

Name \_\_\_\_\_

**Numbers to Ten Thousand****Essential Question** How can you represent numbers to ten thousand in different ways?**Unlock the Problem** 

The Thousand Bolts factory uses boxes of 1,000 bolts to fill crates of 10,000 bolts. How many boxes of 1,000 bolts are in each crate of 10,000?

- Circle the number you will need to count to find the answer.

 **Count by thousands to find the total number of boxes of 1,000 bolts that will go into each crate. Then count the boxes.**

1,000    2,000

1

2

So, there are \_\_\_\_\_ boxes of 1,000 bolts in each crate of 10,000.

 **Example** Suppose the factory has no crates and must use case of 100 to fill an order for 3,200 bolts. How many cases will it pack?

There are \_\_\_\_\_ cases of 100 in 1,000.

So, there are \_\_\_\_\_ cases of 100 in 3,000.

There are \_\_\_\_\_ cases of 100 in 200.

Add the cases.  $30 + 2 =$  \_\_\_\_\_.

So, the factory will pack 32 cases of 100.

**Math Talk****Mathematical Practices**

What if the factory had boxes of 1,000 and bags of 10 but no cases of 100? **Explain** how it could pack the order for 3,200 bolts.

## Share and Show



1. The Thousand Bolts factory has an order for 3,140 bolts. How can it pack the order using the fewest packages?  
\_\_\_\_\_

### Remember

1 box = 1,000 bolts

1 case = 100 bolts

1 bag = 10 bolts

2. Suppose the bolt factory has only cases and bags. How can it pack the order for 3,140 bolts?  
\_\_\_\_\_

3. Suppose the bolt factory has only boxes and bags. How can it pack the order for 3,140 bolts?  
\_\_\_\_\_

## On Your Own

**Complete the packing chart. Use the fewest packages possible. When there is a zero, use the next smaller size package.**

	Number of Bolts Ordered	Crates (Ten Thousands)	Boxes (Thousands)	Cases (Hundreds)	Bags (Tens)	Single Bolts (Ones)
4.	5,267		5			
5.	2,709			7	0	
6.	5,619					
7.	8,416		0		1	6
8.	3,967		0		0	

## Problem Solving



9. The Thousand Bolts factory used 9 boxes, 9 cases, and 10 bags to fill an order. How many bolts did they pack?  
\_\_\_\_\_

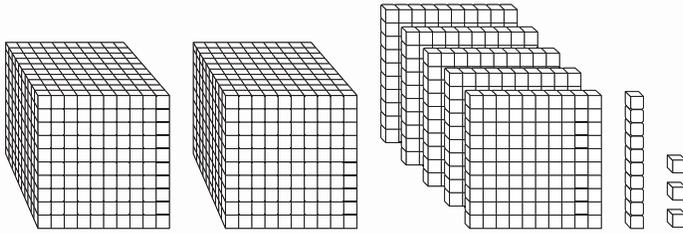
Name \_\_\_\_\_

## Read and Write Numbers to Ten Thousands

**Essential Question** What are some ways you can read and write numbers?



The ABC Block Factory receives an order for blocks. The base-ten blocks show the number of blocks ordered.



- How many blocks were ordered?

\_\_\_\_\_

### Math Idea

The location of a digit in a number tells its value.

Each worker on the team checks the order by expressing the number in a different way. What way does each worker use?

**Read and write numbers.**

Word form is a way to write a number using words.

Sam gets the order and reads the number to Mary: two thousand, five hundred thirteen

Expanded form is a way to write a number by showing the value of each digit.

Mary uses the value of each digit to record the number of blocks that will be in each type of package:

$$2,000 + 500 + 10 + 3$$

Standard form is a way to write a number using the digits 0 to 9, with each digit having a place value.

When the order is complete, Kyle writes the total number of blocks on the packing slip: 2,513

So, Sam says the number using \_\_\_\_\_

form, Mary uses \_\_\_\_\_ form,

and Kyle uses \_\_\_\_\_ form.

**Math Talk**

**Mathematical Practices**

Explain how to find the value of the underlined digit in 7,521.

## Share and Show



1. Write the number shown in expanded form.

TEN THOUSANDS	THOUSANDS	HUNDREDS	TENS	ONES
	7,	5	9	8

\_\_\_\_\_ + 500 + 90 + \_\_\_\_\_

**Write the number in standard form.**

2.  $4,000 + 600 + 70 + 4$  \_\_\_\_\_

3. eight thousand, two hundred sixty-one \_\_\_\_\_

**Write the value of the underlined digit two ways.**

4. 6,920

5. 8,063

\_\_\_\_\_

\_\_\_\_\_

## On Your Own

**Write the number in standard form.**

6.  $5,000 + 600 + 90 + 7$  \_\_\_\_\_

7. two thousand, three hundred fifty-nine \_\_\_\_\_

8. one thousand, three hundred two \_\_\_\_\_

**Write the value of the underlined digit two ways.**

9. 6,818

10. 9,342

\_\_\_\_\_

\_\_\_\_\_

11. Rename 3,290 as hundreds and tens.

12. Rename 2,934 as tens and ones.

\_\_\_\_\_ hundreds \_\_\_\_\_ tens

\_\_\_\_\_ tens \_\_\_\_\_ ones

## Problem Solving



13. The number of children who attended the fair on opening day is 351 more than the value of 4 thousands. How many children attended the fair on opening day?

