Name .....

MY Homework

Lesson 1
Hands On: Model Multiplication

Homework Helper

eHelp

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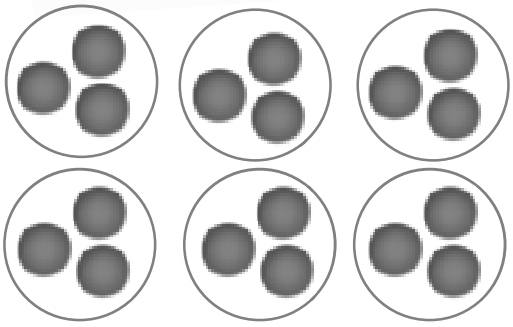
Gina put 3 scoops of frozen yogurt in each bowl. There are 6 bowls. How many scoops of frozen yogurt are there?

1 The model shows the total number of scoops.

There are 6 bowls, and each has 3 scoops. There are 6 groups of 3.



2 Use repeated addition to find the total.

$3 + 3 + 3 + 3 + 3 + 3 = 18$

There are 18 scoops of frozen yogurt.

Practice

Draw a model to find the total number.

1. 2 groups of 8 equals _____

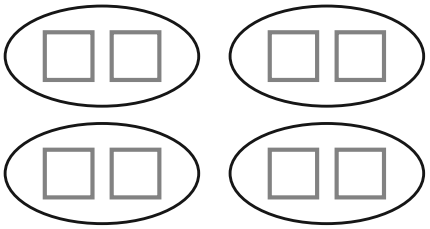
2. 5 groups of 7 equals _____

3. $6 \times 4 =$ _____

4. $4 \times 8 =$ _____

Describe each set of equal groups.

5.



___ + ___ + ___ + ___ = ___

___ groups of ___ = ___

6.

___ + ___ + ___ = ___

___ groups of ___ = ___

7. 6 × 5 = ___

___ groups of ___ = ___

8. 3 × 4 = ___

___ groups of ___ = ___

Problem Solving

Mathematical PRACTICE 4 **Model Math Complete each number sentence.**

9. Paulina played 3 soccer games on Saturday. She drank 1 juice box during each soccer game. How many juice boxes did she drink?

___ + ___ + ___ = ___ juice boxes

10. Daniel, Jamie, Molly, and Corey each have 4 books from the library. How many books do they have in all?

___ + ___ + ___ + ___ = ___ library books

Vocabulary Check

11. Choose the correct word(s) to complete the sentence below.

equal groups multiplication

You can use _____ to find the total number of objects in _____.

Name .....

MY Homework

Lesson 2
Multiplication as Repeated Addition

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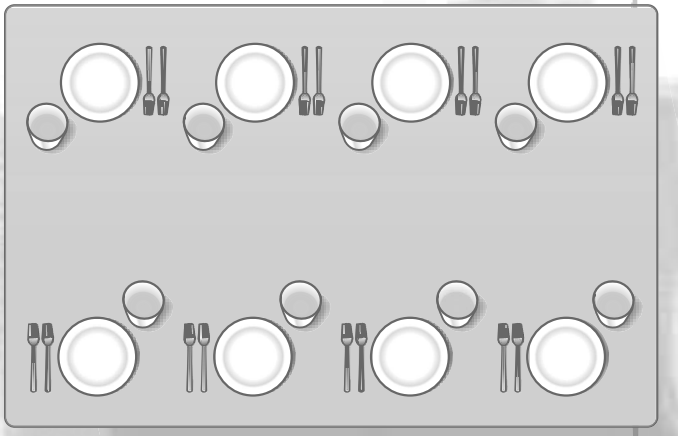
Dani will put 2 forks at each of the 8 table settings. How many forks does she need in all?



Find 8 groups of 2.

Write an addition sentence to show the equal groups.

$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 16$

Write a multiplication sentence to show 8 groups of 2.

$8 \times 2 = \blacksquare$ ← Find the unknown.

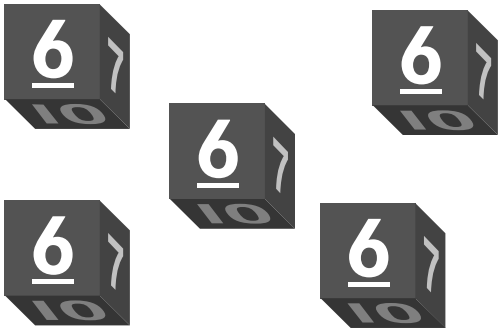
$8 \times 2 = 16$

So, 8 groups of 2 is 16. The unknown is 16 forks.

