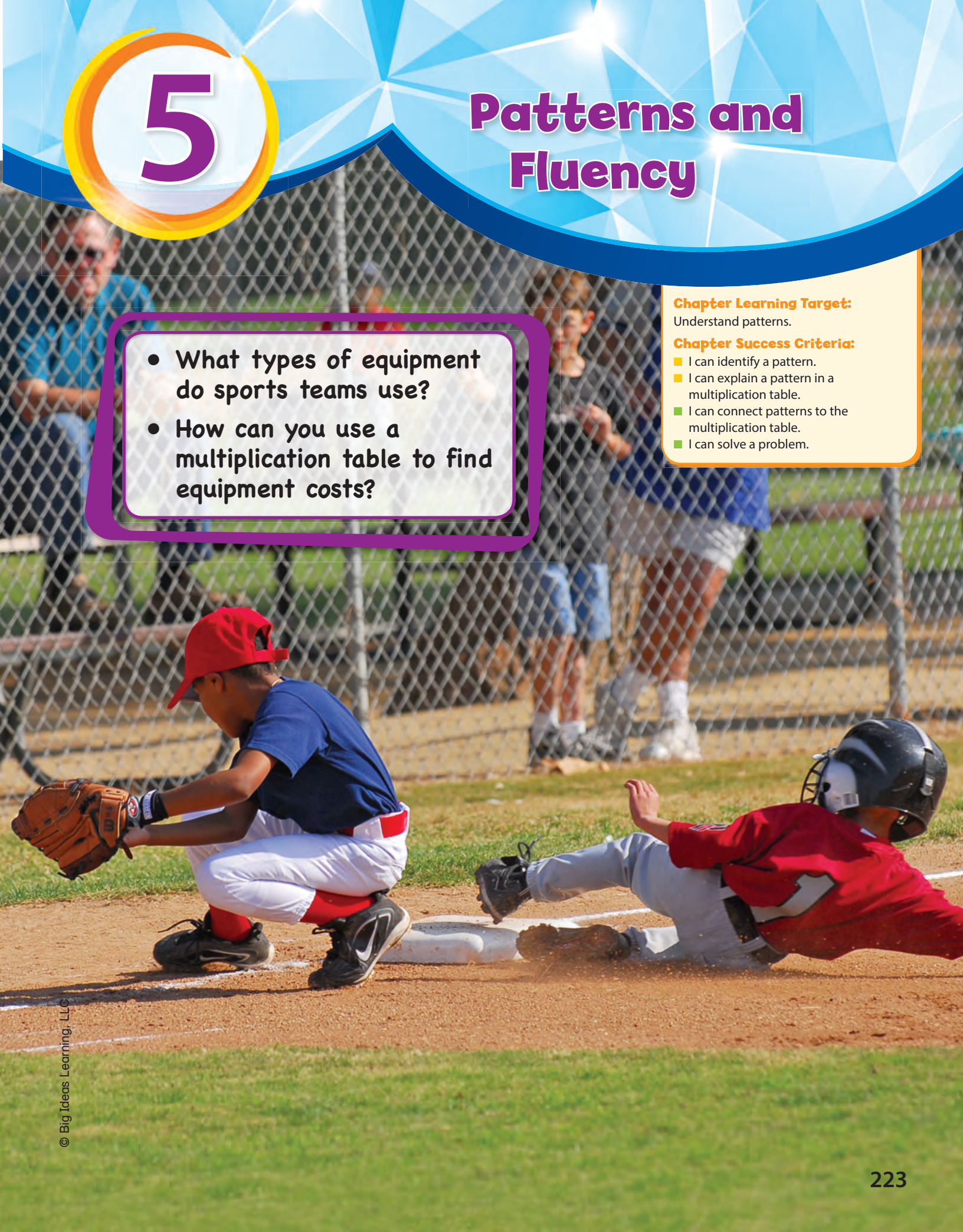
5 Patterns and Fluency



- What types of equipment do sports teams use?
- How can you use a multiplication table to find equipment costs?

Chapter Learning Target:
Understand patterns.

Chapter Success Criteria:
- I can identify a pattern.
- I can explain a pattern in a multiplication table.
- I can connect patterns to the multiplication table.
- I can solve a problem.

