

Dear Family,

During the next few weeks, our math class will be learning how to multiply with the factors 2, 3, 4, 5, 6, 7, 8, 9, and 10.

You can expect to see homework that provides practice with multiplication facts and strategies.

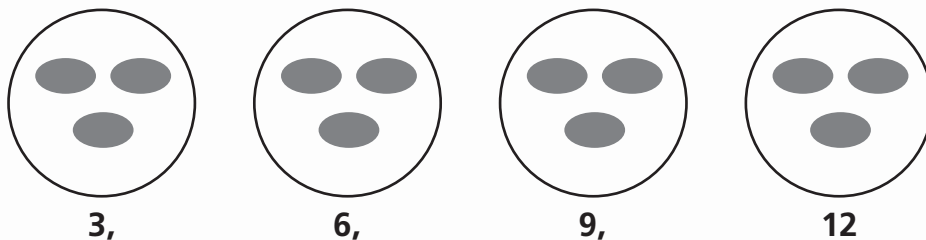
Here is a sample of how your child will be taught to multiply with 3 as a factor.

### **MODEL** Multiply with 3

This is one way we will be multiplying with 3 to solve problems.

Teddy made a face on 1 cookie, using 3 raisins. How many raisins will he need for 4 cookies?

Drawing a picture is a way to solve this problem.



Skip count by 3s to find the number of raisins in all.

3, 6, 9, 12

4 groups of 3 is 12.       $4 \times 3 = 12$

So, he will need 12 raisins for 4 cookies.

## Vocabulary

**Associative Property of Multiplication** The property that states that when the grouping of factors is changed, the product remains the same.

**Distributive Property** The property that states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

**multiple** A number that is the product of two counting numbers

### Tips

#### Another Way to Solve Multiplication Problems

Making an array is another way to solve the problem. Use tiles to make an array of 4 rows with 3 tiles in each row.



Count all the tiles.

4 groups of 3 is 12.  
 $4 \times 3 = 12$

## Activity

Have your child draw more groups of 3 for 5, 6, 7, 8, and 9 cookies. Then have your child answer questions such as “How many raisins would be on 8 cookies? What do you multiply to find out?”

# Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos cómo multiplicar con los factores 2, 3, 4, 5, 6, 7, 8, 9 y 10.

Llevaré a la casa tareas que sirven para practicar las operaciones de multiplicación y sus estrategias.

Este es un ejemplo de la manera como aprenderemos a multiplicar por el factor 3.

## Vocabulario

**Propiedad asociativa de la multiplicación** La propiedad que establece que cuando se cambia la agrupación de los factores, el producto no cambia

**Propiedad distributiva** La propiedad que establece que multiplicar una suma por un número es lo mismo que multiplicar cada sumando por ese número y luego sumar los productos

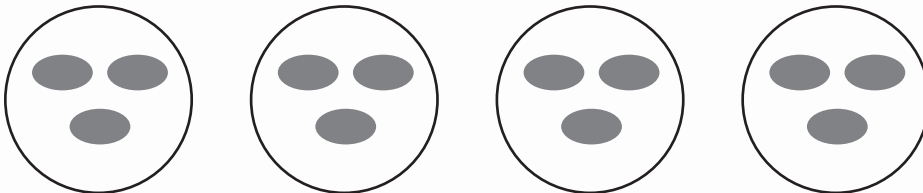
**múltiplo** Un número que es el producto de dos números naturales distintos de cero

### **MODELO** Multiplicar por 3

Esta es una manera de multiplicar por 3 para resolver problemas.

Teddy hizo una cara en 1 galleta, con 3 pasas.  
¿Cuántas pasas necesitará para hacer caras en 4 galletas?

Una manera de resolver el problema es hacer un dibujo.



3,

6,

9,

12

Cuenta salteado de 3 en 3 para hallar el número total de pasas.

3, 6, 9, 12

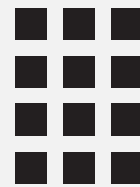
4 grupos de 3 son 12.  $4 \times 3 = 12$

Por tanto, Teddy necesitará 12 pasas para 4 galletas.

