

Name _____

Describe Patterns

Practice and Homework Lesson 5.1



COMMON CORE STANDARD—3.OA.D.9
Solve problems involving the four operations,
and identify and explain patterns in arithmetic.

Describe a pattern for the table. Then complete the table.

1.

Pans	1	2	3	4	5
Muffins	6	12	18	24	30

Add 6 muffins for each pan;

Multiply the number of pans by 6.

2.

Wagons	2	3	4	5	6
Wheels	8	12	16		

3.

Vases	2	3	4	5	6
Flowers	14		28		42

4.

Spiders	1	2	3	4	5
Legs	8		24		40

Problem Solving



5. Caleb buys 5 cartons of yogurt. Each carton has 8 yogurt cups. How many yogurt cups does Caleb buy?

6. Libby bought 4 packages of pencils. Each package has 6 pencils. How many pencils did Libby buy?

7. **WRITE** *Math* How does finding a pattern help you complete a table?

Lesson Check (3.OA.D.9)

1. Describe a pattern in the table.

Tables	1	2	3	4	5
Chairs	5	10	15	20	25

2. What number completes this table?

Butterflies	3	4	5	6	7
Wings	12	16	20	■	28

Spiral Review (3.OA.A.3, 3.OA.C.7)

3. Jennilee buys 7 packs of crayons. There are 6 crayons in each pack. How many crayons does Jennilee buy?

4. Maverick has 5 books of circus tickets. Each book has 5 tickets. How many tickets does Maverick have?

5. Bailey walked his dog 2 times each day for 9 days. How many times did Bailey walk his dog?

6. Drew's Tree Company delivers pear trees in groups of 4. Yesterday, the company delivered 8 groups of pear trees. How many pear trees were delivered?



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ALGEBRA

Lesson 5.2

Find Unknown Numbers



COMMON CORE STANDARD—3.OA.A.4

Represent and solve problems involving multiplication and division.

Find the unknown number.

1. $n \times 3 = 12$

Think: How many groups of 3 equal 12?

$n = \underline{4}$

2. $s \times 8 = 64$

$s = \underline{\hspace{2cm}}$

3. $21 = 7 \times n$

$n = \underline{\hspace{2cm}}$

4. $y \times 2 = 18$

$y = \underline{\hspace{2cm}}$

5. $5 \times p = 10$

$p = \underline{\hspace{2cm}}$

6. $56 = 8 \times t$

$t = \underline{\hspace{2cm}}$

7. $m \times 4 = 28$

$m = \underline{\hspace{2cm}}$

8. $\star \times 1 = 9$

$\star = \underline{\hspace{2cm}}$

9. $b \times 6 = 54$

$b = \underline{\hspace{2cm}}$

10. $5 \times \blacktriangle = 40$

$\blacktriangle = \underline{\hspace{2cm}}$

11. $30 = d \times 3$

$d = \underline{\hspace{2cm}}$

12. $7 \times k = 42$

$k = \underline{\hspace{2cm}}$

Problem Solving



13. Carmen spent \$42 for 6 hats.
How much did each hat cost?

14. Mark has a baking tray with 24 muffins.
The muffins are arranged in 4 equal rows.
How many muffins are in each row?

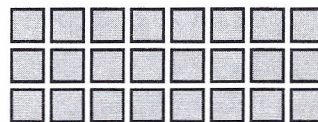
15. **WRITE** *Math* Explain why it does not matter what letter or symbol is used to find an unknown number.

Lesson Check (3.OA.A.4)

1. What is the unknown number?

$$b \times 7 = 56$$

2. What is the unknown number shown by this array?



$$3 \times \square = 24$$

Spiral Review (3.OA.A.3, 3.OA.B.5)

3. The number sentence $4 \times 6 = 6 \times 4$ is an example of what property?

4. Find the product.

$$5 \times (4 \times 2)$$

5. The number sentence $4 \times 7 = (4 \times 3) + (4 \times 4)$ is an example of what property?

6. In a group of 10 boys, each boy had 2 hats. How many hats did they have?



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Practice and Homework Lesson 5.3

Problem Solving • Use the Distributive Property



COMMON CORE STANDARD—3.NBT.A.3

Use place value understanding and properties of operations to perform multi-digit arithmetic.

Read each problem and solve.

