MULTIPLICATION

FACT FLUENCY

EXPLORE THE 0s AND 1s TIMES TABLES

LESSON 4

The Simplified Math Curriculum™

© One Stop Teacher Shop © Mr. Elementary Math

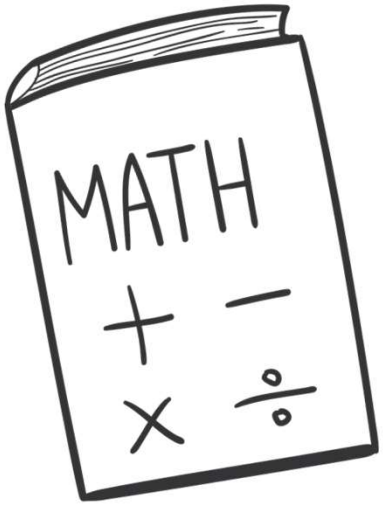
TODAY'S OBJECTIVE

Today we will explore the 0s and 1s times tables.

© One Stop Teacher Shop © Mr. Elementary Math

TAKE OUT YOUR

MATH JOURNALS



© One Stop Teacher Shop © Mr. Elementary Math

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

Today we are going explore the 0s and 1s times tables.

Will owns a cookie shop.

He sells two types of cookies:

Chocolate chip

Fudge striped

Let's help him find the amount of cookies he sold each day.

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

On the first day, two customers came in and each customer bought one chocolate chip cookie. Zero fudge striped cookies were bought. I want to find out how many chocolate chip cookies were sold.

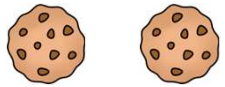
Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

First, I'll represent the number of chocolate chip cookies sold with a model and a matching multiplication fact.

Each of the 2 customers bought one chocolate chip cookie. 2 × 1 equals 2

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 **2 × 1 = 2**			

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

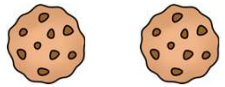
Next, I'll represent the number of fudge striped cookies sold with a model and a multiplication fact.

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 $2 \times 1 = 2$			

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

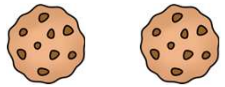
There is no model to draw because no one bought fudge striped cookies.
I can show "2 customers bought 0 fudge striped cookies" as 2 × 0 equals 0.

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 2 × 1 = 2		**2 × 0 = 0**	

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

The next day 3 customers came in and each one bought one chocolate chip cookie. Zero fudge striped cookies were sold. I'll use the same method to solve.

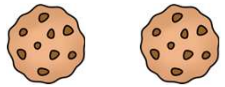
Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 $2 \times 1 = 2$		$2 \times 0 = 0$	
3 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

I'll represent the number of chocolate chip cookies sold with a model and a multiplication fact. Record the answer in your math journal.

Each of the 3 customers bought 1 chocolate chip cookie. 3 × 1 equals 3

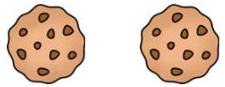
Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 2 × 1 = 2		2 × 0 = 0	
3 customers bought 1 each none	 **3 × 1 = 3**			

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

Next, I'll represent the number of fudge striped cookies sold with a model and a multiplication fact. Record the answer in your math journal.

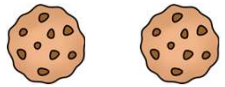
None of the 3 customers bought fudge a striped cookie. 3 × 0 equals 0

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 2 × 1 = 2		2 × 0 = 0	
3 customers bought 1 each none	 3 × 1 = 3		**3 × 0 = 0**	

© One Stop Teacher Shop © Mr. Elementary Math

WATCH ME FIRST

I'm starting to see different patterns.
Let's see if the patterns continue and discuss later.

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
2 customers bought 1 each none	 $2 \times 1 = 2$		$2 \times 0 = 0$	
3 customers bought 1 each none	 $3 \times 1 = 3$		$\mathbf{3 \times 0 = 0}$	

© One Stop Teacher Shop © Mr. Elementary Math

Now let's work together to find the number of cookies sold during the next two days.

© One Stop Teacher Shop © Mr. Elementary Math

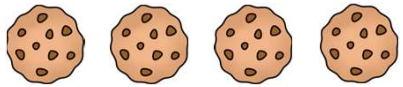
LET'S WORK TOGETHER

© One Stop Teacher Shop © Mr. Elementary Math

LET'S WORK TOGETHER

The next day 4 customers came in and each bought one chocolate chip cookie. Zero fudge striped cookies were sold. How can we represent the amount of chocolate chip cookies that were sold? Record in your journals.