### **Pistas**

#### Otra manera de resolver problemas de multiplicación

Hacer una matriz es otra manera de resolver el problema. Usa fichas para hacer una matriz de 4 filas con 3 fichas en cada fila.



Cuenta todas las fichas.

4 grupos de 3 son 12.

$$4 \times 3 = 12$$

## Actividad

Pida a su hijo o hija que dibuje más grupos de 3 para 5, 6, 7, 8 y 9 galletas. Después, pídale que conteste preguntas como “¿Cuántas pasas se necesitan para hacer 8 galletas? ¿Qué factores debes multiplicar para hallar la respuesta?”

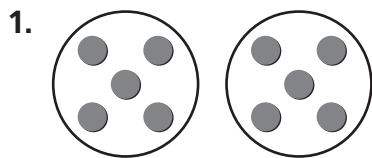
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## Multiply with 2 and 4



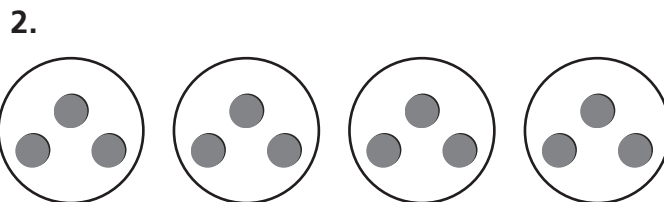
**COMMON CORE STANDARD—3.OA.3.**  
Represent and solve problems involving multiplication and division.

Write a multiplication sentence for the model.



**Think:** There are 2 groups of 5 counters.

$$\underline{2} \times \underline{5} = \underline{10}$$



$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Find the product.

3. 
$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

5. 
$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

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

8. 
$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

### Problem Solving



11. On Monday, Steven read 9 pages of his new book. To finish the first chapter on Tuesday, he needs to read double the number of pages he read on Monday. How many pages does he need to read on Tuesday?

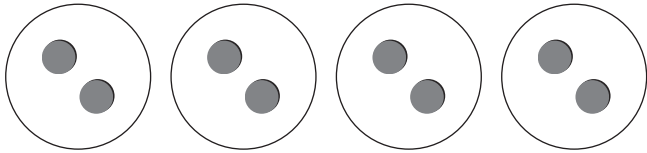
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12. Courtney's school is having a family game night. Each table has 4 players. There are 7 tables in all. How many players are at the game night?

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## Lesson Check (3.OA.3)

1. What multiplication sentence matches the model?
2. Find the product.



$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

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## Spiral Review (3.NBT.2, 3.MD.3)

3. Sean made a picture graph to show his friends' favorite colors.
4. The table shows the lengths of some walking trails.

This is the key for the graph.

Each  = 2 friends.

How many friends does

 stand for?

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**Walking Trails**

Name	Length (in feet)
Mountain Trail	844
Lake Trail	792
Harmony Trail	528

How many feet longer is Mountain Trail than Harmony Trail?

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5. Find the sum.

$$\begin{array}{r} 527 \\ + 154 \\ \hline \end{array}$$

6. A bar graph shows that sports books received 9 votes. If the scale is 0 to 20 by twos, where should the bar end for the sports books?

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Name \_\_\_\_\_

**Multiply with 5 and 10****COMMON CORE STANDARD—3.OA.3**  
*Represent and solve problems involving multiplication and division.***Find the product.**

1.  $5 \times 7 = \underline{35}$

2.  $5 \times 1 = \underline{\quad}$

3.  $2 \times 10 = \underline{\quad}$

4.  $\underline{\quad} = 8 \times 5$

5.  $1 \times 10 = \underline{\quad}$

6.  $\underline{\quad} = 4 \times 5$

7.  $5 \times 10 = \underline{\quad}$

8.  $7 \times 5 = \underline{\quad}$

9.  $\underline{\quad} = 5 \times 5$

10.  $5 \times 8 = \underline{\quad}$

11.  $\underline{\quad} = 5 \times 9$

12.  $10 \times 0 = \underline{\quad}$

13. 
$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 5 \\ \times 0 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$$

**Problem Solving**

21. Ginger takes 10 nickels to buy some pencils at the school store. How many cents does Ginger have to spend?

\_\_\_\_\_

22. The gym at Evergreen School has three basketball courts. There are 5 players on each of the courts. How many players are there?