1. Each time a student turns in a perfect spelling test, Ms. Ricks puts an achievement square on the bulletin board. There are 6 rows of squares on the bulletin board. Each row has 30 squares. How many perfect spelling tests have been turned in?

$$\begin{aligned}\text{Think: } 6 \times 30 &= 6 \times (10 + 10 + 10) \\ &= 60 + 60 + 60 = 180\end{aligned}$$

180 spelling tests

2. Norma practices violin for 50 minutes every day. How many minutes does Norma practice violin in 7 days?
- _____
3. A kitchen designer is creating a new backsplash for the wall behind a kitchen sink. The backsplash will have 5 rows of tiles. Each row will have 20 tiles. How many tiles are needed for the entire backsplash?
- _____
4. A bowling alley keeps shoes in rows of cubbyholes. There are 9 rows of cubbyholes, with 20 cubbyholes in each row. If there is a pair of shoes in every cubbyhole, how many pairs of shoes are there?
- _____

5. **WRITE** *Math* Write a description of how a diagram can help you solve 2×40 .
- _____
- _____

Lesson Check (3.NBT.A.3)

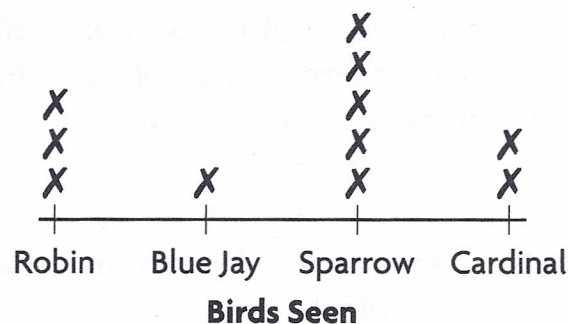
- Each snack pack holds 20 crackers. How many crackers in all are there in 4 snack packs?
- A machine makes 70 springs each hour. How many springs will the machine make in 8 hours?

Spiral Review (3.OA.A.1, 3.NBT.A.1, 3.MD.B.4)

- Lila read 142 pages on Friday and 168 pages on Saturday. Estimate how many pages Lila read on Friday and Saturday combined.
- Jessica wrote $6 + 6 + 6 + 6$ on the board. What is another way to show $6 + 6 + 6 + 6$?

Use the line plot for 5–6.

- Eliot made a line plot to record the number of birds he saw at his bird feeder. How many more sparrows than blue jays did he see?
- How many robins and cardinals combined did Eliot see?



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Practice and Homework

Lesson 5.4

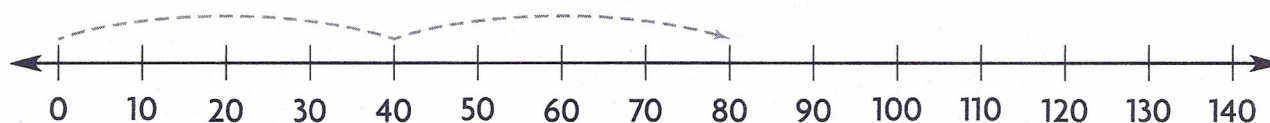
Multiplication Strategies with Multiples of 10



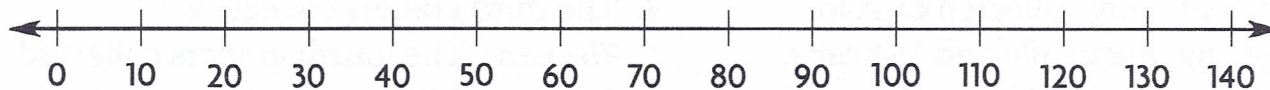
COMMON CORE STANDARD—3.NBT.A.3
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Use a number line to find the product.

1. $2 \times 40 = \underline{80}$



2. $4 \times 30 = \underline{\hspace{2cm}}$



Use place value to find the product.

3. $5 \times 70 = 5 \times \underline{\hspace{1cm}} \text{ tens}$
 $= \underline{\hspace{1cm}} \text{ tens} = \underline{\hspace{2cm}}$

4. $60 \times 4 = \underline{\hspace{1cm}} \text{ tens} \times 4$
 $= \underline{\hspace{1cm}} \text{ tens} = \underline{\hspace{2cm}}$

Problem Solving



5. One exhibit at the aquarium has 5 fish tanks. Each fish tank holds 50 gallons of water. How much water do the 5 tanks hold?
- _____

6. In another aquarium display, there are 40 fish in each of 7 large tanks. How many fish are in the display?
- _____

7. **WRITE** *Math* Which strategy do you prefer to use to multiply with multiples of 10: base ten blocks, a number line, or place value? Explain why.
- _____
- _____

Lesson Check (3.NBT.A.3)

1. Each bag of pattern blocks contains 50 blocks. To make a class pattern, the teacher combines 4 bags of blocks. How many pattern blocks are there?

