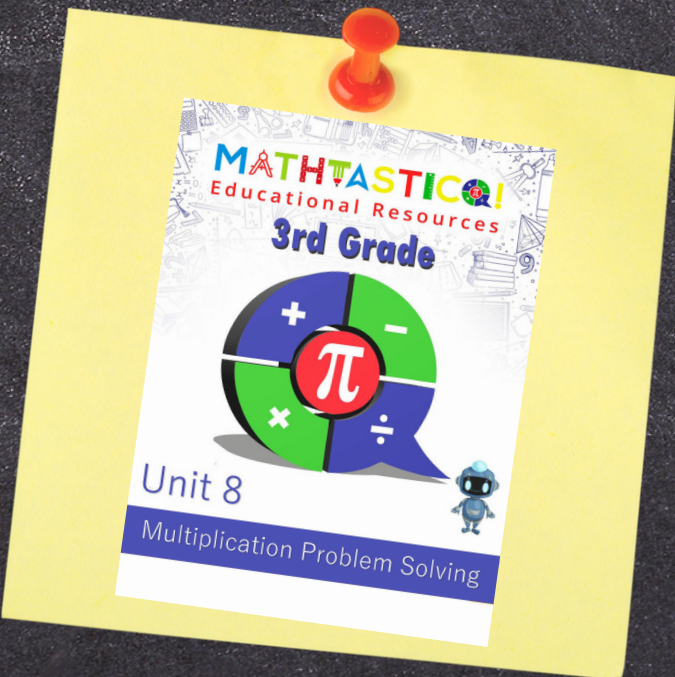
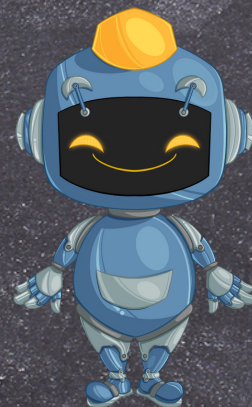


# MATH BUNDLE!

## 3rd Grade Unit 8



**3.6C** UNIT 8: MULTIPLICATION PROBLEM SOLVING Lesson 1

**START**

	10	35	16	
	20	9	15	
	40	12	8	
	6	24	45	
	49	25	50	

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**3.6C** UNIT 8: MULTIPLICATION PROBLEM SOLVING Lesson 1

**SKILL BUILDING**

Alfred wants to know how big his backyard is. He drew a model on grid paper.

Hello, friends! Please help me find the area of my backyard.

**Alfred's Backyard**

- How many rows of square units are occupied by the backyard?
- How many square units are there in each row occupied by the backyard?
- Write a multiplication equation to find the area of the backyard.
- What is the area of the backyard in square units?

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**3.4K** UNIT 8: MULTIPLICATION PROBLEM SOLVING Lesson 2

**SKILL BUILDING**

Two friends went to a pastry shop. Cindy bought 4 boxes with 6 cupcakes in each. Lou bought 5 boxes with 4 cupcakes in each.

**Cindy's Cupcakes**

**Lou's Cupcakes**

- Write a multiplication equation to show the number of Cindy's cupcakes.
- Write a multiplication equation to show the number of Lou's cupcakes.
- Who has more cupcakes?
- How many cupcakes do they have altogether?

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**3.4K** UNIT 8: MULTIPLICATION PROBLEM SOLVING Lesson 2

**SKILL BUILDING**

Michael owns a barn. There are 3 horses, 2 dogs, and 6 chickens in his barn.

- Write a multiplication equation to find the number of horses' hoofs.
- Write a multiplication equation to find the number of dogs' paws.
- Write a multiplication equation to find the number of chickens' feet.
- Find the total number of hoofs, paws, and feet.