\_\_\_\_\_

## Lesson Check (3.OA.3)

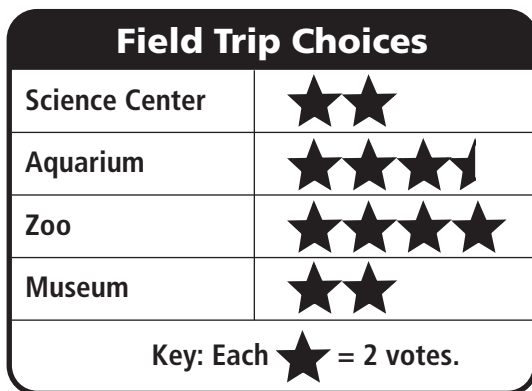
1. Mrs. Hinely grows roses.  
There are 6 roses on each of her 10  
rose bushes. How many roses in all are  
on Mrs. Hinely's rose bushes?
- 

2. Find the product.

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

## Spiral Review (3.OA.9, 3.NBT.1, 3.MD.3)

3. Mr. Miller's class voted on where to go  
for a field trip. Use the picture graph to  
find which choice had the most votes.



4. Zack made this table for his survey.

Favorite Juice	
Flavor	Votes
Grape	16
Orange	10
Berry	9
Apple	12

How many votes were cast?

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5. Which of the following is an even  
number?

25, 28, 31, 37

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6. Estimate the sum.

$$\begin{array}{r} 479 \\ + 89 \\ \hline \end{array}$$

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Name \_\_\_\_\_

**Multiply with 3 and 6****COMMON CORE STANDARD—3.OA.3**  
*Represent and solve problems involving multiplication and division.***Find the product.**

1.  $6 \times 4 = \underline{24}$

2.  $3 \times 7 = \underline{\quad}$

3.  $\underline{\quad} = 2 \times 6$

4.  $\underline{\quad} = 3 \times 5$

**Think:** You can use doubles.

$3 \times 4 = 12$

$12 + 12 = 24$

5.  $1 \times 3 = \underline{\quad}$

6.  $\underline{\quad} = 6 \times 8$

7.  $3 \times 9 = \underline{\quad}$

8.  $\underline{\quad} = 6 \times 6$

9. 
$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 10 \\ \times 6 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$$

20. 
$$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$$

**Problem Solving**

21. James got 3 hits in each of his baseball games. He has played 4 baseball games. How many hits has he had?

\_\_\_\_\_

22. Mrs. Burns is buying muffins. There are 6 muffins in each box. If she buys 5 boxes, how many muffins will she buy?

\_\_\_\_\_

## Lesson Check (3.OA.3)

1. Paco buys a carton of eggs. The carton has 2 rows of eggs. There are 6 eggs in each row. How many eggs are in the carton?
2. Find the product.

$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

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## Spiral Review (3.OA.3, 3.NBT.2, 3.MD.3)

3. Find the difference.

$$\begin{array}{r} 568 \\ - 283 \\ \hline \end{array}$$

4. Dwight made double the number of baskets in the second half of the basketball game than in the first half. He made 5 baskets in the first half. How many baskets did he make in the second half?

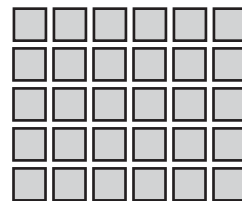
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5. In Jane's picture graph, the symbol ☺ represents two students. One row in the picture graph has 8 symbols. How many students does that represent?

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6. What multiplication sentence does this array show?



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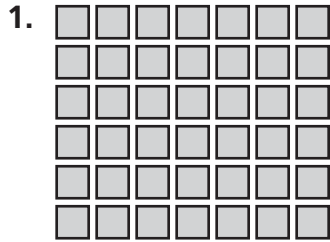
Name \_\_\_\_\_

## Distributive Property

Write one way to break apart the array.  
Then find the product.