Name _____

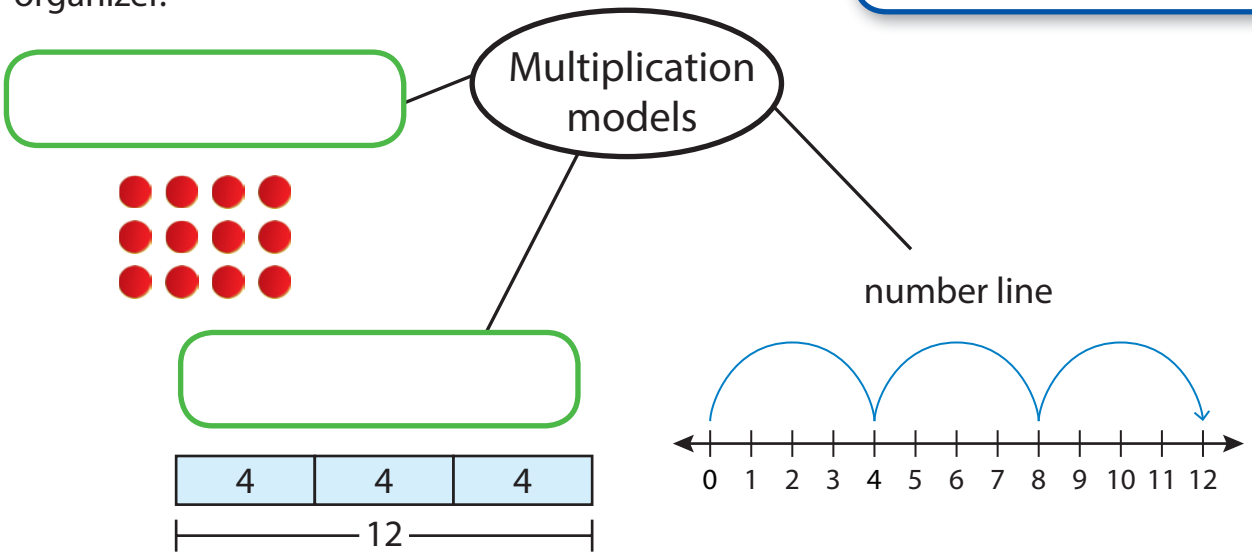
5 Vocabulary

Review Words

array
factors
product
tape diagram

Organize It

Use the review words to complete the graphic organizer.



Define It

Use the review words above to identify the word.
Find the word in the word search.

1. The answer to a multiplication problem

2. Numbers that are multiplied to get a product

D	P	L	F	A	M	R	O
T	I	R	A	L	Z	U	P
S	E	M	C	X	H	A	L
P	R	A	T	I	D	U	K
F	C	Q	O	A	R	G	B
N	Z	P	R	L	J	I	O
U	A	W	S	E	T	B	V
L	P	R	O	D	U	C	T

Name _____

5.1 Identify Patterns in the Multiplication Table

Learning Target: Identify, explain, and use patterns related to the multiplication table.

Success Criteria:

- I can identify and explain a pattern in the multiplication table.
- I can use a pattern to solve a problem.

Explore and Grow

Complete the table.

×	1	2	3	4	5
1	1 × 1	1 × 2	1 × 3	1 × 4	1 × 5
2	2 × 1	2 × 2	2 × 3 6	2 × 4	2 × 5
3	3 × 1 3	3 × 2	3 × 3	3 × 4	3 × 5
4	4 × 1	4 × 2	4 × 3	4 × 4	4 × 5 20
5	5 × 1	5 × 2	5 × 3	5 × 4	5 × 5

MP **Structure** Describe a pattern you notice.

Think and Grow: The Multiplication Table

Example Identify the property shown by the pattern in the multiplication table.

$(1 \times 3) + (1 \times 5) = 1 \times (3 + 5)$

$(2 \times 3) + (2 \times 5) = 2 \times (3 + 5)$

$(3 \times 3) + (3 \times 5) = 3 \times (3 + 5)$

Describe the pattern in your own words.

What property does the pattern show?

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

factors

products

products

factors

Show and Grow

1. Show how the Distributive Property works for other columns above.

2. Describe the pattern shown by the shaded products in the multiplication table.

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

Look at the factors of the shaded products that are the same. What do you notice?

What property explains this pattern?

Shade a different diagonal in the table that shows a similar pattern as the shaded products.

Name _____

Apply and Grow: Practice

Use the multiplication table.