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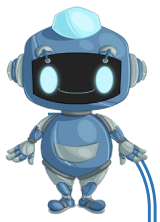
- GAMES
- PRE-ASSESSMENTS
- GUIDED PRACTICE
- HOMEWORK LESSONS
- INDEPENDENT PRACTICE
- CHECKPOINTS
- ASSESSMENT
- SPIRAL REVIEW



# UNIT 8

## MULTIPLICATION PROBLEM SOLVING

# 3<sup>rd</sup> GRADE



### OBJECTIVE/GOAL

Learn to **determine the area** of rectangles using multiplication, as well as to **represent and solve** one-step and two-step multiplication problems within 100 using strategies based on objects, pictorial models, properties of operations, or recall of facts, strip diagrams, and equations.

### TARGET STANDARD

**3.6C** Can you determine the area of rectangles with whole number sides lengths in problems using multiplication related to the number of rows times the number of unit squares in each row?

**3.4K** Can you solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts?

**3.5B** Can you represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations?

### VOCABULARY

- Area
- Array
- Square units
- Strip diagram
- Division
- Multiplication
- Area Model
- Equal Groups

### QUESTIONS TO GUIDE YOUR THINKING

- How do you determine the area of a rectangle?
- How do arrays, strip diagrams, pictorial models, and equations help you solve problems?
- What is the best strategy for solving word problems? Why?

### TRACK YOUR ACCOMPLISHMENTS



CHECKPOINT 1



CHECKPOINT 2


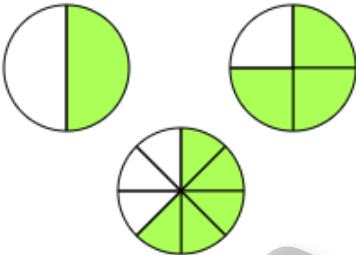




CHECKPOINT 3



UNIT ASSESSMENT



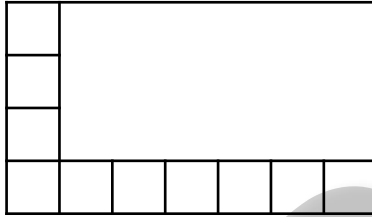
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">MONDAY</p>	<p>1. What is the place value of 8 in the number below?</p> <p style="text-align: center;">845,097</p> <p>_____</p>	<p>2. Use the symbols <math>&lt;</math>, <math>&gt;</math>, or <math>=</math> to make the comparison true.</p> <p style="text-align: center;">543,123 ___ 543,213</p>	<p>3. What fraction represents the shaded part of the figure below?</p>  <p>_____</p>								
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">TUESDAY</p>	<p>4. Cross out the figure that shows the unit fraction.</p> 	<p>5. Compare the fractions using the symbols <math>&gt;</math>, <math>&lt;</math>, or <math>=</math>.</p> 	<p>6. What is the value of the money shown below?</p>  <p>_____</p>								
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">WEDNESDAY</p>	<p>7. Find the sum.</p> $\begin{array}{r} 742 \\ +125 \\ \hline \end{array}$ <p style="text-align: center;">□</p>	<p>8. Round 439 to the nearest <b>hundred</b>.</p> <p>_____</p>	<p>9. Write the missing number in the table below.</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>_____</td> </tr> <tr> <td>22</td> <td>24</td> </tr> <tr> <td>25</td> <td>27</td> </tr> </tbody> </table>	Input	Output	18	_____	22	24	25	27
Input	Output										
18	_____										
22	24										
25	27										
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">THURSDAY</p>	<p>10. Use repeated addition to find the answer to the equation below.</p> <p style="text-align: center;"><math>4 \times 4 = ?</math></p> <p>_____</p>	<p>11. Find the product.</p> <p style="text-align: center;"><math>8 \times 9 = \square</math></p>	<p>12. A class is divided into 5 groups. There are 4 students in each group. What is the total number of students in the class?</p> <p>_____</p>								



## GUIDED PRACTICE

**Liam started laying square tiles on the last row and the first column of his patio. The rest of the patio will be covered with square tiles of the same size. What is the area of the patio in square feet?**

$$\square = 1 \text{ foot}$$



To find the area of the patio, multiply the number of rows by the number of unit squares in each row.



number  
of rows

x



number of unit  
squares in each  
row

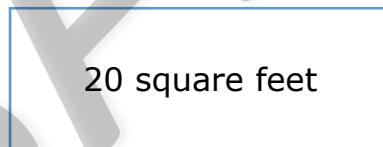
=



square feet

If you wrote  $4 \times 7 = 28$ , you are correct. The area of the patio is **28 square feet**.