**COMMON CORE STANDARD—3.OA.5**  
*Understand properties of multiplication and the relationship between multiplication and division.*

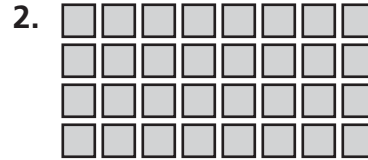


$$(3 \times 7) + (3 \times 7)$$

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42

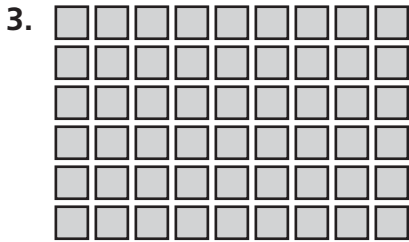
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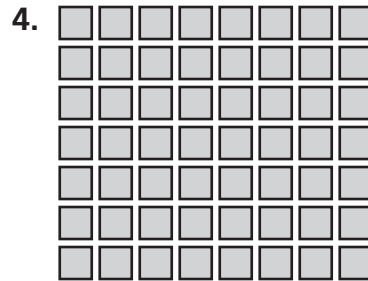
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### Problem Solving



5. There are 2 rows of 8 chairs set up in the library for a puppet show. How many chairs are set up? Use the Distributive Property to solve.

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6. A marching band has 4 rows of trumpeters with 10 trumpeters in each row. How many trumpeters are in the marching band? Use the Distributive Property to solve.

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## Lesson Check (3.OA.5)

1. Write a number sentence to show the Distributive Property.

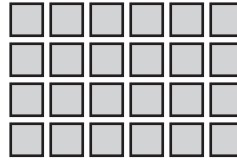
$$7 \times 6 =$$

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2. What is one way to break apart the array?



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## Spiral Review (3.NBT.1, 3.NBT.2, 3.MD.3)

3. The school auditorium has 448 chairs set out for the third-grade performance. What is 448 rounded to the nearest ten?

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4. Find the difference.

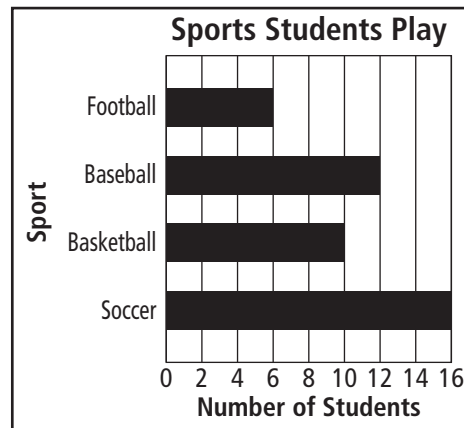
$$\begin{array}{r} 400 \\ - 296 \\ \hline \end{array}$$

5. There are 622 fruit snacks in one crate and 186 in another crate. How many fruit snacks are there?

$$\begin{array}{r} 622 \\ + 186 \\ \hline \end{array}$$

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6. Which sport do only 6 students play?



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Name \_\_\_\_\_

**Multiply with 7****COMMON CORE STANDARD—3.OA.7**  
Multiply and divide within 100.

Find the product.

1.  $6 \times 7 = \underline{42}$

2.  $\underline{\quad} = 7 \times 9$

3.  $\underline{\quad} = 1 \times 7$

4.  $3 \times 7 = \underline{\quad}$

5.  $7 \times 7 = \underline{\quad}$

6.  $\underline{\quad} = 2 \times 7$

7.  $7 \times 8 = \underline{\quad}$

8.  $\underline{\quad} = 4 \times 7$

9. 
$$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 7 \\ \times 0 \\ \hline \end{array}$$

**Problem Solving**

19. Julie buys a pair of earrings for \$7. Now she would like to buy the same earrings for 2 of her friends. How much will she spend for all 3 pairs of earrings?
- \_\_\_\_\_

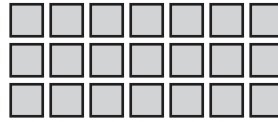
20. Owen and his family will go camping in 8 weeks. There are 7 days in 1 week. How many days are in 8 weeks?
- \_\_\_\_\_

## Lesson Check (3.OA.7)

1. Find the product.

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

2. What product does the array show?



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## Spiral Review (3.OA.3, 3.OA.9, 3.NBT.1, 3.MD.3)

3. Which numbers below are even?

6, 12, 15, 24, 30

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5. What is 94 rounded to the nearest ten?

