Interpreting Products of Whole Numbers

Explore ideas and representations

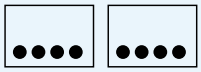
Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

Multiplication counts equal groups. In $3 \times 4 = 12$, 3 counts the groups and 4 counts the objects in each group: $4 + 4 + 4 = 12$. Use this groups-first convention on this page.

Worked example

The picture has equal groups. Write a multiplication equation and tell what each factor counts.

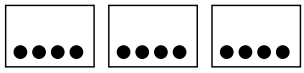


1. Count 2 boxes and 4 buttons in each box.
2. Add the groups: $4 + 4 = 8$.
3. The equation $2 \times 4 = 8$ counts all 8 buttons.
Answer: $2 \times 4 = 8$ buttons; 2 groups, 4 in each.

Practice Problems

Show your thinking.

1. The picture has equal groups. Write a multiplication equation and tell what each factor counts.



2. Write $5 + 5 + 5 + 5$ as multiplication. Find the total.

3. A shelf has 2 rows of 7 buttons. Write an equation. Label the groups and the amount in each.

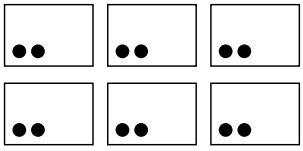
4. Draw 5 equal groups with 15 buttons altogether. How many go in each group?

5. Ari says $4 \times 2 = 6$ because he adds the factors. Correct him using equal groups.

6. Compare 3 bags of 6 buttons with 6 bags of 3. Same total? Same group size?

7. A class needs 15 buttons. There are 2 packs with 8 each. Are there enough? How many extra?

8. The picture has equal groups. Write a multiplication equation and tell what each factor counts.



Answer Key

1. $3 \times 4 = 12$ buttons; 3 groups, 4 in each.
2. $4 \times 5 = 20$.
3. $2 \times 7 = 14$ buttons.
4. 3 in each group; draw 5 groups of 3.
5. $4 \times 2 = 8$, not 6.
6. Same total, 18 buttons; group sizes 6 and 3 differ.
7. Yes; 16 buttons, with 1 extra.
8. $6 \times 2 = 12$ buttons; 6 groups, 2 in each.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Count 3 boxes and 4 buttons in each box.
2. Add the groups: $4 + 4 + 4 = 12$.
3. The equation $3 \times 4 = 12$ counts all 12 buttons.

Problem 2

1. There are 4 equal addends; each addend is 5.
2. $4 \times 5 = 20$, so the sum is 20.

Problem 3

1. There are 2 rows, and each row has 7 buttons.
2. Multiply the equal rows: $2 \times 7 = 14$ buttons.

Problem 4

1. Share 15 into 5 groups: $15 \div 5 = 3$.
2. Check the drawing: $5 \times 3 = 15$ buttons.

Problem 5

1. $4 + 2 = 6$ combines only two amounts, not 4 equal groups.
2. 4 groups of 2 give $2 + 2 + 2 + 2 = 8$.

Problem 6

1. First total: $3 \times 6 = 18$. Second: $6 \times 3 = 18$.
2. The first bag holds 6 and the second holds 3; equal totals do not mean equal groups.

Problem 7

1. The packs contain $2 \times 8 = 16$ buttons.
2. $16 - 15 = 1$, so the packs have 1 more than needed.

Problem 8

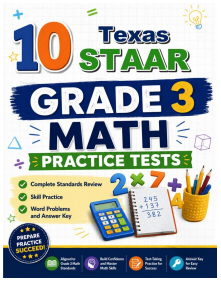
1. Count 6 boxes and 2 buttons in each box.
2. Add the groups: $2 + 2 + 2 + 2 + 2 + 2 = 12$.
3. The equation $6 \times 2 = 12$ counts all 12 buttons.

TESTINAR

Keep Building Grade 3 Math Skills

Choose the practice book matched to your state assessment and turn worksheet practice into a complete test-prep plan.

All Grade 3 books



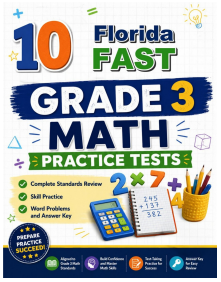
TEXAS STAAR

10 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook



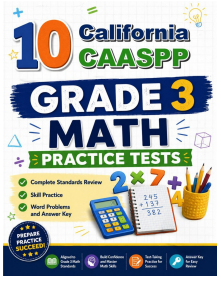
FLORIDA FAST

10 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook



CALIFORNIA CAASPP

10 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 3 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/3