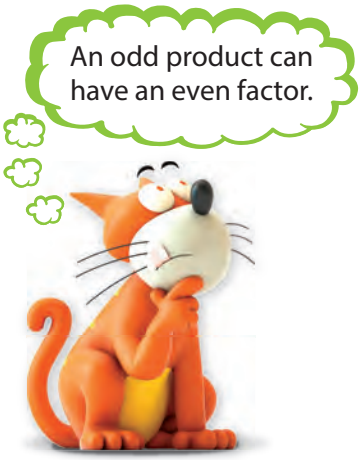
3. Shade the rows for 2, 4, 6, 8, and 10 one color. Describe the pattern in the products.

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

4. Compare the rows for 2 and 4. Describe the pattern in the products.

5. Shade the rows for 1, 3, 5, 7, and 9 another color. Describe the pattern in the products. What do you notice about the products and their factors?

6. **YOU BE THE TEACHER** Is Descartes correct? Explain.



7. **DIG DEEPER!** Does the multiplication table above have more even products or more odd products? Explain.

Think and Grow: Modeling Real Life

Newton earns the same amount of money each week. The multiplication table shows the amount (in dollars) he earns after 2 weeks, 4 weeks, and 6 weeks. If the pattern continues, how much money will he earn after 10 weeks?

Describe the pattern.

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

Newton will earn $_____ after 10 weeks.

Show and Grow

8. You plant a 10-inch-tall bamboo cane in the ground. It grows the same number of inches each day. Find and shade the pattern in the multiplication table above. How many inches does the bamboo grow each day?

Day	Inches Grown
2	6
4	12
6	18

How tall is the bamboo after 6 days? If the pattern continues, how tall will the bamboo be after 8 days?

DIG DEEPER! A different type of bamboo grows two times as fast. Explain how you can use the multiplication table to find how many inches this bamboo will grow in 8 days.

Name _____

Homework & Practice 5.1

Learning Target: Identify, explain, and use patterns related to the multiplication table.

Example Use the multiplication table.

×	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
4	4	8	12	16	20	24
5	5	10	15	20	25	30
6	6	12	18	24	30	36

Describe the pattern in the shaded row and column.

The numbers are the same.

What property explains this pattern?

Commutative Property of Multiplication

1. Use the multiplication table.

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

Look at the shaded products. Describe the pattern.

Look at the factors of the shaded products that are the same. What do you notice?

What property explains this pattern?

What do you notice about the factors of the shaded product that does not repeat? Explain why you think this happens.

Shade a different diagonal in the table that shows a similar pattern as the shaded products.

2. **YOU BE THE TEACHER** Descartes says the product of a number and 6 is double the product of that same number and 3. Is he correct? Explain.

×	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6	7	8
2	2	4	6	8	10	12	14	16
3	3	6	9	12	15	18	21	24
4	4	8	12	16	20	24	28	32

3. **Modeling Real Life** A 10-pound Great Dane puppy gains the same number of pounds each week. The multiplication table shows how many pounds she gains after 2 weeks, 4 weeks, and 6 weeks. How many pounds does she gain each week?

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

How much does the puppy weigh after 6 weeks?

If she continues to gain the same number of pounds each week, how much will she weigh after 7 weeks?

Another puppy gains 6 pounds in 2 weeks and 12 pounds in 4 weeks. How many pounds does he gain each week?

Review & Refresh

4. A total of 20 horses are divided equally into 4 races. How many horses are in each race?

Name _____

Use the Multiplication Table

5.2

Learning Target: Use the multiplication table to write related multiplication and division facts.

Success Criteria:

- I can use the multiplication table to find a product.
- I can use the multiplication table to find a quotient.
- I can use the multiplication table to explain the relationship between multiplication and division.

Explore and Grow

Use the multiplication table to complete the equations.

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

$3 \times 5 =$ _____ $\quad$ $15 \div$ _____ $= 3$

$5 \times$ _____ $= 15$ $\quad$ $15 \div 3 =$ _____

MP **Structure** How can you use the multiplication table to divide?

Think and Grow: Use the Multiplication Table

Example Use the multiplication table to find 6×3.

Think: Find the number where the row for 6 and the column for 3 meet.

$6 \times 3 =$ _____

Example Use the multiplication table to find $72 \div 8$.

Think: Find 72 in the row for 8. In what column is 72?

A related fact is $8 \times$ _____ $= 72$.