**Ava drew a rectangle with an area of 20 square feet. What could be the dimensions of the rectangle?**



The dimension of a rectangle can be measured using its length and width. To find the dimensions of the rectangle above, think of two sets of factors that give a product of 20. We have 5 and 4, 10 and 2.

Therefore, the dimensions of the rectangle above could be:

**4 feet x 5 feet**  
**2 feet x 10 feet**

**Area** is the amount of space occupied by a flat shape.



These tiny squares are **called square units**.

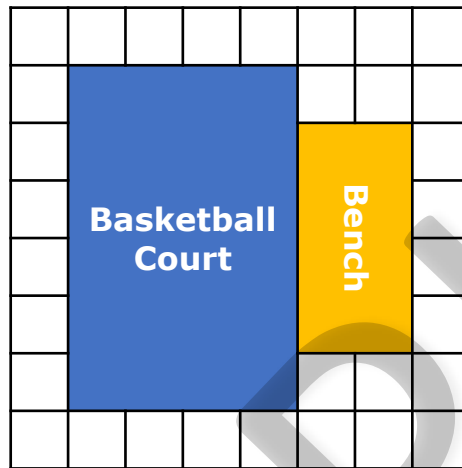


If there are no square units in a figure, you can multiply the side length by the width.



## INDEPENDENT PRACTICE

The shaded part below represents the area of a basketball court and a team bench. Each square tile has a side length of 1 meter.



- 7 Which of these equations can be used to find the area of the basketball court? Shade **all** correct answers.

$6 \times 4 = 24$

$6 \times 6 = 36$

$4 \times 6 = 24$

$3 \times 8 = 24$



- 8 Which of these equations can be used to find the area of the bench? Shade **all** correct answers.

$6 \times 2 = 12$

$2 \times 4 = 8$

$4 \times 2 = 8$

$2 \times 6 = 12$



- 9 Circle the word that makes the statement true.

The (basketball court, bench) has a larger area.

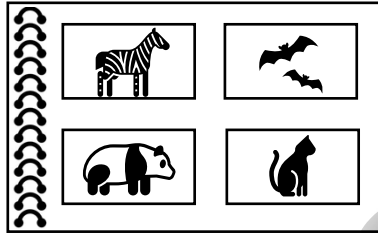


- 10 The total area of the basketball court and the bench is (32, 36, 42) square meters.

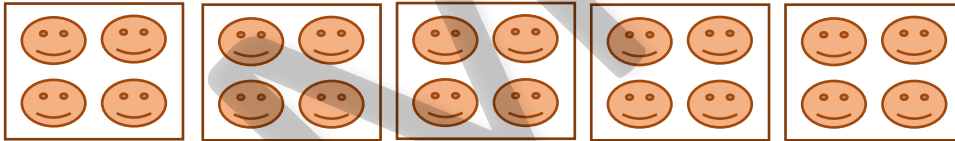


## PROBLEM SOLVING

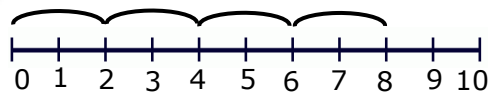
- 1 An album has 4 pictures on each page. If there are 10 pages, how many pictures are there altogether?



- A. 4 pictures  
 B. 14 pictures  
 C. 40 pictures  
 D. 80 pictures
- 2 Sophia baked smiley cookies for the children. She placed them in boxes. Which of the following is **not** an equation to find the total number of cookies?