\_\_\_\_\_

Name \_\_\_\_\_

# Relative Size on a Number Line

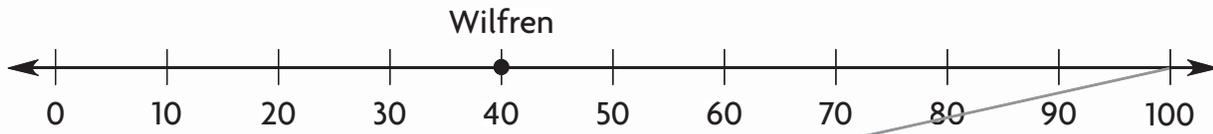
**Essential Question** How can you locate and name a point on a number line?

## Unlock the Problem Real World

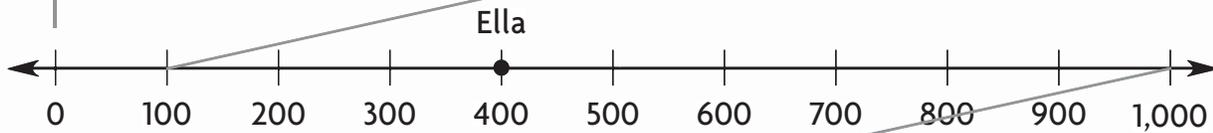
Wilfren has 40 pennies, Ella has 400 pennies, and Matt has 4,000 pennies. How do their amounts of pennies compare?

- Circle the amounts you need to compare.

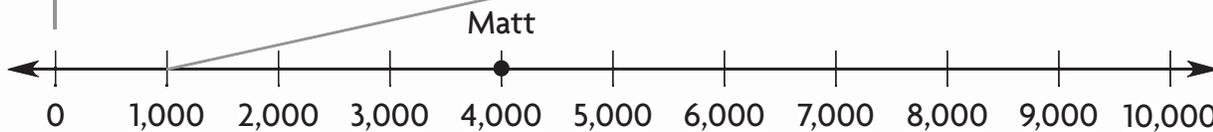
**Key** Compare the relative sizes of the amounts of pennies.



Think: 10 tens is 100.



Think: 10 hundreds is 1,000.

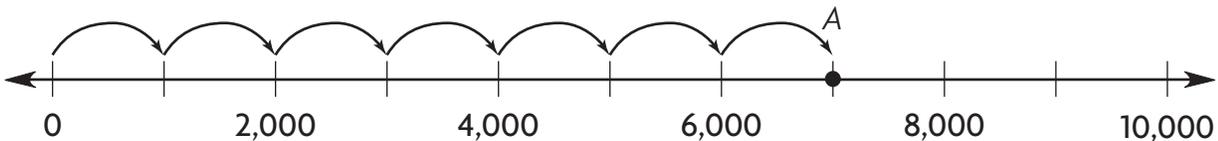


Think: 10 thousands is 10,000.

So, Ella has \_\_\_\_\_ times as many pennies as

Wilfren, and Matt has \_\_\_\_\_ times as many pennies as Ella.

**Try This!** Find the number represented by the point.



Start at 0. Skip count by 1,000s until you reach point A.

There are \_\_\_\_\_ jumps of 1,000. So, point A represents \_\_\_\_\_.

**Math Talk**

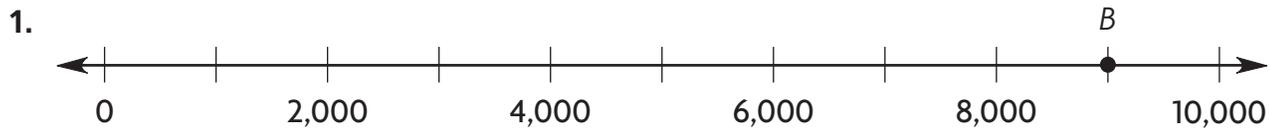
**Mathematical Practices**

Explain how to locate and draw the point 3,000 on a number line.

## Share and Show

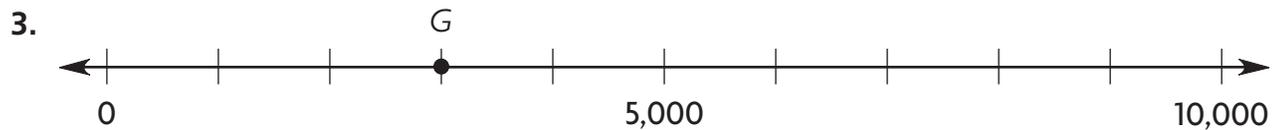
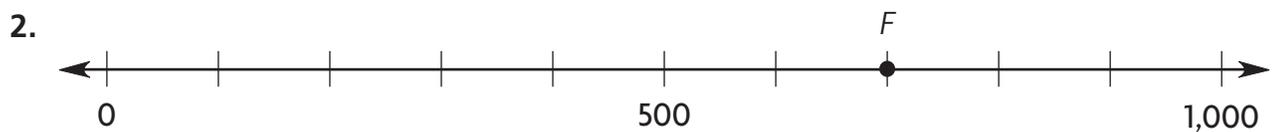


Find the number that point  $B$  represents on the number line.



## On Your Own

Find the number represented by the point.