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4. How many more people chose retriever than poodle?

Favorite Breed of Dog	
Dog	Number
Shepherd	58
Retriever	65
Poodle	26

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6. Jack has 5 craft sticks. He needs 4 times that number for a project. How many craft sticks does Jack need altogether?

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Name \_\_\_\_\_

## Associative Property of Multiplication

Write another way to group the factors.  
Then find the product.



**COMMON CORE STANDARD—3.OA.5**  
*Understand properties of multiplication and the relationship between multiplication and division.*

1.  $(3 \times 2) \times 5$

$$\begin{array}{r} 3 \times (2 \times 5) \\ \hline 30 \end{array}$$

2.  $(4 \times 3) \times 2$

$$\begin{array}{r} \hline \hline \end{array}$$

3.  $2 \times (2 \times 8)$

$$\begin{array}{r} \hline \hline \end{array}$$

4.  $9 \times (2 \times 1)$

$$\begin{array}{r} \hline \hline \end{array}$$

5.  $2 \times (3 \times 6)$

$$\begin{array}{r} \hline \hline \end{array}$$

6.  $(4 \times 2) \times 5$

$$\begin{array}{r} \hline \hline \end{array}$$

Use parentheses and multiplication properties.  
Then, find the product.

7.  $9 \times 1 \times 5 = \underline{\quad}$

8.  $3 \times 3 \times 2 = \underline{\quad}$

9.  $2 \times 4 \times 3 = \underline{\quad}$

10.  $5 \times 2 \times 3 = \underline{\quad}$

11.  $7 \times 1 \times 5 = \underline{\quad}$

12.  $8 \times 2 \times 3 = \underline{\quad}$

13.  $7 \times 2 \times 3 = \underline{\quad}$

14.  $4 \times 1 \times 3 = \underline{\quad}$

15.  $10 \times 2 \times 4 = \underline{\quad}$

### Problem Solving



16. Beth and Maria are going to the county fair. Admission costs \$4 per person for each day. They plan to go for 3 days. How much will the girls pay for all 3 days?

\_\_\_\_\_

17. Randy's garden has 3 rows of carrots with 3 plants in each row. Next year, he plans to plant 4 times the number of rows. How many plants will he have next year?

\_\_\_\_\_

## Lesson Check (3.OA.5)

1. There are 2 benches in each car of a train ride. Two people ride on each bench. If a train has 5 cars, how many people can be on a train?
2. Crystal has 2 CDs in each box. She has 3 boxes on each of her 6 shelves. How many CDs does Crystal have?

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## Spiral Review (3.OA.3, 3.NBT.1, 3.NBT.2, 3.MD.3)

3. Find the sum.

$$\begin{array}{r} 472 \\ + 186 \\ \hline \end{array}$$

4. Trevor made a picture graph to show how many minutes each student biked last week. This is his key.

Each  = 10 minutes.

What does    stand for?

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5. Madison has 142 stickers in her collection. What is 142 rounded to the nearest ten?
6. There are 5 pages of photos. Each page has 6 photos. How many photos are there?

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Name \_\_\_\_\_

**Patterns on the Multiplication Table**



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

**Is the product even or odd? Write *even* or *odd*.**

1.  $2 \times 7 =$  even

Think: Products with 2 as a factor are even.

2.  $4 \times 6 =$  \_\_\_\_\_

3.  $8 \times 3 =$  \_\_\_\_\_

4.  $2 \times 3 =$  \_\_\_\_\_

5.  $9 \times 9 =$  \_\_\_\_\_

6.  $5 \times 7 =$  \_\_\_\_\_

7.  $6 \times 3 =$  \_\_\_\_\_

**Use the multiplication table. Describe a pattern you see.**

8. in the column for 5

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. in the row for 10

\_\_\_\_\_

\_\_\_\_\_

10. in the rows for 3 and 6

\_\_\_\_\_

\_\_\_\_\_

×	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
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

**Problem Solving**



11. Carl shades a row in the multiplication table. The products in the row are all even. The ones digits in the products repeat 0, 4, 8, 2, 6. What row does Carl shade?