So, $72 \div 8 =$ _____.

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

Show and Grow

Use the multiplication table.

1. $4 \times 7 =$ _____

2. $10 \times 9 =$ _____

3. $1 \times 6 =$ _____

4. $20 \div 5 =$ _____

$5 \times$ _____ $= 20$

5. $12 \div 2 =$ _____

$2 \times$ _____ $= 12$

6. $27 \div 9 =$ _____

$9 \times$ _____ $= 27$

7. $32 \div 4 =$ _____

$4 \times$ _____ $= 32$

8. $49 \div 7 =$ _____

$7 \times$ _____ $= 49$

9. $56 \div 8 =$ _____

$8 \times$ _____ $= 56$

Write the related multiplication equation. Then use the multiplication table to complete the related facts.

10. $42 \div 6 =$ _____

11. $64 \div 8 =$ _____

12. $35 \div 7 =$ _____

Name _____

Apply and Grow: Practice

Write the related multiplication or division equation. Then use the multiplication table to complete the related facts.

13. $8 \div 2 =$ _____	**14.** $21 \div 3 =$ _____	**15.** $50 \div 10 =$ _____
16. $24 \div 8 =$ _____	**17.** $54 \div 9 =$ _____	**18.** $40 \div 5 =$ _____
19. $63 \div 7 =$ _____	**20.** $25 \div 5 =$ _____	**21.** $56 \div 8 =$ _____
22. $5 \times 2 =$ _____	**23.** $6 \times 6 =$ _____	**24.** $9 \times 5 =$ _____
25. $4 \times 10 =$ _____	**26.** $2 \times 8 =$ _____	**27.** $10 \times 10 =$ _____

28. MP **Precision** Explain how to use the multiplication table to solve $4 \times \square = 36$.

29. **Which One Doesn't Belong?** Which equation does *not* belong with the other three?

$6 \div 2 = 3$ $6 \times 2 = 12$ $6 \div 3 = 2$ $3 \times 2 = 6$

Think and Grow: Modeling Real Life

A frozen treat tray has 12 molds arranged in 3 equal rows. How many columns of molds are in the tray?

Use the multiplication table.

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

There are _____ columns of molds.

Show and Grow

Use the multiplication table to solve.

30. There are 28 pictures hanging on a classroom wall. They are arranged in 7 equal columns. How many rows of pictures are there?

31. A street vendor has 24 drums to sell. She arranges them into equal rows. What are three different ways she can arrange the drums? Describe each arrangement by the number of rows and columns.

32. DIG DEEPER! A stage crew sets up 2 equal arrays of chairs for a school concert. There are 6 rows and 7 columns of chairs in each array. Are there enough chairs for 80 people?

Name _____

Homework & Practice 5.2

Learning Target: Use the multiplication table to write related multiplication and division facts.

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

Example Use the multiplication table to find 4×5.

Think: Find the number where the row for 4 and the column for 5 meet.

$4 \times 5 =$ 20

Example Use the multiplication table to find $48 \div 6$.

Think: Find 48 in the row for 6. In what column is 48?

A related fact is $6 \times$ 8 $= 48$.

So, $48 \div 6 =$ 8.

Use the multiplication table.

1. $5 \times 6 =$ _____

2. $9 \times 7 =$ _____

3. $3 \times 8 =$ _____

4. $14 \div 7 =$ _____

$7 \times$ _____ $= 14$

5. $16 \div 4 =$ _____

$4 \times$ _____ $= 16$

6. $30 \div 10 =$ _____

$10 \times$ _____ $= 30$

Write the related multiplication or division equation. Then use the multiplication table to complete the related facts.

7. $9 \div 9 =$ _____

8. $24 \div 4 =$ _____

9. $18 \div 2 =$ _____

10. $6 \times 10 =$ _____

11. $1 \times 5 =$ _____

12. $7 \times 8 =$ _____

13. **YOU BE THE TEACHER** Descartes says that $8 \div 2 = 16$. Is he correct? Explain.

14. **Precision** Explain how to use the multiplication table to solve $28 \div 7 = \square$.

15. **Modeling Real Life** There are 30 umbrellas arranged in 5 equal rows. How many columns of umbrellas are there?

16. **DIG DEEPER!** There are 20 sweet potato slices divided equally between 2 oven trays. There are 2 rows of slices on each tray. How many columns are on each tray?