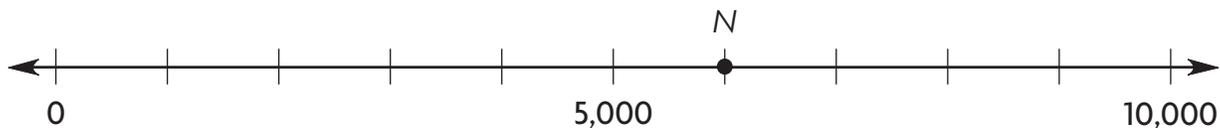


## Problem Solving



Use the number line for 4–5.

Nestor and Elliot are playing a number line game.



4. Nestor's score is shown by point  $N$  on the number line. What is his score?

\_\_\_\_\_

5. Elliot's score is 8,000. Is Elliot's score located to the right or to the left of Nestor's score? **Explain.**

\_\_\_\_\_

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# Compare 3- and 4-Digit Numbers

**Essential Question** What are some ways you can compare numbers?

## Unlock the Problem Real World

Cody collected 2,365 pennies. Jasmine collected 1,876 pennies. Who collected more pennies?

You can compare numbers in different ways to find which number is greater.

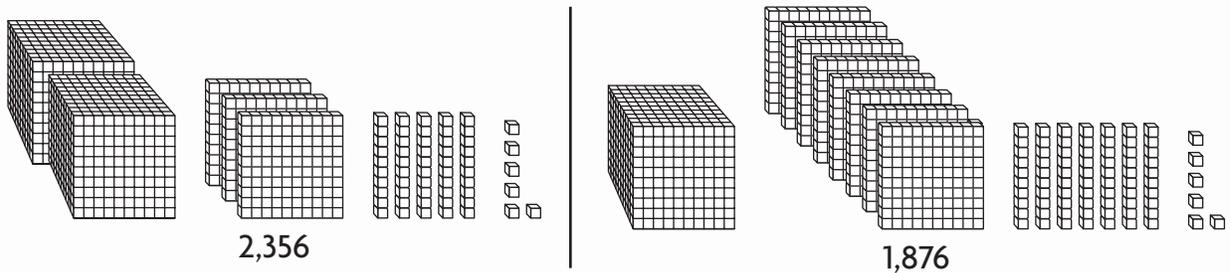
- What do you need to find?

\_\_\_\_\_

\_\_\_\_\_

### **One Way** Use base-ten blocks.

Compare the values of the blocks in each place-value position from left to right. Keep comparing the blocks until the values are different.



2 thousands is greater than 1 thousand. So, 2,365  1,876.

So, Cody collected more pennies.

### **Another Way** Use place value.

Compare 7,376 and 7,513.

Compare digits in the same place-value position from left to right.

THOUSANDS	HUNDREDS	TENS	ONES
7,	3	7	6
7,	5	1	3

**STEP 1:** Compare the thousands. The digits are the same.

**STEP 2:** Compare the hundreds. 3  5

So, 7,376  7,513.

### Read Math

- Read < as *is less than*.
- Read > as *is greater than*.
- Read = as *is equal to*.

### Math Talk

### Mathematical Practices

**Explain** how you know that 568 is less than 4,786.

## Share and Show



1. Compare 2,351 and 3,018. Which number has more thousands? Which number is greater?
- 
- 

Compare the numbers. Write  $<$ ,  $>$ , or  $=$  in the  $\bigcirc$ .

2.  $835 \bigcirc 853$

3.  $7,891 \bigcirc 7,891$

4.  $809 \bigcirc 890$

5.  $3,834 \bigcirc 3,483$

## On Your Own

Compare the numbers. Write  $<$ ,  $>$ , or  $=$  in the  $\bigcirc$ .

6.  $219 \bigcirc 2,119$

7.  $2,517 \bigcirc 2,715$

8.  $5,154 \bigcirc 5,154$

9.  $5,107 \bigcirc 5,105$

10.  $1,837 \bigcirc 837$

11.  $9,832 \bigcirc 9,328$

## Problem Solving



12. Nina has a dictionary with 1,680 pages. Trey has a dictionary with 1,490 pages. Use  $<$ ,  $>$ , or  $=$  to compare the number of pages in the dictionaries.
- 

13. The odometer in Ed's car shows it has been driven 8,946 miles. The odometer in Beth's car shows it has been driven 5,042 miles. Which car has been driven more miles?
- 

14. Avery said that she is 3,652 days old. Tamika said that she is 3,377 days old. Who is younger?
-

Name \_\_\_\_\_

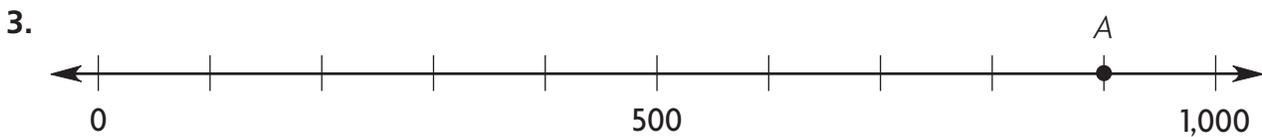
## ✔ Checkpoint

### Concepts and Skills

**Complete the packing chart. Use the fewest packages possible. When there is a zero, use the next smaller size package.**

	Number of Bolts Ordered	Crates (Ten Thousands)	Boxes (Thousands)	Cases (Hundreds)	Bags (Tens)	Single Bolts (Ones)
1.	5,267		5			
2.	2,709			7	0	

**Find the number that point A represents on the number line.**



\_\_\_\_\_

**Compare the numbers. Write  $<$ ,  $>$ , or  $=$  in the  $\bigcirc$ .**

4. 4,310  $\bigcirc$  4,023

5. 5,136  $\bigcirc$  5,136

6. 732  $\bigcirc$  6,532

7. 9,436  $\bigcirc$  4,963

### Problem Solving



8. The number of people who attended the Spring Festival is 799 more than 8 thousands. How many people attended the festival?