Each of the 4 customers bought one chocolate chip cookie. 4 × 1 equals 4

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
4 customers bought 1 each none	 **4 × 1 = 4**			

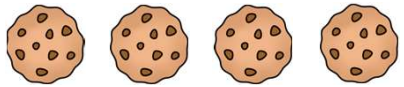
Use the model to record a multiplication fact in your math journal.

© One Stop Teacher Shop © Mr. Elementary Math

LET'S WORK TOGETHER

Zero customers bought striped cookies.
How can we represent that?

None of the 4 customers bought a fudge striped cookie. 4 × 0 equals 0

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
4 customers bought 1 each none	 $4 \times 1 = 4$		$\mathbf{4 \times 0 = 0}$	

Use the model to record a multiplication fact in your math journal.

© One Stop Teacher Shop © Mr. Elementary Math

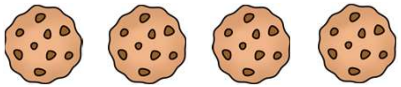
LET'S DO ONE MORE TOGETHER...

© One Stop Teacher Shop © Mr. Elementary Math

LET'S WORK TOGETHER

The next day 5 customers came in and each bought one chocolate chip cookie. Zero fudge striped cookies were sold. How can we represent the amount of chocolate chip cookies that were sold? Record in your journals.

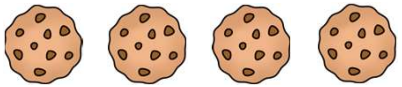
Each of the 5 customers bought one chocolate chip cookie. 5 × 1 equals 5

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
4 customers bought 1 each none	 $4 \times 1 = 4$		$4 \times 0 = 0$	
5 customers bought 1 each none	 **$5 \times 1 = 5$**			

© One Stop Teacher Shop © Mr. Elementary Math

LET'S WORK TOGETHER

How can we represent the number of fudge striped cookies that were sold? Record in your journals.

Cookie Orders	Create a Model and Write a Multiplication Fact	Number of Chocolate Chip Sold	Create a Model and Write a Multiplication Fact	Number of Fudge Striped Sold
4 customers bought 1 each none	 $4 \times 1 = 4$		$4 \times 0 = 0$	
5 customers bought 1 each none	 **$5 \times 1 = 5$**		$5 \times 0 = 0$	

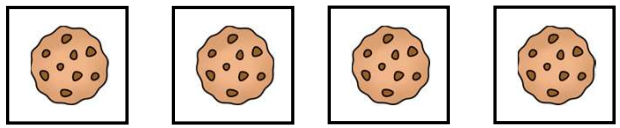
© One Stop Teacher Shop © Mr. Elementary Math

LET'S EXPLORE SOME MORE...

© One Stop Teacher Shop © Mr. Elementary Math

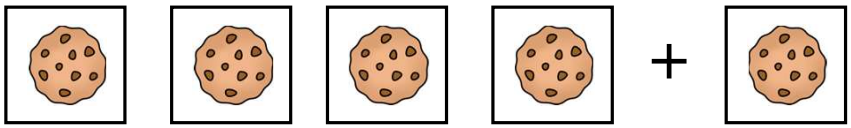
LET'S WORK TOGETHER
Problem A

How are these facts different: **4 × 1** and **4 + 1**?
Draw a picture in your math journals and write an explanation, then let's discuss!



4 groups of 1 cookie

$4 \times 1 = 4$



4 cookies and 1 cookie

$4 + 1 = 5$

In 4 × 1 we are combining 1 item four different times (1 + 1 + 1 + 1).
And in 4 + 1, we are combining 4 items and 1 item.

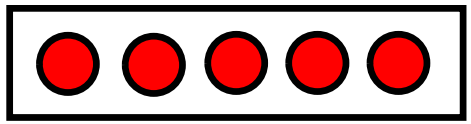
© One Stop Teacher Shop © Mr. Elementary Math

Vocabulary Highlight

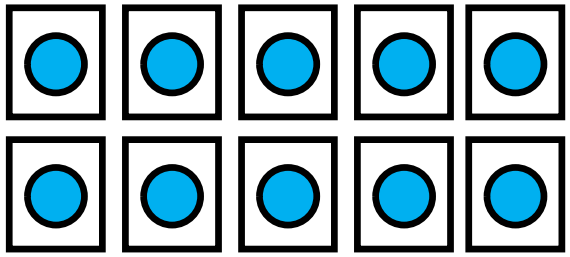
Any number multiplied by 1 equals that number.
This is called the **identity property of multiplication**.