Practice

Write an addition sentence and a multiplication sentence for each.

1.



6 + 6 + ___ + ___ + ___ = ___

___ × ___ = ___

2.

___ + ___ + ___ + ___ = ___

___ × ___ = ___

Problem Solving

Draw a picture to find the total. Write a multiplication sentence.

3. 7 groups of 1 green grape

_____ × _____ = _____

4. 9 groups of 2 square crackers

_____ × _____ = _____

Mathematical PRACTICE 4

5. Model Math How many buttons does Leonora have altogether if she has 4 bags of buttons and each bag has 10 buttons?

_____ × _____ = _____

Multiply to find the unknown product.

6. 8 × 3 = ■

The unknown is _____.

7. 4 × 3 = ■

The unknown is _____.

Vocabulary Check

Use the correct word(s) and the number sentence 6 × 8 = 48 to solve.

equal groups repeated addition multiply factors product

8. The number 48 is the _____.

9. The symbol × tells you to _____.

10. The numbers 6 and 8 are the _____.

11. 8 + 8 + 8 + 8 + 8 + 8 = 48 shows _____.

12. 6 × 8 means 6 _____ of 8.

Test Practice

13. Sam is washing windows. There are 5 windows in each of 7 rooms. How many windows does Sam have to wash?

Ⓐ 2 windows Ⓒ 30 windows

Ⓑ 12 windows Ⓓ 35 windows

Name .....

MY Homework

Lesson 3
Hands On: Multiply with Arrays

Homework Helper

eHelp

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James discovered that a sheet of stamps is in an array. The stamps are arranged in 6 equal rows of 3.

Write an addition sentence to show equal rows.

$3 + 3 + 3 + 3 + 3 + 3 = 18$

Write a multiplication sentence to represent the array.

$$\underbrace{6}_{\text{rows}} \times \underbrace{3}_{\text{number in each row}} = \underbrace{18}_{\text{total}}$$

James turns the sheet of stamps the other way. There still are 18 stamps. Only now, there are 3 equal rows of 6.

$$\underbrace{3}_{\text{rows}} \times \underbrace{6}_{\text{number in each row}} = \underbrace{18}_{\text{total}}$$

This is the Commutative Property of Multiplication.

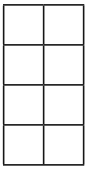
Practice

Draw an array to find the product.

1. $5 \times 7 =$ _____

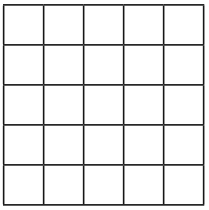
2. $6 \times 5 =$ _____

Write an addition sentence and a multiplication sentence to show equal rows.

3. 

_____

_____

4. 

_____

_____

Vocabulary Check

5. Draw two arrays to model $2 \times 3 = 6$. Use the arrays to show the meaning of the Commutative Property of Multiplication.

Problem Solving

Mathematical PRACTICE 4

6. **Model Math** Suki's watercolor set has 3 rows of paint. There are 8 colors in each row. Write a multiplication sentence to find the total number of colors in the set.

_____

7. A checkerboard has 8 rows, with 8 squares in each row. Write a multiplication sentence to find the total number of squares.

_____

My Work!

Name _____

MY Homework

Lesson 4
Arrays and Multiplication

Homework Helper

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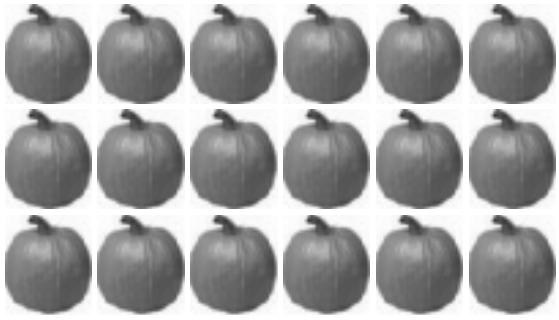
The pumpkins in a patch are arranged in rows with an equal number in each row. How many pumpkins are in the patch?



Write an addition sentence and a multiplication sentence to show equal rows.