\_\_\_\_\_

9. There are 1,290 photos on Nadia's memory card. There are 1,450 photos on Trevor's memory card. Use  $<$ ,  $>$ , or  $=$  to compare the number of photos on the memory cards.

\_\_\_\_\_

**Fill in the bubble for the correct answer choice.**

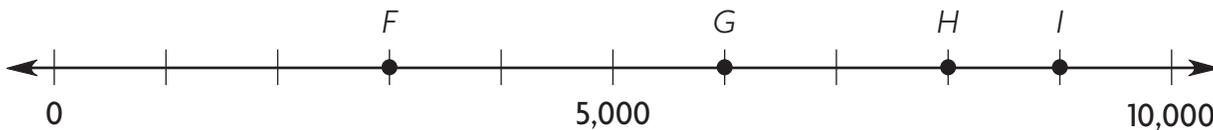
10. A marble factory ships marbles using bags of 10, cases of 100, cartons of 1,000, and boxes of 10,000. The factory has an order for 3,570 marbles. How can they pack the order if the factory is out of cartons?

- (A) 350 cases, 7 bags
- (B) 35 cases, 7 bags
- (C) 35 cases, 57 bags
- (D) 3 cases, 75 bags

11. The number of fans who attend the baseball game on opening day is 283 more than 4 thousands. How many fans are attending the baseball game on opening day?

- (A) 283
- (B) 4,000
- (C) 4,283
- (D) 4,823

**Use the number line for 12–13.**



12. Kam scored 6,000 points in a game. Which letter on the number line names the point that represents Kam's score?

- (A) *F*
- (B) *G*
- (C) *H*
- (D) *I*

13. Taissa scored 9,000 points in a game. Which letter on the number line names the point that represents Taissa's score?

- (A) *F*
- (B) *G*
- (C) *H*
- (D) *I*

Name \_\_\_\_\_

**Multiply with 11 and 12****Essential Question** What strategies can you use to multiply with 11 and 12?

It takes Bobby 11 minutes to walk to school each morning. How many minutes will Bobby spend walking to school in 5 days?

- What are the groups in this problem?

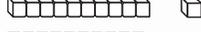
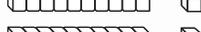
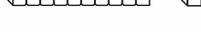
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**Multiply.**  $5 \times 11 = \blacksquare$

**One Way** Break apart an array.

Make 5 rows of 11.    
 Use the 10s facts and the 1s facts to multiply with 11.    
   
   
 

$$5 \times (10 + 1)$$

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

$$5 \times 11 = \underline{\quad\quad} + \underline{\quad\quad}$$

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

So, Bobby will spend \_\_\_\_\_ minutes walking to school.

**Another Way** Find a pattern.

Look at the list.  $1 \times 11 = 11$

$$2 \times 11 = 22$$

Notice the product has the same factor in the tens and ones places.  $3 \times 11 = 33$

$$4 \times 11 = 44$$

To find  $5 \times 11$ , write the first factor in the tens and ones places.  $5 \times 11 = \underline{\quad\quad}$

$$6 \times 11 = 66$$

$7 \times 11 = 77$

$$8 \times 11 = 88$$

$$5 \times 11 = 55$$

$$9 \times 11 = 99$$

**Try This!** What if it took Bobby 12 minutes to walk to school? How many minutes will he spend walking to school in 5 days?

**Break apart the factor 12.**

$$5 \times (10 + 2)$$

$$5 \times 10 = 50 \quad 5 \times 2 = 10$$

$$5 \times 12 = \underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$$

So,  $5 \times 12 = \underline{\quad\quad}$ . Bobby will spend \_\_\_\_\_ minutes walking to school.

**Double a 6s fact.**

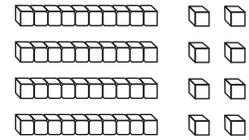
Find the 6s product.  $5 \times 6 = 30$

Double that product.  $\underline{\quad\quad} + \underline{\quad\quad} = \underline{\quad\quad}$

## Share and Show



1. How can you use the 10s facts and the 2s facts to find  $4 \times 12$ ?




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### Find the product.

2.  $9 \times 11 = \underline{\quad}$

3.  $7 \times 12 = \underline{\quad}$

4.  $\underline{\quad} = 4 \times 11$

## On Your Own

### Find the product.

5.  $\underline{\quad} = 11 \times 6$

6.  $\underline{\quad} = 12 \times 2$

7.  $0 \times 11 = \underline{\quad}$

8.  $\underline{\quad} = 6 \times 12$

9.  $8 \times 12 = \underline{\quad}$

10.  $7 \times 11 = \underline{\quad}$

11.  $12 \times 9 = \underline{\quad}$

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

13.  $1 \times 12 = \underline{\quad}$

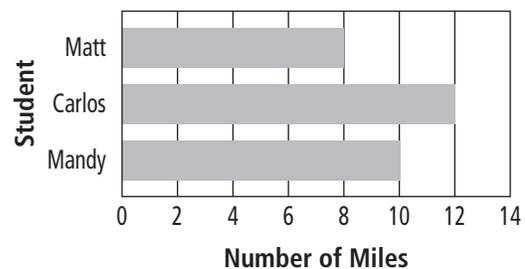
## Problem Solving



### Use the graph for 14–15.

14. The graph shows the number of miles some students travel to school each day. How many miles will Carlos travel to school in 5 days?