EXAMPLES

1 group of 5 or 1 × 5 = 5



10 groups of 1 or 10 × 1 = 10

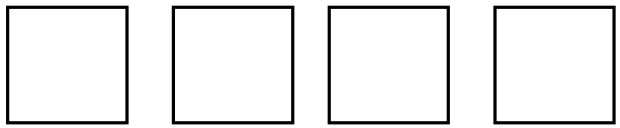


© One Stop Teacher Shop © Mr. Elementary Math

LET'S WORK TOGETHER

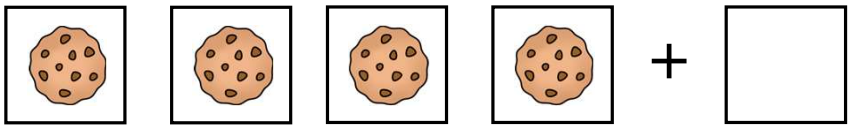
Problem B

How are these facts different: **4 × 0** and **4 + 0**? Draw a picture in your math journals and write an explanation, then let's discuss!



4 groups of 0 cookies

$4 \times 0 = 0$



4 cookies and 0 cookies

$4 + 0 = 4$

In 4 × 0, we are combining 0 items four times (0 + 0 + 0 + 0).
And in 4 + 0, we are combining 4 items and 0 items.

© One Stop Teacher Shop © Mr. Elementary Math

Vocabulary Highlight

Any number multiplied by 0 equals zero.
This is called the **zero property of multiplication**

EXAMPLES

There were 8 bags.
Each bag contained zero cookies.
How many cookies are in the bags?

8 groups of 0 or 5 × 0 = 0

There are two empty jars.
Each jar contains zero marbles.
How many marbles are in the jars?

2 groups of 0 or 2 × 0 = 0

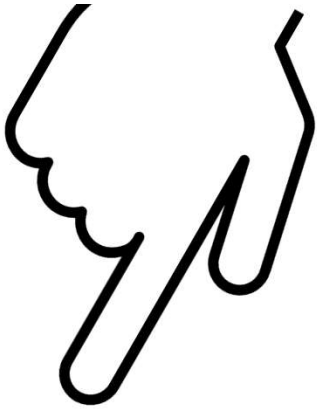
© One Stop Teacher Shop © Mr. Elementary Math

CHECK - IN

- ❑ What did you notice?
- ❑ Can you make a connection to anything else you already know? How?
- ❑ Do you have any questions?