$6 + 6 + 6 = 18$ $3 \times 6 = 18$

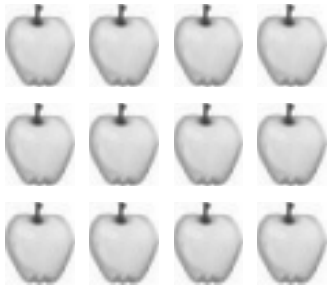
The Commutative Property of Multiplication allows you to change the order of the factors to write another multiplication sentence, $6 \times 3 = 18$.

There are 18 pumpkins in the pumpkin patch.

Practice

Write an addition sentence and a multiplication sentence to show equal rows.

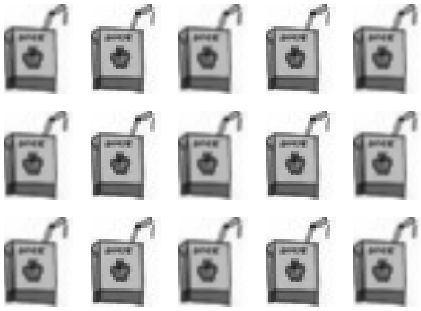
1.



___ + ___ + ___ = ___

___ × ___ = ___

2.



___ + ___ + ___ = ___

___ × ___ = ___

Use the Commutative Property of Multiplication to find each missing number.

3. $3 \times 2 = 6$ $\quad\_\_\_\_ \times 3 = 6$

4. $6 \times 4 = 24$ $\quad 4 \times \_\_\_\_ = 24$

5. $8 \times 6 = 48$ $\quad 6 \times 8 = \_\_\_\_$

6. $5 \times 2 = 10$ $\quad \_\_\_\_ \times 5 = 10$

Problem Solving

Draw an array to solve. Then write two multiplication sentences.

7. Bottles of syrup are arranged in 4 rows of 7 bottles each. How many bottles of syrup are there in all?

My Drawing

8. A parking lot has 6 rows of 10 spaces. How many parking spaces are there altogether?

Vocabulary Check

9. How can you use an array to show the Commutative Property?

Test Practice

10. Which pair of number sentences represents the Commutative Property of Multiplication?

Ⓐ $3 \times 6 = 18; 2 \times 9 = 18$

Ⓑ $6 \times 7 = 42; 7 \times 6 = 42$

Ⓒ $4 \times 5 = 20; 8 \times 5 = 40$

Ⓓ $9 + 11 = 20; 11 + 9 = 20$

Name .....

MY Homework

Lesson 5
Problem Solving: Make a Table

Homework Helper

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Jane's new bike can have hand brakes or foot brakes. The bike can be silver, blue, black, or purple. How many possible bikes are there?

1 Understand

There are 2 types of brakes: hand brakes or foot brakes.
There are 4 color choices: silver, blue, black, or purple.

I need to find the number of possible bikes.

2 Plan

Make a table.

	Silver	Blue	Black	Purple
Hand brakes	Hand/ Silver	Hand/Blue	Hand/ Black	Hand/ Purple
Foot brakes	Foot/ Silver	Foot/Blue	Foot/ Black	Foot/ Purple

3 Solve

There are 8 possible bikes.

4 Check

Multiply 2 types of brakes by 4 color choices. $4 \times 2 = 8$

Real World Problem Solving

1. Solve the problem by making a table.

Claudio will decorate his bedroom. He can choose tan, blue, or gray paint and striped or plaid curtains. How many ways can he decorate his room with different paint and curtains?

	tan, (t)	blue, (b)	gray, (g)
striped, (s)			
plaid, (p)			

Solve each problem by making a table.

2. Jimmy has a number cube labeled 1 through 6, and a penny. How many different ways can the cube and penny land with one roll of the cube and one flip of the penny?

	1	2	3	4	5	6
heads, (h)						
tails, (t)						

3. Archie earns $4 each week for doing his chores. How much money will Archie earn in 2 months if there are 4 weeks in each month?

	Week 1	Week 2	Week 3	Week 4
Month 1				
Month 2				

4. Mathematical PRACTICE 7 **Identify Structure** Abigail has a green, yellow, and purple shirt to match with either a white, black, or red pair of pants. How many different shirt and pants outfits can she make?

	pants, (w)	pants, (b)	pants, (r)
shirt, (g)			
shirt, (y)			
shirt, (p)			

How many outfits would be possible if Abigail had only 2 shirts and 2 pair of pants? Explain.