\_\_\_\_\_

12. Jenna says that no row or column contains products with only odd numbers. Do you agree? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Lesson Check (3.OA.9)

1. Is the product of  $4 \times 9$  even or odd?

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2. Describe a pattern you see.

10, 15, 20, 25, 30

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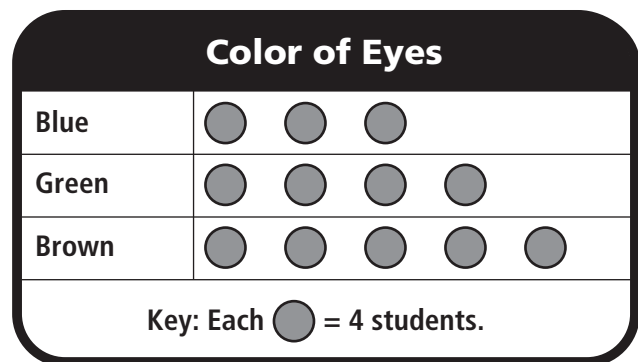
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## Spiral Review (3.OA.3, 3.OA.5, 3.NBT.2, 3.MD.3)

3. Lexi has 2 cans of tennis balls. There are 3 tennis balls in each can. She buys 2 more cans. How many tennis balls does she now have?

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4. Use the picture graph.



How many students have green eyes?

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5. Sasha bought 3 boxes of pencils. If each box has 6 pencils, how many pencils did Sasha buy?

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6. Find the sum.

$$\begin{array}{r} 219 \\ + 763 \\ \hline \end{array}$$



Name \_\_\_\_\_

**Multiply with 8****COMMON CORE STANDARD—3.OA.7**  
Multiply and divide within 100.**Find the product.**

1.  $8 \times 10 = \underline{80}$       2.  $8 \times 8 = \underline{\quad}$       3.  $8 \times 5 = \underline{\quad}$       4.  $3 \times 8 = \underline{\quad}$

5.  $\underline{\quad} = 4 \times 8$       6.  $8 \times 7 = \underline{\quad}$       7.  $6 \times 8 = \underline{\quad}$       8.  $\underline{\quad} = 9 \times 8$

9. 
$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 0 \\ \times 8 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 8 \\ \times 1 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

**Problem Solving**

19. There are 6 teams in the basketball league. Each team has 8 players. How many players are there?  
\_\_\_\_\_
20. Lynn has 4 stacks of quarters. There are 8 quarters in each stack. How many quarters does Lynn have?  
\_\_\_\_\_
21. Tomas is packing 7 baskets for a fair. He is placing 8 apples in each basket. How many apples are there in the baskets?  
\_\_\_\_\_
22. There are 10 pencils in each box. If Jenna buys 8 boxes, how many pencils will she buy?  
\_\_\_\_\_

## Lesson Check (3.OA.7)

1. Find the product.

$$5 \times 8 =$$

---

2. There are 7 tarantulas in the spider exhibit at the zoo. Each tarantula has 8 legs. How many legs do the 7 tarantulas have?
- 

## Spiral Review (3.OA.3, 3.NB.1, 3.NBT.2, 3.MD.3)

3. Find the difference.

$$\begin{array}{r} 652 \\ - 99 \\ \hline \end{array}$$

4. The school library received an order of 232 new books. What is 232 rounded to the nearest ten?
- 

5. Sam's picture graph shows that 8 students chose pizza as their favorite lunch. This is the key for the graph.

Each ☺ = 2 students.

How many ☺ should be next to pizza on Sam's graph?