Review & Refresh

Find the product.

17. $\begin{array}{r} 10 \\ \times\ 8 \\ \hline \end{array}$

18. $\begin{array}{r} 5 \\ \times\ 10 \\ \hline \end{array}$

19. $\begin{array}{r} 10 \\ \times\ 10 \\ \hline \end{array}$

20. $\begin{array}{r} 10 \\ \times\ 7 \\ \hline \end{array}$

Find the missing factor.

21. $10 \times \_\_\_\_ = 90$

22. $60 = 10 \times \_\_\_\_$

23. $\_\_\_\_ \times 10 = 0$

Name _____

Complete Multiplication Tables

5.3

Learning Target: Complete a multiplication table.

Success Criteria:

- I can use multiplication to find missing products in a table.
- I can use multiplication or division to find missing factors in a table.
- I can explain how to find missing numbers in a multiplication table.

Explore and Grow

Complete the table.

×	1	3	4	☐	7
2	2		8	12	
5	5	15		30	35
☐	8		32	48	56

MP **Critique Reasoning** Describe how you completed the table. Compare your method to your partner's method. How are they the same? How are they different?

Think and Grow: Complete Multiplication Tables

Example Complete the table.

×	4	☐	9
2		16	
☐	20	40	
6			

Step 1: Use multiplication or division to find the missing factors.

$2 \times$ _____ $= 16$ or $16 \div$ _____ $= 2$

_____ $\times 4 = 20$ or $20 \div 4 =$ _____

Step 2: Use multiplication to find the missing products.

$2 \times 4 =$ _____ $2 \times 9 =$ _____ $5 \times 9 =$ _____

$6 \times 4 =$ _____ $6 \times 8 =$ _____ $6 \times 9 =$ _____

Show and Grow

Complete the table.

1.

×	☐	4	5
3	6		
☐	14		35
8			

2.

×	☐	4	9
☐		16	
☐			54
8	24		

3.

×	2	☐	7
3		15	
☐			28
6		30	
☐	18		

4.

×	☐	6	☐
☐		12	
5	15		
☐	18		
7			56

Name _____

Apply and Grow: Practice

Complete the table.

5.

×	3	☐	☐
2			14
☐	12		
☐	15		
7		35	49

6.

×	☐	6	☐
☐		12	
☐			27
4			36
8	8		

7.

×	1	☐	☐
☐	2		
☐		12	
5		20	
9			72
10			

8.

×	☐	7	9
1	6		
4	24		
☐			45
☐		42	
☐		56	

9. **YOU BE THE TEACHER** Newton says that the missing factor and product must be the same number. Is he correct? Explain.

×	☐
1	☐

10. **MP Logic** Circle the box you must complete first. Explain.

×	☐
1	☐
3	27
☐	90

Think and Grow: Modeling Real Life

Newton makes turkey sandwiches for a picnic. Complete the table to find how many of each ingredient he needs for the given numbers of sandwiches.

Ingredient	Number of Sandwiches: 1	4	6	☐
Slices of cheese		4		
Slices of bread	2			
Slices of turkey	3			30
Leaves of lettuce			24	

Show and Grow

11. You make favor bags for a birthday party. Complete the table to find how many of each item you need for the given numbers of bags.

Item	Number of Bags: 1	6	☐	8
Pencils	2		14	
Bouncy balls		18		
Balloons	4			
Stickers				48

You also want to put 8 crayons in each bag. Draw and complete the additional row in the table.

Explain how you can use the table to find how many of each item you need to make 12 favor bags.

Name _____

Homework & Practice 5.3

Learning Target: Complete a multiplication table.

Example Complete the table.

×	2	4	6
1	2	4	6
3	6	12	18
5	10	20	30

Step 1: Use multiplication or division to find the missing factors.

3 × 2 = 6 or 6 ÷ 2 = 3

5 × 6 = 30 or 30 ÷ 6 = 5

Step 2: Use multiplication to find the missing products.

1 × 2 = 2 1 × 6 = 6 3 × 4 = 12

5 × 2 = 10 5 × 4 = 20

Complete the table.

1.

×	2	☐	9
4		12	
5	10		
☐			54

2.

×	☐	3	☐
☐			16
6	6		48
7			

3.