Name .....

MY Homework

Lesson 6
Use Multiplication to Find Combinations

Homework Helper

eHelp

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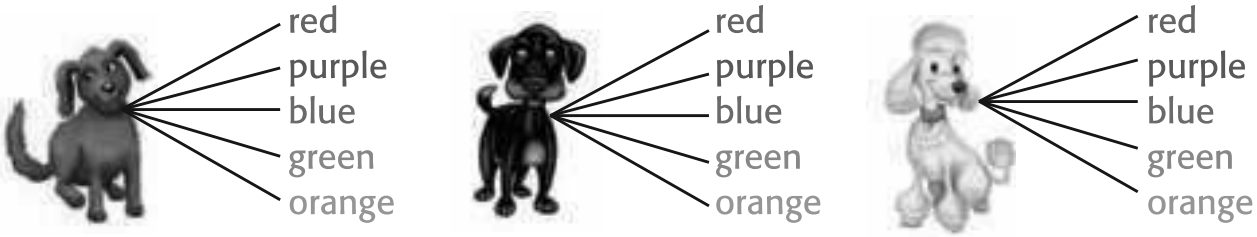
Lucia's three dogs have red, purple, blue, green, and orange collars that they take turns wearing. Find the number of possible dog and collar combinations.

Show all of the possible combinations.



There are 3 dogs and 5 collar colors.
$3 \times 5 = 15$ possible combinations

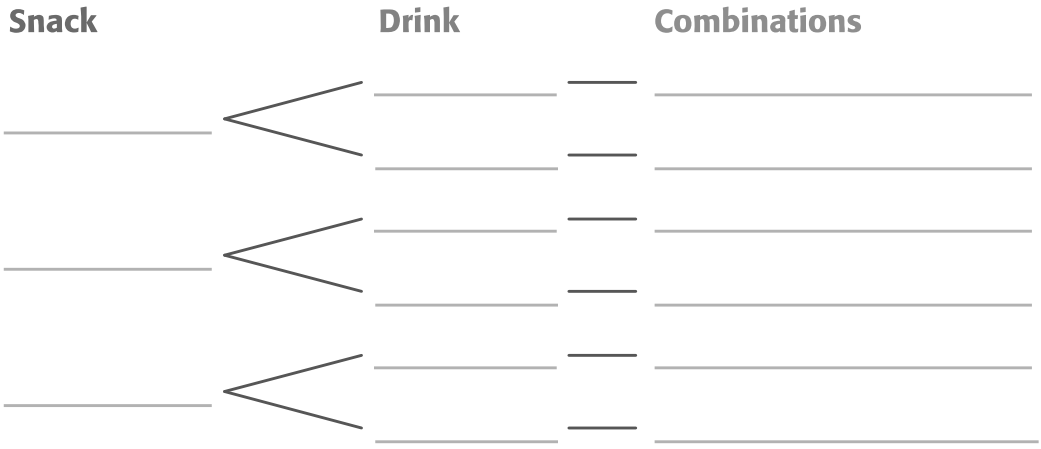
Practice

1. Diana can take 1 pencil and 1 eraser to school. Her choices are shown. How many different pencil and eraser combinations are there? Complete the tree diagram. Write a multiplication sentence.

Pencil Colors	Eraser Shapes	Combinations
yellow	heart	yellow, heart
	star	yellow, star
	square	yellow, square
_____	heart	blue, _____
	_____	blue, star
	square	blue, _____

_____ × _____ = _____ combinations

2. Mathematical PRACTICE 7 **Identify Structure** For a snack, Randy can choose from peanuts, carrots, or popcorn. He can have water or juice to drink. How many snack and drink combinations are there? Complete the tree diagram. Write a multiplication sentence.



_____ × _____ = _____ combinations

Vocabulary Check

3. Write the correct vocabulary word(s) in each space to complete the sentence.

combination tree diagram

Each branch of a _____ shows a possible _____ of items.

Test Practice

4. Amanda bought 4 pairs of shoes and 5 purses. Which number sentence shows the number of different shoes and purse combinations that Amanda can make?

Ⓐ $4 + 5 = 9$

Ⓑ $5 \times 8 = 40$

Ⓒ $4 + 4 + 4 + 4 = 16$

Ⓓ $4 \times 5 = 20$