---

6. Tashia buys 5 packages of oranges. Each package has 4 oranges. How many oranges does Tashia buy?
-

Name \_\_\_\_\_

**Multiply with 9****COMMON CORE STANDARD—3.OA.7**  
Multiply and divide within 100.**Find the product.**

1.  $10 \times 9 = \underline{90}$

2.  $2 \times 9 = \underline{\quad}$

3.  $9 \times 4 = \underline{\quad}$

4.  $0 \times 9 = \underline{\quad}$

5.  $1 \times 9 = \underline{\quad}$

6.  $8 \times 9 = \underline{\quad}$

7.  $9 \times 5 = \underline{\quad}$

8.  $6 \times 9 = \underline{\quad}$

9. 
$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

13. 
$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

14. 
$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

15. 
$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

16. 
$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 9 \\ \times 1 \\ \hline \end{array}$$

**Problem Solving**

19. There are 9 positions on the softball team. Three people are trying out for each position. How many people are trying out?

\_\_\_\_\_

20. Carlos bought a book for \$9. Now he would like to buy 4 other books for the same price. How much will he have to pay for the other 4 books?

\_\_\_\_\_

## Lesson Check (3.OA.7)

1. Find the product.

$$7 \times 9 =$$

---

2. Clare buys 5 tickets for the high school musical. Each ticket costs \$9. How much do the tickets cost?
- 

## Spiral Review (3.OA.3, 3.OA.7, 3.MD.3)

3. The table shows the hair color of girls in Kim's class. How many girls have brown hair?

Kim's Class	
Hair Color	Number of Girls
Brown	
Black	
Blonde	
Red	

---

4. Miles picked up 9 shirts from the dry cleaners. It costs \$4 to clean each shirt. How much did Miles spend to have all the shirts cleaned?
- 

5. In a picture graph, each picture of a baseball is equal to 5 games won by a team. The row for the Falcons has 7 baseballs. How many games have the Falcons won?
- 

6. An array has 8 rows with 4 circles in each row. How many circles are in the array?
-

Name \_\_\_\_\_

**Problem Solving • Multiplication**



**COMMON CORE STANDARD—3.OA.8**  
Solve problems involving the four operations, and identify and explain patterns in arithmetic.

**Solve.**

1. Henry has a new album for his baseball cards. He uses pages that hold 6 cards and pages that hold 3 cards. If Henry has 36 cards, how many different ways can he put them in his album?

<b>Pages with 6 Cards</b>	1	2	<b>3</b>	4	<b>5</b>
<b>Pages with 3 Cards</b>	10	8	6	<b>4</b>	<b>2</b>
<b>Total Cards</b>	36	36	36	<b>36</b>	<b>36</b>

Henry can put the cards in his album 5 ways.

2. Ms. Hernandez has 17 tomato plants that she wants to plant in rows. She will put 2 plants in some rows and 1 plant in the others. How many different ways can she plant the tomato plants? Make a table to solve.

<b>Rows with 2 Plants</b>	
<b>Rows with 1 Plant</b>	
<b>Total Plants</b>	

Ms. Hernandez can plant the tomato plants \_\_\_\_\_ ways.

3. Bianca has a total of 25¢. She has some nickels and pennies. How many different combinations of nickels and pennies could Bianca have? Make a table to solve.

<b>Number of Nickels</b>	
<b>Number of Pennies</b>	
<b>Total Value</b>	

Bianca could have \_\_\_\_\_ combinations of 25¢.

## Lesson Check (3.OA.8)

1. The table shows different ways that Cameron can display his 12 model cars on shelves. How many shelves will display 2 cars if 8 of the shelves each display 1 car?

Shelves with 1 Car	2	4	6	8	10
Shelves with 2 Cars	5	4	3	■	■
Total cars	12	12	12	12	12


## Spiral Review (3.OA.3, 3.NBT.1, 3.NBT.2, 3.MD.3)


2. Find the sum.

$$\begin{array}{r} 317 \\ + 151 \\ \hline \end{array}$$

3. The school cafeteria has an order for 238 hot lunches. What is 238 rounded to the nearest ten?

4. Tyler made a picture graph to show students' favorite colors. This is the key for his graph.

Each  = 3 votes.

If 12 students voted for green, how many  should there be in the green row of the graph?

5. There are 5 bikes in each bike rack at the school. There are 6 bike racks. How many bikes are in the bike racks?