×	1	8	☐
2			18
3			
☐		32	
☐	7		

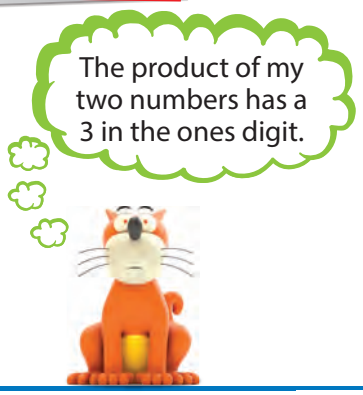
4.

×	3	☐	☐
☐	6		12
4			
7			
8			48
☐	30	50	

5. **Writing** Explain two ways you can find the missing factor.

×	8
□	32

6. **DIG DEEPER!** Are Descartes's two numbers even or odd? Explain.



even and odd

both even

both odd

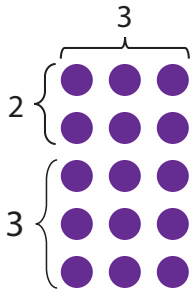
7. **Modeling Real Life** You make fruit cups for a picnic. Complete the table to find how many of each ingredient you need for the given numbers of cups.

You also want to put 4 pieces of watermelon in each cup. Draw and complete the additional row in the table.

Ingredient	Number of Cups: 1	□	5	10
Blueberries	5	10		
Strawberries			15	
Apple pieces	1			
Orange pieces		4		

Review & Refresh

8. Name the strategy or property used to solve.



$5 \times 3 = (2 + 3) \times 3$

$5 \times 3 = (2 \times 3) + (3 \times 3)$

$5 \times 3 = 6 + 9$

$5 \times 3 = 15$

Name _____

More Problem Solving 5.4

Learning Target: Solve multiplication and division word problems.

Success Criteria:

- I can understand a problem.
- I can make a plan to solve.
- I can solve a problem.

Explore and Grow

Model the story.

There are 7 pinwheels. Each pinwheel has 6 sections. How many sections are there in all?

There are _____ sections.

MP **Reasoning** Explain how you can use a multiplication table to check your answer.

Think and Grow: Using the Problem-Solving Plan

Example There are 48 igloos in a community. The igloos are arranged in 8 equal groups. How many igloos are in each group?

Understand the Problem

What do you know?

- There are _____ igloos.
- They are arranged in _____ equal groups.

What do you need to find?

- You need to find how many _____ are in each group.

Make a Plan

How will you solve?

- Divide _____ by _____ to find how many are in each group.

Solve

×	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6	7	8
2	2	4	6	8	10	12	14	16
3	3	6	9	12	15	18	21	24
4	4	8	12	16	20	24	28	32
5	5	10	15	20	25	30	35	40
6	6	12	18	24	30	36	42	48
7	7	14	21	28	35	42	49	56
8	8	16	24	32	40	48	56	64

$48 \div 8 =$ _____

There are _____ igloos in each group.

Show and Grow

1. There are 35 solar panels on a building. They are arranged in 7 equal columns. How many rows of solar panels are there?

Name _____

Apply and Grow: Practice

2. Your class divides 30 animal toys into 3 equal groups. What information do you know that will help you find how many toys are in each group?

3. Video game characters are shown in 4 rows and 5 columns. How many characters are there?

4. You arrange 32 drawings into equal rows of 8 drawings. How many rows are there?

5. Newton and Descartes play a flip-and-find card game. There are 63 cards arranged into 7 equal rows. How many columns are there?

Think and Grow: Modeling Real Life

A city has 9 bicycle-sharing stations. Each station holds 8 bicycles. There are 14 bicycles in use. How many bicycles are available?

Understand the problem:

Make a plan:

Solve:

There are _____ bicycles available.

Show and Grow

6. You buy a package of foam darts that has 4 rows of 9 darts. You lose 3 of them. How many foam darts do you have left?

7. There are 25 girls and 17 boys on step-dancing teams. Each team has 6 dancers. How many teams are there?

Name _____

Homework & Practice 5.4

Learning Target: Solve multiplication and division word problems.

Example A music classroom has 6 rows of instruments with 4 instruments in each row. How many instruments are there?

Understand the Problem

What do you know?

- There are 6 rows of musical instruments.
- There are 4 instruments in each row.

What do you need to find?

- You need to find how many instruments there are in all.

Make a Plan

How will you solve?

- Multiply 6 by 4 to find how many there are in all.