Miles from Home to School



15. Suppose that Mandy takes 9 trips to school, and Matt takes 11 trips to school. Who travels more miles? **Explain.**

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Name \_\_\_\_\_

## Divide with 11 and 12

**Essential Question** What strategies can you use to divide with 11 and 12?

### Unlock the Problem Real World

Tara collects 60 postcards. She arranges them in 12 equal stacks. How many postcards are in each stack?

**Divide.**  $60 \div 12 = \blacksquare$

**One Way** Use a multiplication table.

Since division is the inverse of multiplication, you can use a multiplication table to find a quotient.

Think of a related multiplication fact.

$$12 \times \blacksquare = 60$$

- Find the row for the factor 12.
- Look across to find the product, 60.
- Look up to find the unknown factor.
- The unknown factor is 5.

Since  $12 \times 5 = 60$ , then

$$60 \div 12 = \underline{\quad}$$

**Another Way** Use repeated subtraction.

- Start with 60.
- Subtract 12 until you reach 0.
- Count the number of times you subtract 12.

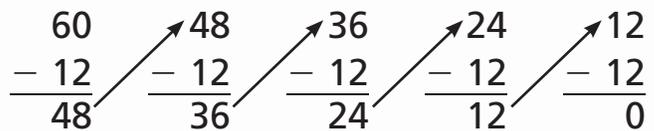
You subtracted 12 five times.

$$60 \div 12 = \underline{\quad}$$

So, there are 5 postcards in each stack.

- Do you need to find the number of groups or the number in each group?

×	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144



**Math Talk**

**Mathematical Practices**

What other strategies can you use to divide?

## Share and Show



1. Use the multiplication table on page P271 to find  $99 \div 11$ .

\_\_\_\_\_

Think: What is a related multiplication fact?

### Find the unknown factor and quotient.

2.  $11 \times \blacksquare = 66$

$66 \div 11 = \blacksquare$

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

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

4.  $3 \times \blacksquare = 33$

$33 \div 3 = \blacksquare$

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

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

3.  $2 \times \blacksquare = 24$

$24 \div 2 = \blacksquare$

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

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

5.  $12 \times \blacksquare = 72$

$72 \div 12 = \blacksquare$

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

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

## On Your Own

### Find the unknown factor and quotient.

6.  $11 \times \blacksquare = 55$

$55 \div 11 = \blacksquare$

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

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

8.  $8 \times \blacksquare = 96$

$96 \div 8 = \blacksquare$

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

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

7.  $12 \times \blacksquare = 48$

$48 \div 12 = \blacksquare$

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

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

9.  $8 \times \blacksquare = 88$

$88 \div 8 = \blacksquare$

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

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

### Find the quotient.

10.  $11 \div 11 = \underline{\hspace{2cm}}$

11.  $77 \div 7 = \underline{\hspace{2cm}}$

12.  $\underline{\hspace{2cm}} = 60 \div 12$

13.  $\underline{\hspace{2cm}} = 22 \div 11$

14.  $108 \div 9 = \underline{\hspace{2cm}}$

15.  $84 \div 12 = \underline{\hspace{2cm}}$

16.  $36 \div 3 = \underline{\hspace{2cm}}$

17.  $\underline{\hspace{2cm}} = 96 \div 12$

18.  $12 \div 12 = \underline{\hspace{2cm}}$

### Compare. Write $<$ , $>$ , or $=$ for each $\bigcirc$ .

19.  $96 \div 8 \bigcirc 96 \div 12$

20.  $77 \div 11 \bigcirc 84 \div 12$

21.  $99 \div 11 \bigcirc 84 \div 7$

## Problem Solving



22. Justin printed 44 posters to advertise the garage sale. He gave 11 friends the same number of posters to display around the neighborhood. How many posters did Justin give each friend?

\_\_\_\_\_

Name \_\_\_\_\_

## Multiplication and Division Relationships

**Essential Question** How can you write related multiplication and division equations for 2-digit factors?

Multiplication and division are inverse operations.

### **Unlock the Problem**

Megan has a rose garden with the same number of bushes planted in each of 4 rows. There are 48 bushes in the garden. How many bushes are in each row of Megan's garden?

- What do you need to find?

\_\_\_\_\_

\_\_\_\_\_

#### **One Way**

Make an array.

$$48 \div 4 = \blacksquare$$

Count 48 tiles. Make 4 rows by placing 1 tile in each row.

Continue placing 1 tile in each of the 4 rows until all the tiles are used.

Draw the array you made.



There are \_\_\_\_\_ tiles in each row.

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

So, there are \_\_\_\_\_ bushes in each row of Megan's garden.

#### **Another Way**

Write related equations.

$$48 \div 4 = \blacksquare$$

**Think:** 4 times what number equals 48?

$$4 \times \underline{\hspace{2cm}} = 48$$

You can check your answer using repeated addition.

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

Write related equations.

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 48$$

$$48 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

**Math Talk**

**Mathematical Practices**

How can you tell if two equations are related?

## Share and Show



1. Complete the related equations for this array.

$$3 \times 11 = 33$$

$$33 \div 3 = 11$$



Complete the related multiplication and division equations.