© One Stop Teacher Shop © Mr. Elementary Math

© One Stop Teacher Shop © Mr. Elementary Math

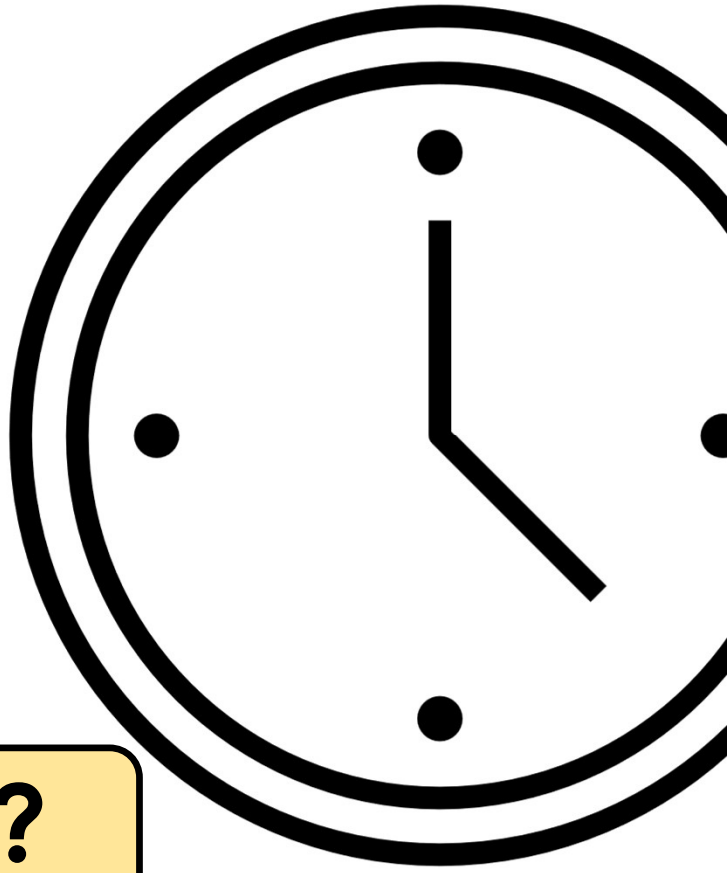


Now It's "YOUR TURN" to Solve

Don't forget to show your work!

© One Stop Teacher Shop © Mr. Elementary Math

Time to Discuss and Check Your Answers



How did you solve it?

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve The Problem

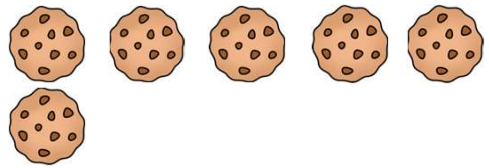
6 customers placed the same order.
Each person bought 6 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve The Problem

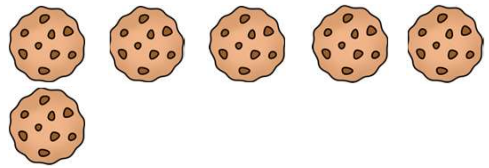
6 customers placed the same order.
Each person bought 6 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

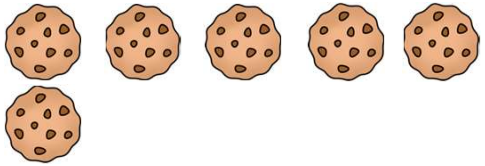
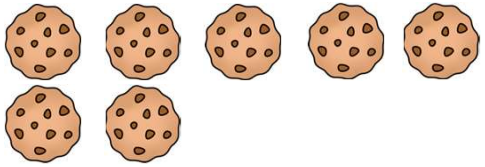
7 customers placed the same order.
Each person bought 7 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

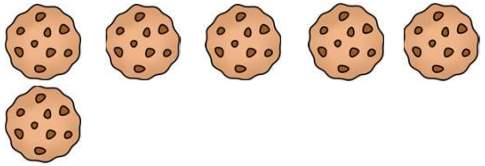
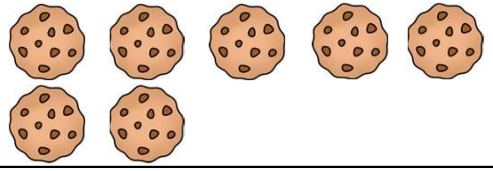
7 customers placed the same order.
Each person bought 7 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		**$7 \times 1 = 7$**		**$7 \times 0 = 0$**

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

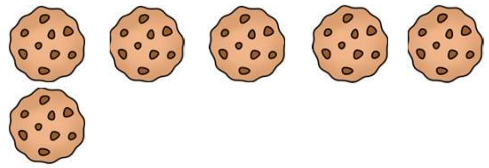
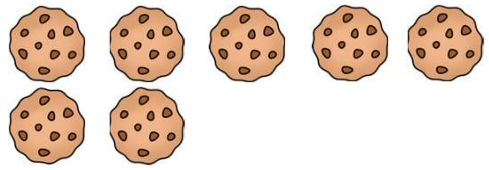
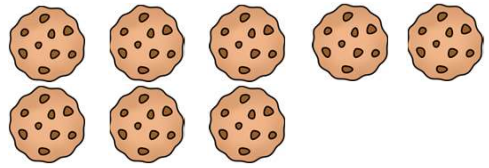
8 customers placed the same order.
Each person bought 8 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		$7 \times 1 = 7$		$7 \times 0 = 0$
8 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