Solve

×	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25
6	6	12	18	24	30

$6 \times 4 = 24$

There are 24 instruments.

1. There are 5 rows of books with 10 books in each row. How many books are there?

2. Newton has 20 snacks for a trip. He puts them in bags with 5 snacks in each bag. How many bags does he use?

3. A game has 49 pieces of fruit arranged into 7 equal rows. How many pieces are in each row?

4. **Modeling Real Life** You buy a package of oil pastels. There are 3 rows with 8 in each row. You lose 4 of them. How many oil pastels do you have left?

Review & Refresh

Find the quotient.

5. $\square$ $1\overline{)10}$

6. $\square$ $2\overline{)0}$

7. $\square$ $36\overline{)36}$

8. $\square$ $1\overline{)54}$

Name _____

Performance Task 5

1. You help organize teams and equipment for a youth baseball league.

a. Complete the table to find the equipment you need for the given number of teams.

Equipment	Number of Teams				
	1	**4**	**5**	**□**	**9**
Balls	4				36
Bats			25		
Helmets		28			
Uniforms	10			70	

b. This year there are 100 players signed up to play. Each team has 10 players. How many teams are there this year?

c. Draw and complete a column in the table for the number of teams there are this year.

d. Each team will receive an odd number of baseball hats. Will the league order an even or an odd number of hats? Explain.

e. Twenty-four people volunteer to coach. Each team needs 2 coaches. Do you have enough coaches for each team? Explain.

f. All but 4 teams play at the same time tonight. Two teams play on each field. How many baseball fields will be used?

Multiplication Table Cover Up

Directions:

1. Players take turns flipping two number cards.
2. On your turn, multiply the two numbers and place a small counter on the product.
3. If the product is already covered, then you lose your turn.
4. The first player to get three products in a row wins!

×	0	1	2	3	4	5	6	7	8	9	10
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

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

Name _____

Chapter Practice 5

5.1 Identify Patterns in the Multiplication Table

1. Use the multiplication table.

Shade the row for 2 and the column for 2. Describe the pattern in the products.

What property explains this pattern?

Look at the row for 9. Describe the pattern in the products.

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

5.2 Use the Multiplication Table

Use the multiplication table.

2. $3 \times 4 =$ _____

3. $7 \times 5 =$ _____

4. $6 \times 10 =$ _____

5. $40 \div 8 =$ _____

$8 \times$ _____ $= 40$

6. $9 \div 3 =$ _____

$3 \times$ _____ $= 9$

7. $24 \div 6 =$ _____

$6 \times$ _____ $= 24$

Write the related multiplication or division equation. Then use the multiplication table to complete the related facts.

8. $54 \div 6 =$ _____

9. $8 \times 4 =$ _____

10. $35 \div 5 =$ _____

5.3 Complete Multiplication Tables

Complete the table.

11.

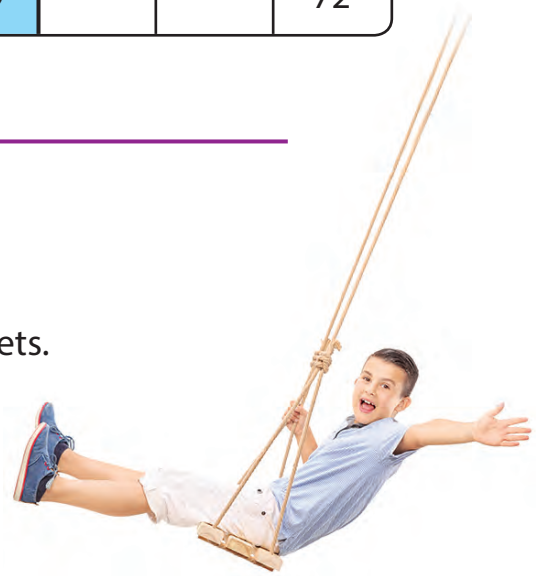
×	2	☐	☐
3			
☐	10	35	
6			60

12.

×	5	6	☐
1			
☐		18	
☐	20		
9			72

5.4 More Problem Solving

13. Fifteen kids are divided equally among 5 swing sets. How many kids are at each swing set?



14. Your class yearbook page has 28 photos arranged in equal rows. There are 7 photos in each row. How many rows are there?

15. **Modeling Real Life** There are 28 girls and 28 boys doing a scavenger hunt. Everyone is split into teams of 8 students. How many teams are there?