2.  $1 \times 11 = \underline{\quad}$

$$\underline{\quad} \times 1 = 11$$

$$11 \div 1 = \underline{\quad}$$

$$\underline{\quad} \div 11 = 1$$

3.  $5 \times \underline{\quad} = 60$

$$12 \times 5 = \underline{\quad}$$

$$\underline{\quad} \div 5 = 12$$

$$60 \div \underline{\quad} = 5$$

4.  $\underline{\quad} \times 11 = 77$

$$\underline{\quad} \times 7 = 77$$

$$77 \div \underline{\quad} = 11$$

$$\underline{\quad} \div 11 = 7$$

## On Your Own

Complete the related multiplication and division equations.

5.  $\underline{\quad} \times 12 = 84$

$$\underline{\quad} \times 7 = 84$$

$$\underline{\quad} \div 7 = 12$$

$$84 \div \underline{\quad} = 7$$

6.  $6 \times \underline{\quad} = 66$

$$11 \times \underline{\quad} = 66$$

$$66 \div 6 = \underline{\quad}$$

$$66 \div 11 = \underline{\quad}$$

7.  $12 \times 8 = \underline{\quad}$

$$8 \times \underline{\quad} = 96$$

$$96 \div \underline{\quad} = 8$$

$$96 \div 8 = \underline{\quad}$$

## Problem Solving



8. Megan cut 108 roses to make flower arrangements. She made 9 equal arrangements. How many roses were in each arrangement?

\_\_\_\_\_

9. Megan put 22 roses in a vase. She cut the same number of roses from each of 11 different bushes. How many roses did she cut from each bush?

\_\_\_\_\_

Name \_\_\_\_\_

**Use Multiplication Patterns****Essential Question** How can you multiply with 10, 100, and 1,000?**Unlock the Problem** 

Mrs. Goldman ordered 4 boxes of yo-yos for her toy store. Each box had 100 yo-yos. How many yo-yos did Mrs. Goldman order?

- Circle the numbers you need to use.
  - What operation can you use to find the total when you have equal groups?
- \_\_\_\_\_

 Use a basic fact and a pattern to multiply.

**Factors****Products**

$4 \times 1 = 4$

**Think:** Use the basic fact  $4 \times 1 = 4$ .

$4 \times 10 = 40$

Look for a pattern of zeros.

$4 \times 100 = 400$

So, Mrs. Goldman ordered 400 yo-yos.

**Math Idea**

As the number of zeros in a factor increases, the number of zeros in the product increases.

**Try This!** Use a basic fact and a pattern to find the products.

**A.**  $1 \times 3 = 3$

$10 \times 3 = \underline{\hspace{2cm}}$

**B.**  $5 \times 1 = 5$

$5 \times 10 = 50$

$5 \times 100 = \underline{\hspace{2cm}}$

$5 \times 1,000 = \underline{\hspace{2cm}}$

**Math Talk****Mathematical Practices**

When multiplying  $9 \times 1,000$ , how many zeros will be in the product?  
**Explain**

## Share and Show



1. **Explain** how to use a basic fact and a pattern to find  $6 \times 100$ .

---



---

**Use a basic fact and a pattern to find the products.**

2.  $7 \times 10 =$  \_\_\_\_\_

3.  $10 \times 5 =$  \_\_\_\_\_

4.  $3 \times 10 =$  \_\_\_\_\_

$7 \times 100 =$  \_\_\_\_\_

$100 \times 5 =$  \_\_\_\_\_

$3 \times 100 =$  \_\_\_\_\_

$7 \times 1,000 =$  \_\_\_\_\_

$1,000 \times 5 =$  \_\_\_\_\_

$3 \times 1,000 =$  \_\_\_\_\_

## On Your Own

**Use a basic fact and a pattern to find the products.**

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

6.  $10 \times 8 =$  \_\_\_\_\_

7.  $9 \times 10 =$  \_\_\_\_\_

$2 \times 100 =$  \_\_\_\_\_

$100 \times 8 =$  \_\_\_\_\_

$9 \times 100 =$  \_\_\_\_\_

$2 \times 1,000 =$  \_\_\_\_\_

$1,000 \times 8 =$  \_\_\_\_\_

$9 \times 1,000 =$  \_\_\_\_\_

**Find the product.**

8.  $10 \times 8 =$  \_\_\_\_\_

9.  $6 \times 100 =$  \_\_\_\_\_

10. \_\_\_\_\_  $= 4 \times 100$

11.  $1,000 \times 4 =$  \_\_\_\_\_

12. \_\_\_\_\_  $= 1,000 \times 3$

13.  $9 \times 100 =$  \_\_\_\_\_

## Problem Solving



**Use the picture graph.**

14. Patty has 20 fewer yo-yos in her collection than Chuck. Draw yo-yos in the picture graph. to show the number of yo-yos in Patty's collection. **Explain** your answer.

---



---

### Yo-Yo Collections

Name	Number of Yo-Yos
Max	
Chuck	
Patty	

Key: Each = 10 Yo-Yos.

Name \_\_\_\_\_

## Use Models to Multiply Tens and Ones

**Essential Question** How can you use base-ten blocks and area models to model multiplication with a 2-digit factor?



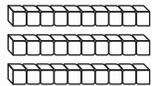
Three groups of 14 students toured the state capitol in Columbus, Ohio. How many students toured the capitol in all?

Multiply.  $3 \times 14 = \blacksquare$

### One Way

#### STEP 1

Model  $3 \times 14$  with base-ten blocks.