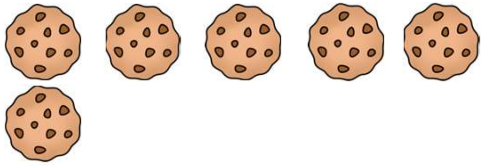
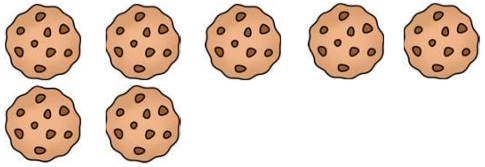
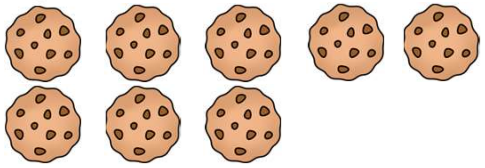
8 customers placed the same order.
Each person bought 8 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		$7 \times 1 = 7$		$7 \times 0 = 0$
8 customers bought 1 each none		**$8 \times 1 = 8$**		**$8 \times 0 = 0$**

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

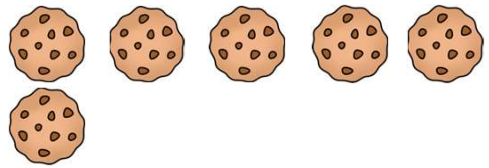
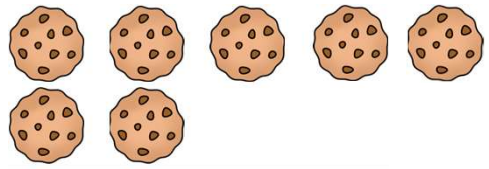
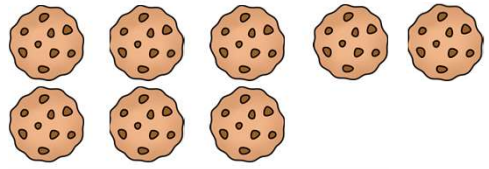
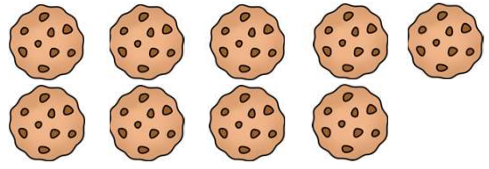
9 customers placed the same order.
Each person bought 9 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		$7 \times 1 = 7$		$7 \times 0 = 0$
8 customers bought 1 each none		$8 \times 1 = 8$		$8 \times 0 = 0$
9 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

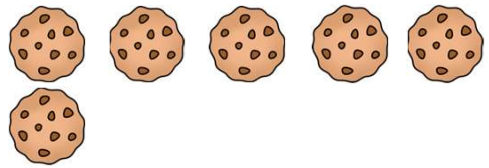
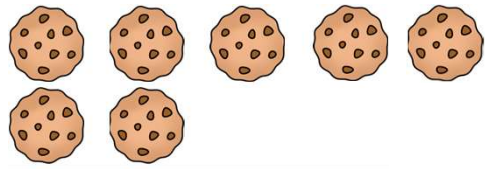
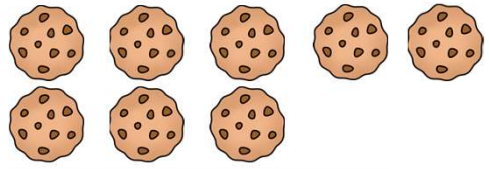
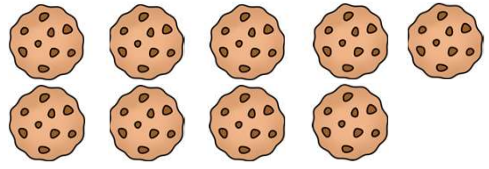
9 customers placed the same order.
Each person bought 9 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		$7 \times 1 = 7$		$7 \times 0 = 0$
8 customers bought 1 each none		$8 \times 1 = 8$		$8 \times 0 = 0$
9 customers bought 1 each none		**$9 \times 1 = 9$**		**$9 \times 0 = 0$**