- A.  $5 \times 4 = 20$   
 B.  $4 \times 4 \times 4 \times 4 = 20$   
 C.  $4 + 4 + 4 + 4 + 4 = 20$   
 D. 4, 8, 12, 16, 20
- 3 Which of these equations represents the number of jumps in the number line?

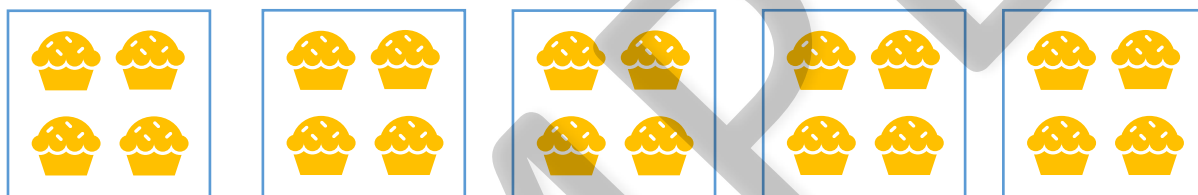


- A.  $4 \times 2 = 8$   
 B.  $8 \times 2 = 16$   
 C.  $2 \times 3 = 6$   
 D.  $8 \times 4 = 32$



**SKILL BUILDING**

Two friends went to a pastry shop. Cindy bought 4 boxes with 6 cupcakes in each. Lou bought 5 boxes with 4 cupcakes in each.

**Cindy's Cupcakes****Lou's Cupcakes**

1 Write a multiplication equation to show the number of Cindy's cupcakes.

---

2 Write a multiplication equation to show the number of Lou's cupcakes.

---

3 Who has more cupcakes?

---

4 How many cupcakes do they have altogether?

---



## INDEPENDENT PRACTICE

- 1 Mrs. Jones went to a grocery store. She bought 5 boxes of chocolates with 10 chocolate bars in each box. How many chocolate bars did she buy?



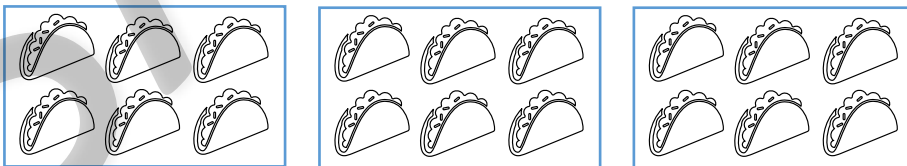
- A. 10 juices
- B. 30 juices
- C. 50 juices
- D. 80 juices

- 2 A school library received 7 sets of storybooks as a donation. Each set has 3 books. How many books were donated to the library?



- A. 7 books
- B. 10 books
- C. 14 books
- D. 21 books

- 3 James served trays of tacos at a sports event. The number of tacos he served is shown below. Which expression represents the number of tacos?



- A.  $3 \times 6$
- B.  $6 \times 6 \times 6$
- C.  $3 \times 12$
- D.  $18 \times 3$





## HOMEWORK LESSON 2

- 1 Read the problem below carefully. Use these pictures to solve the problem.



Notebook  
\$4



Set of Pencils  
\$2



Backpack  
\$20



Scissors  
\$3

Melissa went to a bookstore to buy school supplies. She bought 3 notebooks, 2 sets of pencils and a backpack. Fill in the receipt below to find the total amount she paid. A sample is done for you.

Quantity	Item	Cost per Item	Amount
2	Scissors	\$3	\$6

Write your answer here:

### Official Receipt

Quantity	Item	Cost per Item	Amount
		<b>Total</b>	

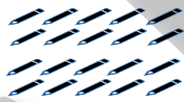







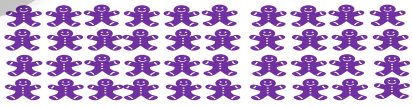
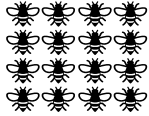


## Magic Four

This game is for two players. You will need 2 dice, a different colored set of counters for each player, and a game board.