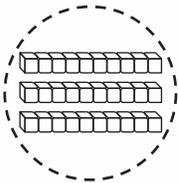
3 rows of 10



3 rows of 4

#### STEP 2

Multiply the tens and ones.  
Record each product.



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

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

#### STEP 3

Add the products.

$$30 + 12 = 42$$

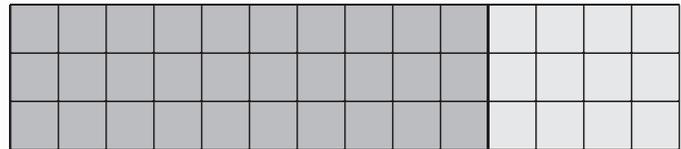
$$3 \times 14 = 42$$

So, 42 students toured the capitol.

### Another Way

#### STEP 1

Model  $3 \times 14$  with an area model.



3 rows of 10

3 rows of 4

#### STEP 2

Multiply the tens.

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

Multiply the ones.

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

#### STEP 3

Add the products.

$$30 + 12 = 42$$

$$3 \times 14 = 42$$

- What do you need to find?

\_\_\_\_\_

\_\_\_\_\_

- Circle the numbers you need to use.

**Math Talk**

Mathematical Practices

How are the two ways to find a product alike?

## Share and Show



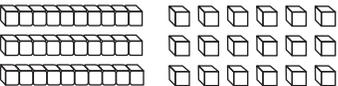
1. One way to model 18 is 1 ten 8 ones.  
How can knowing this help you  
find  $4 \times 18$ ?

---



---

### Find the product. Show your multiplication and addition.

2. 

$$3 \times 16 = \blacksquare$$

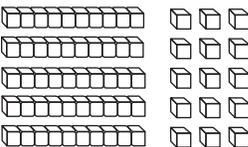
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3. 

$$5 \times 13 = \blacksquare$$

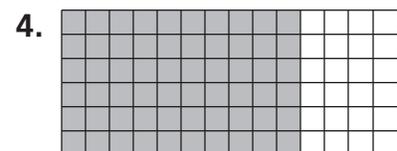
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$$6 \times 14 = \blacksquare$$

---



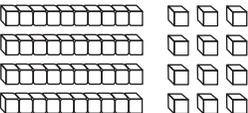
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## On Your Own

### Find the product. Show your multiplication and addition.

5. 

$$4 \times 13 = \blacksquare$$

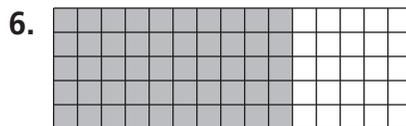
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$$5 \times 15 = \blacksquare$$

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$$3 \times 17 = \blacksquare$$

---



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## Problem Solving



8. Randy rakes yards for \$5 an hour. How much  
money does he earn if he works for 12 hours?

---

Name \_\_\_\_\_

**Model Division with Remainders****Essential Question** How can you use counters to model division with remainders?

Madison has 13 seeds. She wants to put the same number of seeds in each of 3 pots. How many seeds can Madison put into each pot? How many seeds are left over?

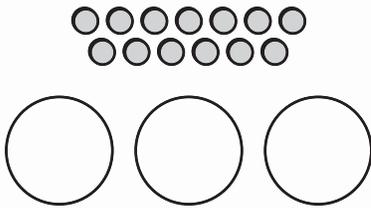
- How do you know how many groups to make?

\_\_\_\_\_

**Activity Materials** ■ counters

Use counters to find  $13 \div 3$ .

**STEP 1** Use 13 counters. Draw 3 circles for the 3 pots.



**STEP 2** Place one counter in each group until there are not enough to put 1 more in each of the groups.



There are \_\_\_\_\_ counters in each circle.

There is \_\_\_\_\_ counter left over.

$13 \div 3$  is 4 with 1 left over.

The quotient is 4.

The remainder is 1.

So, Madison can put 4 seeds in each pot. There is 1 seed left over.

After dividing a group of objects into equal groups as large as possible, there may be some left over. The amount left over is called the **remainder**.

**Math Talk****Mathematical Practices**

**Explain** why you cannot have a remainder of 3 when you divide by 3.

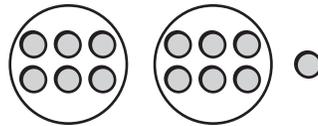
**Try This!** What if Madison wants to put 4 seeds in each pot. How many pots will Madison need? How many seeds will be left over?

\_\_\_\_\_

## Share and Show



1. Divide 13 counters into 2 equal groups.



There are \_\_\_\_\_ counters in each group, and  
\_\_\_\_\_ counter left over.

### Complete.

2. April divided 17 counters into 4 equal groups.

There were \_\_\_\_\_ counters in each  
group and \_\_\_\_\_ counter left over.

3. Divide 20 counters into groups of 6.

There are \_\_\_\_\_ groups and \_\_\_\_\_  
counters left over.

## On Your Own

### Complete.

4. Divide 14 pencils into 3 equal groups.

There are \_\_\_\_\_ pencils in each group  
and \_\_\_\_\_ pencils left over.

5. Divide 60 pieces of chalk into groups  
of 8.

There are \_\_\_\_\_ groups and \_\_\_\_\_  
pieces of chalk left over.

### Find the total number of objects.

6. There are 2 shoes in each of  
6 groups and 1 shoe left over.

There are \_\_\_\_\_ shoes in all.

7. There are 4 apples in each of  
3 groups and 2 apples left over.

There are \_\_\_\_\_ apples in all.

