

Multiplication Word Problems

Multiplication shows up in three common story shapes: equal groups, arrays/rows, and “times as many” comparisons. Spotting the shape tells you what to do.

Story Shape	Example
Equal groups	“5 bags with 9 marbles each” $\rightarrow 5 \times 9$
Array / rows	“4 rows of 6 chairs” $\rightarrow 4 \times 6$
“Times as many”	“Anna has 3; Ben has 4 times as many” $\rightarrow 4 \times 3$

Key Concepts

1. “**Equal groups**” problems say things like “5 bags with 6 apples each.” Multiply the number of groups by the size of each group.
2. “**Array / rows**” problems describe rectangles: “4 rows of 9 chairs.” Multiply rows by columns.
3. “**Times as many**” is a comparison. “Max has 3 times as many as Lily.” If Lily has 7, Max has $3 \times 7 = 21$.
4. For **two-step problems**, do one calculation at a time. Write down each intermediate result before moving on.

Worked Examples

① A parking lot has 5 rows of cars with 9 cars in each row. How many cars?

 This is an array story. Five rows, nine cars per row: $5 \times 9 = 45$ cars. The phrase “rows with (number) in each row” is the giveaway — multiply rows by row-size.

 **Answer:** 45 cars

② Lily has 7 stickers. Max has 3 times as many. How many stickers does Max have?

 “Times as many” is a comparison. To find Max’s count, multiply Lily’s count by 3: $3 \times 7 = 21$. Max has 21 stickers. (Sanity check: “3 times as many” should give a bigger number, and $21 > 7$ — looks right.)

 **Answer:** 21 stickers

③ A baker puts 6 muffins on each tray. She fills 8 trays. Then she sells 10 muffins. How many muffins are left?

 Two-step problem. *Step 1:* how many total? Equal groups: $8 \times 6 = 48$ muffins. *Step 2:* subtract the sold ones: $48 - 10 = 38$ muffins left. Always do the multiplication first when an equal-groups story is followed by an addition or subtraction.

 **Answer:** 38 muffins

Practice Problems

Write a multiplication equation and solve.

1. 4 bags, 8 oranges each. Total? _____
2. 7 shelves, 6 books each. Total? _____
3. Mia: 5; Dan: 4 times as many. _____
4. 9 rows of 3 chairs. Total chairs? _____
5. Each box has 10 pencils. 6 boxes. _____
6. Leo ran 8 laps. Kim ran 2 times _____
as many. How many laps?
7. 3 packs of 7 erasers. Total? _____
8. A garden has 4 rows of 9 plants. _____
9. Anna: 6 cards. Eli: 5 times _____
as many. How many?
10. 5 teams of 8 players. Total? _____
11. 2 boxes of 12 crayons. Total? _____
12. Each page has 6 stickers. 7 pages. _____

Study Tips

-  Identify the story shape first. Equal groups, array, or comparison? Once you know the shape, the operation is obvious.
-  Write a number sentence before computing. “ $5 \times 9 = ?$ ” takes a few seconds and prevents you from losing track of what to multiply.
-  For two-step problems, label each step. Step 1: find the total. Step 2: take away or compare.

Word Problems

1. A toy store has 4 shelves. Each shelf holds 9 toy cars. A customer buys 5 cars. How many toy cars are left in the store?

Answer: _____

2. Sophie has 8 seashells. Her brother has 3 times as many. How many seashells does her brother have?

Answer: _____

Answer Key — with Friendly Explanations**Practice Problems**

1. Equal groups: 4×8 .

 **Answer:** 32 oranges

2. Equal groups (or array): 7×6 .

 **Answer:** 42 books

3. “Times as many”: 4×5 .

 **Answer:** 20 items for Dan

4. Array: 9×3 .

 **Answer:** 27 chairs

5. Equal groups: 6×10 .

 **Answer:** 60 pencils

6. “Times as many”: 2×8 .

 **Answer:** 16 laps for Kim

7. Equal groups: 3×7 .

 **Answer:** 21 erasers

8. Array: 4×9 .

 **Answer:** 36 plants

9. “Times as many”: 5×6 .

 **Answer:** 30 cards for Eli

10. Equal groups: 5×8 .

 **Answer:** 40 players

11. Equal groups: 2×12 .

 **Answer:** 24 crayons

12. Equal groups: 7×6 .

 **Answer:** 42 stickers

Word Problems

1. Two-step. $4 \times 9 = 36$ cars total; $36 - 5 = 31$ left.

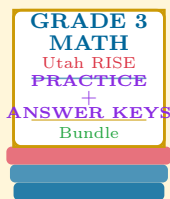
 **Answer:** 31 toy cars

2. Comparison. $3 \times 8 = 24$ seashells.

 **Answer:** 24 seashells

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