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

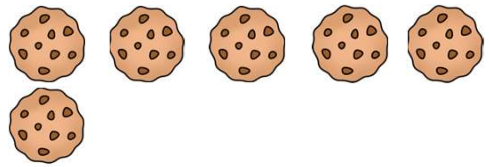
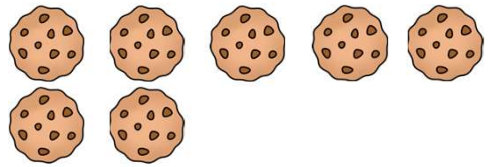
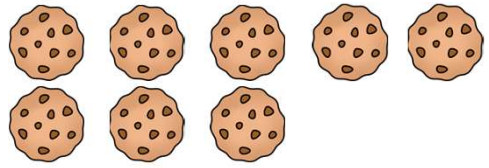
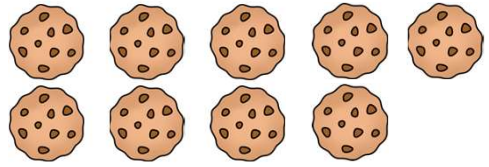
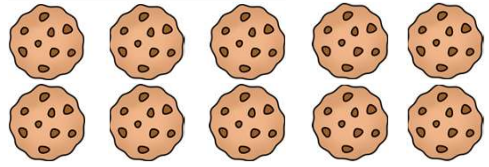
10 customers placed the same order.
Each person bought 10 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		$7 \times 1 = 7$		$7 \times 0 = 0$
8 customers bought 1 each none		$8 \times 1 = 8$		$8 \times 0 = 0$
9 customers bought 1 each none		$9 \times 1 = 9$		$9 \times 0 = 0$
10 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

10 customers placed the same order.
Each person bought 10 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
6 customers bought 1 each none		$6 \times 1 = 6$		$6 \times 0 = 0$
7 customers bought 1 each none		$7 \times 1 = 7$		$7 \times 0 = 0$
8 customers bought 1 each none		$8 \times 1 = 8$		$8 \times 0 = 0$
9 customers bought 1 each none		$9 \times 1 = 9$		$9 \times 0 = 0$
10 customers bought 1 each none		**$10 \times 1 = 10$**		**$10 \times 0 = 0$**

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

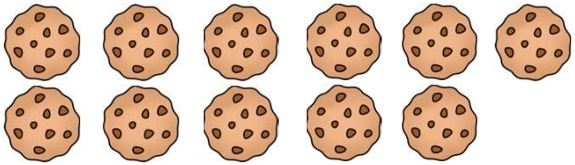
11 customers placed the same order.
Each person bought 11 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
11 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

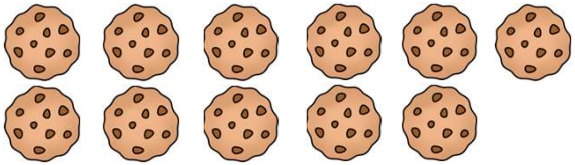
11 customers placed the same order.
Each person bought 11 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
11 customers bought 1 each none		$11 \times 1 = 11$		$11 \times 0 = 0$

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

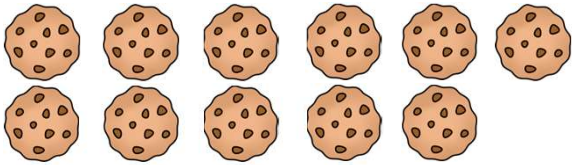
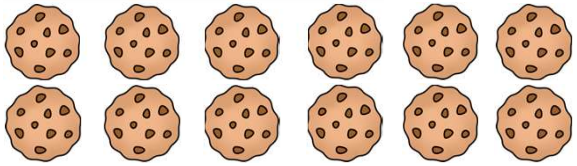
12 customers placed the same order.
Each person bought 12 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
11 customers bought 1 each none		$11 \times 1 = 11$		$11 \times 0 = 0$
12 customers bought 1 each none				

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Solve the Problem

12 customers placed the same order.
Each person bought 12 chocolate chip cookies and 0 fudge striped cookies.
Cut out the cookies and glue them inside the chart. Write matching facts.

Cookie Orders	Create a Model & Write a Multiplication Fact	Number of Chocolate Chip cookies Sold	Create a Model & Write a Multiplication Fact	Number of Striped cookies Sold
11 customers bought 1 each none		11 × 1 = 11		11 × 0 = 0
12 customers bought 1 each none		**12 × 1 = 12**		**12 × 0 = 0**

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Problem C

What pattern do you notice when multiplying by 0s?

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Problem C

What patterns do you notice when multiplying by 0s?

Answers may vary:

- Any number multiplied by 0 always equals zero. This is called the zero property of multiplication.

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Problem D

What patterns do you notice when multiplying by 1s?

© One Stop Teacher Shop © Mr. Elementary Math

YOUR TURN
Problem D

What pattern do you notice when multiplying by 1s?

Answers may vary:

- Any number multiplied by 1 always equals that number. This is called the identity property of multiplication.

© One Stop Teacher Shop © Mr. Elementary Math

Let's Reflect

It's reflection time!

© One Stop Teacher Shop © Mr. Elementary Math