2. A deli received 8 blocks of cheese. Each block of cheese weighs 60 ounces. What is the total weight of the cheeses?

Spiral Review (3.NBT.A.1, 3.NBT.A.2, 3.MD.B.3)

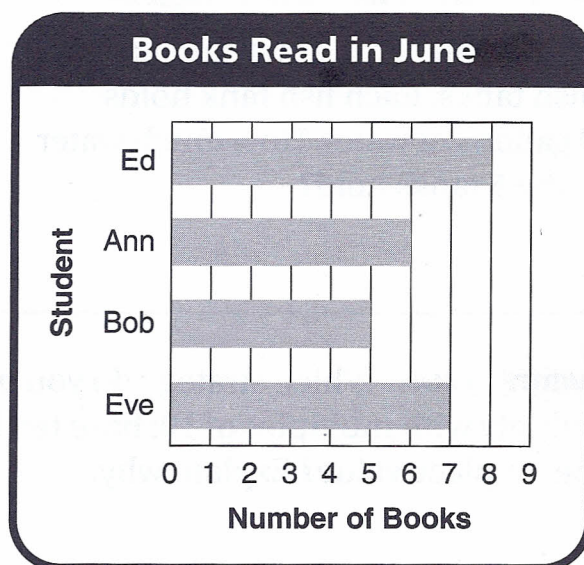
3. Alan and Betty collected cans for recycling. Alan collected 154 cans. Betty collected 215 cans. How many cans did they collect?

4. The third graders collected 754 cans. The fourth graders collected 592 cans. Estimate how many more cans the third graders collected.

Use the bar graph for 5–6.

5. How many more books did Ed read than Bob?

6. How many books did the four students read in June?



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Multiply 1-Digit Numbers by Multiples of 10



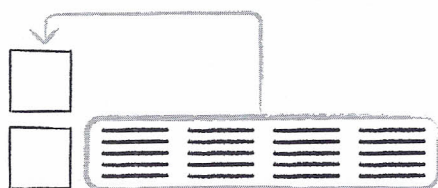
COMMON CORE STANDARD—3.NBT.A.3
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Find the product. Use base-ten blocks or draw a quick picture.

1. $4 \times 50 = \underline{200}$

2. $60 \times 3 = \underline{\hspace{2cm}}$

3. $\underline{\hspace{2cm}} = 60 \times 5$



Find the product.

4. $\begin{array}{r} 80 \\ \times 3 \\ \hline \end{array}$

5. $\begin{array}{r} 50 \\ \times 2 \\ \hline \end{array}$

6. $\begin{array}{r} 60 \\ \times 7 \\ \hline \end{array}$

7. $\begin{array}{r} 70 \\ \times 4 \\ \hline \end{array}$

8. $6 \times 90 = \underline{\hspace{2cm}}$

9. $9 \times 70 = \underline{\hspace{2cm}}$

10. $8 \times 90 = \underline{\hspace{2cm}}$

11. $\underline{\hspace{2cm}} = 6 \times 80$

Problem Solving



12. Each model car in a set costs \$4. There are 30 different model cars in the set. How much would it cost to buy all the model cars in the set?

13. Amanda exercises for 50 minutes each day. How many minutes will she exercise in 7 days?

14. **WRITE** *Math* Explain how to find 4×80 . Show your work.

Lesson Check (3.NBT.A.3)

1. Each shelf in one section of the library holds 30 books. There are 9 shelves in that section. How many books will these shelves hold?
2. One can of juice mix makes 30 ounces of juice. How many ounces of juice can be made from 6 cans of juice mix?

Spiral Review (3.OA.A.3, 3.OA.B.5, 3.OA.D.8)

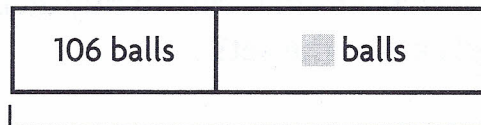
3. Sue bought 7 cans of tennis balls. There are 3 balls in each can. How many balls did Sue buy?
4. Use the Commutative Property of Multiplication to write a related multiplication sentence.

$$3 \times 4 = 12$$

5. Lyn drew this bar model to solve a problem. What operation should she use to find the unknown number?
6. Joe drew this bar model to find the unknown number of balls. Find the unknown number.



 flowers



250 balls

