

Pair Up Patterns

Show real-world rules with tables, pairs, and words.

GRADE 3 • TEKS 3.5.E

3.5.E "represent real-world relationships using number pairs in a table and verbal descriptions."

NAME _____

DATE _____

MATCH INPUTS AND OUTPUTS

A number pair shows an input first and its matching output second. Put matching pairs in a table, then use words to tell how the output changes from the input.

WORKED EXAMPLE

Each tray holds 4 muffins. Write number pairs for 1, 2, and 3 trays. Then describe the relationship.

1. For 1 tray, multiply $1 \times 4 = 4$.
2. For 2 trays, multiply $2 \times 4 = 8$.
3. For 3 trays, multiply $3 \times 4 = 12$.
4. Write each tray amount first and each muffin amount second.

Answer: (1, 4), (2, 8), (3, 12). The number of muffins is 4 times the number of trays.

PRACTICE 6 problems

- 1** Each robot needs 5 batteries. Write the number pair (robots, batteries) for 6 robots.

ANSWER _____

- 2** A game gives 7 points for each star. Write the number pair for 5 stars. Then describe the relationship in words.

ANSWER _____

- 3** A bakery packs 6 rolls in each bag. There are 54 rolls. How many bags are there? Then write the number pair (bags, rolls).

ANSWER _____

- 4** The pair (6, 54) follows this rule: total stickers = number of pages $\times$ 9. Complete the pair (10, ____).

ANSWER _____

- 5** A scooter rental costs \$7 each hour. Which pair matches 9 hours, (9, 63) or (9, 56)? Tell what each number in the correct pair means.

ANSWER _____

- 6** The pairs (5, 35), (6, 42), and (7, 49) follow a rule. Describe the rule in words. Then write the pair for 10.

ANSWER _____

APPLY IT Show your work

- 1** A reading club gives 5 points for each book you read. Complete the table. Then describe the relationship in words.

READING CLUB POINTS

Books Read	Points Earned
0	0
5	25
6	—
7	—

ANSWER _____

- 2** At an arcade, each game uses 9 tokens. Make a table with the number pairs for 0, 5, and 7 games. Then describe the relationship in words.

WORK SPACE

ANSWER _____

CHALLENGE One step up

The pairs (6, 30), (7, 35), and (9, 45) show packs and pencils. Are there 5 pencils in each pack or 6 pencils in each pack? Explain how you know. Then write the pair for 10 packs.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Each robot needs 5 batteries. Write the number pair (robots, batteries) for 6 robots.	(6, 30)
2	A game gives 7 points for each star. Write the number pair for 5 stars. Then describe the relationship in words.	(5, 35). The number of points is 7 times the number of stars.
3	A bakery packs 6 rolls in each bag. There are 54 rolls. How many bags are there? Then write the number pair (bags, rolls).	9 bags; (9, 54)
4	The pair (6, 54) follows this rule: total stickers = number of pages $\times$ 9. Complete the pair (10, ____).	90
5	A scooter rental costs \$7 each hour. Which pair matches 9 hours, (9, 63) or (9, 56)? Tell what each number in the correct pair means.	(9, 63). 9 means hours rented, and 63 means dollars paid.
6	The pairs (5, 35), (6, 42), and (7, 49) follow a rule. Describe the rule in words. Then write the pair for 10.	The second number is 7 times the first number. (10, 70)

PART 2 • APPLY IT

- For 6 books, 30 points. For 7 books, 35 points. The number of points is 5 times the number of books read.** Multiply each number of books by 5. The table shows matching book-and-point number pairs.
- (0, 0), (5, 45), (7, 63). The number of tokens used is 9 times the number of games played.** Multiply each number of games by 9 to find tokens used. Put games in the first column and tokens in the second column.

CHALLENGE

There are 5 pencils in each pack because each second number is 5 times the first number. (10, 50)

Accept equivalent verbal descriptions that clearly state that the output is multiplied by the stated amount. Accept correctly labeled tables with inputs and outputs in either column order when the student identifies what each column means.