step 1 Start at 0.
Make 6 jumps of 3 spaces.



Step 2 The number you land on is the product.

So, $6 \times 3 = 18$.

4.4

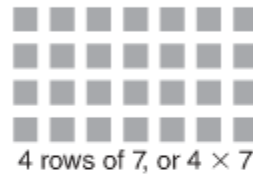
Algebra distributive property

A garden has 4 rows of 7 corn stalks. How many corn stalks in all are in the garden?

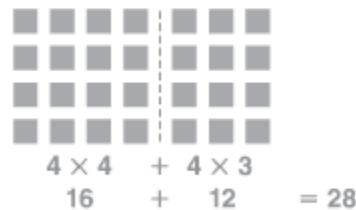
You can use the **Distributive Property** to break an array into smaller arrays to help you find the answer.

Find 4×7 .

Step 1 Make an array to show 4 rows of 7.



Step 2 Break apart the array to make two smaller arrays for facts you know.



Step 3 Write the multiplication for the new arrays. Multiply and then add the products to find the answer.

$$\begin{aligned} 4 \times 7 &= (4 \times 4) + (4 \times 3) \\ 4 \times 7 &= 16 + 12 \\ 4 \times 7 &= 28 \end{aligned}$$

So, there are **28** corn stalks in all in the garden.

4.5

Multiply with 7

Pablo is making gift bags for his party. He puts 7 pencils in each bag. How many pencils will he need for 3 gift bags?

Find 3×7 .

You can use a number line to find the product.

Step 1 Draw a number line.

Step 2 Start at 0. Draw 3 jumps of 7.



$$3 \times 7 = 21$$

So, Pablo will need 21 pencils for 3 gift bags.

Algebra associative property of multiplication

You can use the **Associative Property of Multiplication** to multiply 3 factors. If you change the grouping of factors, the product remains the same.

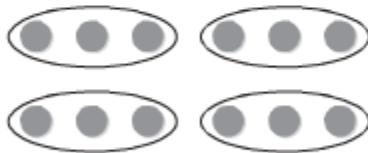
Find $4 \times (3 \times 1)$.

Step 1 Start inside the parentheses. Make 3 groups of 1 counter.

(3×1) 

Step 2 Multiply by 4, the number outside the parentheses. Make 4 groups of the counters in Step 1.

$4 \times (3 \times 1)$



Step 3 Count the total number of counters. 12 counters

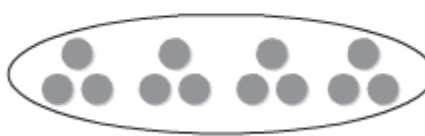
Find $(4 \times 3) \times 1$.

Step 1 Start inside the parentheses. Make 4 groups of 3 counters.

(4×3) 

Step 2 Multiply by 1, the number outside the parentheses. Make 1 group of the counters in Step 1.

$(4 \times 3) \times 1$



Step 3 Count the total number of counters. 12 counters

So, $4 \times (3 \times 1) = 12$ and $(4 \times 3) \times 1 = 12$.

4.7

Algebra patterns on a multiplication table

You can use a multiplication table to explore number patterns.

Step 1 Shade the columns for 5 and 10 on the multiplication table.

Step 2 Look for patterns in the shaded numbers.

- The products in the 5s column end in 0 or 5.
- The products in the 5s column repeat—even, odd.
- All the products in the 10s column are even.

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

4.8

Multiply with 8

You can break apart arrays to multiply with 8.

Candace works at a candle shop.
She places candles in a box for display.
The box has 7 rows of 8 candles.
How many candles are in the box in all?

You can break apart an array to find 7×8 .

Step 1 Draw 7 rows of 8 squares.

Step 2 Draw a dashed line to break apart the array into two smaller arrays to show facts you know.

$7 \times 8 = (7 \times 4) + (7 \times 4)$

$7 \times 8 = 28 + 28$

$7 \times 8 = 56$

So, there are 56 candles in the box.