The goal of this game is to cover a line of four boxes on your game board.

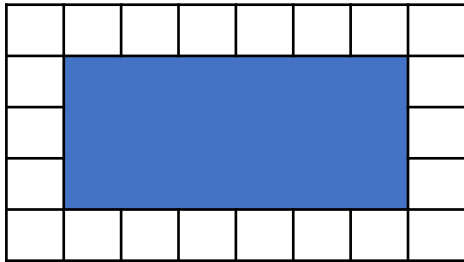
1. On your turn, roll the dice and add them together.
2. Find the sum of the dice and look at the arrays in the chart.
3. Find the total number of objects in the array.
4. Place a counter on top of your answer. If the answer has already been covered, you lose your turn.
5. If you got "Take and Cover," remove an opponent's counter on the gameboard and place your counter on it.
6. The game continues until one player covers a line of 4 boxes. The line can be vertical, horizontal, or diagonal.

Missing Number Chart			
2		8	
3		9	
4		10	
5		11	
6		12	<b>Take and Cover</b>
7			



## PRACTICE ASSESSMENT

- 7 The shaded part of the model below represents the area of a rectangle. What is the area of the rectangle in square feet?



= 1 foot

\_\_\_\_\_ square feet



- 8 Sandra collected 9 seashells while Eunice collected 6. Use  to draw arrays that will represent the number of shells collected by Sandra and Eunice.



Sandra's shells



Eunice's shells



- 9 Write an equation to show the total number of shells collected by Sandra and Eunice.

( \_\_\_\_\_ ) + ( \_\_\_\_\_ ) = \_\_\_\_\_

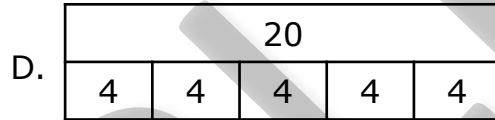
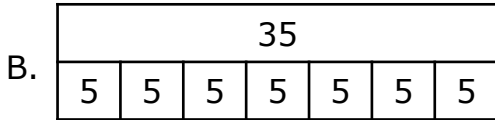
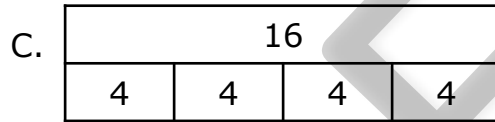
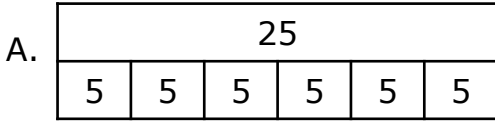


- 10 Mark bought 3 packs of erasers. Each pack has 10 erasers. Fill in the strip diagram below with the correct numbers to find the total number of erasers.

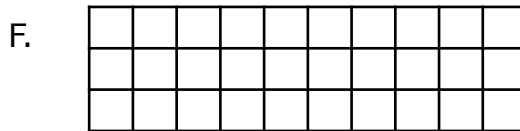
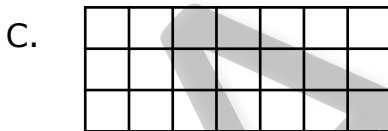
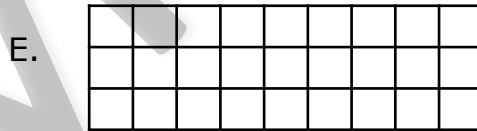
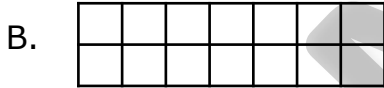
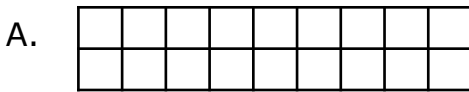


## UNIT 8 ASSESSMENT

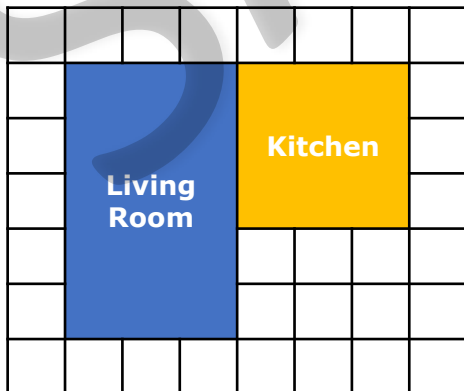
- 5 Ms. Maria divided her class into 5 groups for a team-building activity. Each group has 4 members. Which strip diagram represents the total number of students who participated in the team-building activity?



- 6 Which of these rectangles have an area larger than 16 square feet? Select **all** correct answers.



- 7 Find the total area of the kitchen and living room in square feet.



= 1 foot

\_\_\_\_\_ square feet

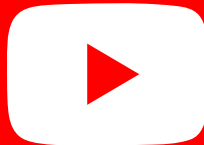
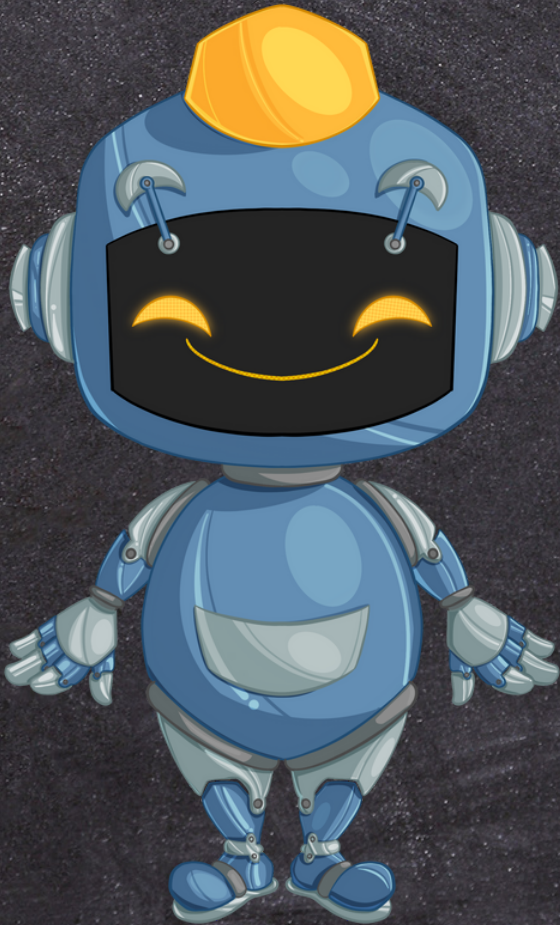




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5.1C	Identifying Water Resources			
5.1D	Identifying Soil Resources			
5.1E	Identifying Land Resources			

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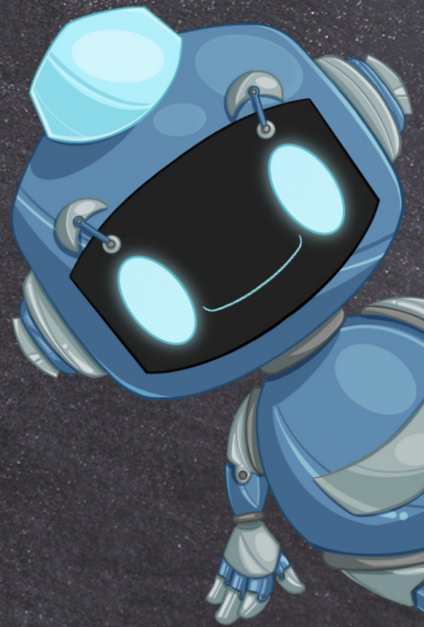
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TEK	Topic	Answer Key	STAAR 2.0 Activity	Instructional Video
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5.8B	Ecological Energy & Matter Cycling			
5.8C	Ecological Energy & Matter Cycling			
5.8D	Populations, Communities, Ecosystems			

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