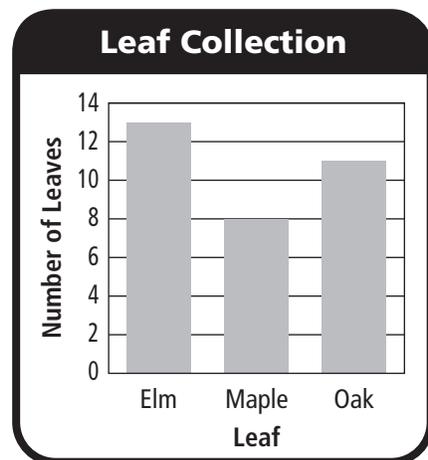
## Problem Solving



### Use the bar graph for 8.

8. If Hector divides the oak leaves evenly into  
4 display boxes, how many leaves will be in  
each box? How many leaves will be left over?

\_\_\_\_\_



Name \_\_\_\_\_

## Use Models to Divide Tens and Ones

**Essential Question** How can you model division with a 2-digit quotient?

### Unlock the Problem **Real World**

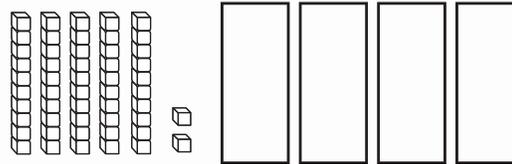
Emma baked 52 muffins. She wants to put an equal number of muffins on each of 4 trays. How many muffins can she put on each tray?

- Circle the numbers you need to use.
- How many equal groups are there?  
\_\_\_\_\_

**Find  $52 \div 4$ .**

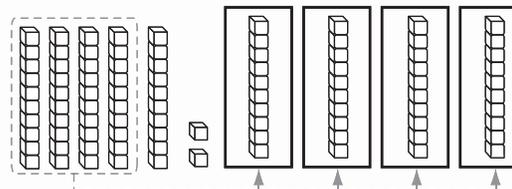
#### STEP 1

Use base-ten blocks to model the problem. Draw 4 rectangles to represent the 4 equal groups.



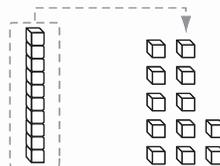
#### STEP 2

Share the tens. Place 1 ten in each group until there are not enough tens to put 1 more ten in each group.



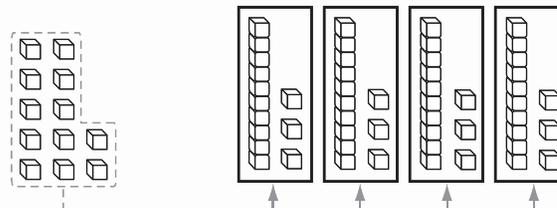
#### STEP 3

Regroup the remaining ten as ones. There are now 12 ones.



#### STEP 4

Share the ones. Place 1 one in each group until there are not enough ones to put 1 more one in each group.



So, Emma can put \_\_\_\_\_ muffins on each tray.

**Math Talk**

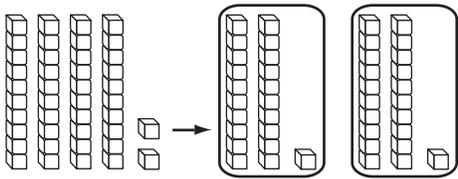
**Mathematical Practices**

How you can check your answer.

## Share and Show



1. Find  $42 \div 2$ .



- How many equal groups are there? \_\_\_\_\_
- How many tens go in each group? \_\_\_\_\_
- How many ones go in each group? \_\_\_\_\_
- The quotient is \_\_\_\_\_.

Use base-ten blocks and your MathBoard to divide.

2.  $65 \div 5 =$  \_\_\_\_\_

3.  $90 \div 3 =$  \_\_\_\_\_

4.  $88 \div 4 =$  \_\_\_\_\_

## On Your Own

Use base-ten blocks and your MathBoard to divide.

5.  $72 \div 2 =$  \_\_\_\_\_

6.  $69 \div 3 =$  \_\_\_\_\_

7.  $96 \div 6 =$  \_\_\_\_\_

## Problem Solving



8. Roger has 84 trading cards. He wants to put an equal number in each of 3 boxes. How many cards will he put into each box?

\_\_\_\_\_

9. Riley has 78 postcards. She wants to put 6 on each poster board. How many poster boards will she need?

\_\_\_\_\_

Name \_\_\_\_\_

## ✓ Checkpoint

### Concepts and Skills

**Find the product.**

1. \_\_\_\_\_ =  $11 \times 5$

2.  $12 \times 7 =$  \_\_\_\_\_

**Find the unknown factor and quotient.**

3.  $4 \times \blacksquare = 44$

$44 \div 4 = \blacksquare$

$\blacksquare =$  \_\_\_\_\_

$\blacksquare =$  \_\_\_\_\_

4. Write the related multiplication and division equations for the numbers 5, 12, 60.

\_\_\_\_\_

**Use a basic fact and a pattern to find the products.**

5.  $3 \times 10 =$  \_\_\_\_\_

$3 \times 100 =$  \_\_\_\_\_

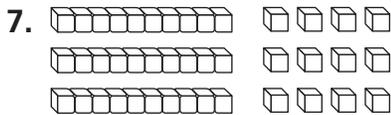
$3 \times 1,000 =$  \_\_\_\_\_

6.  $10 \times 7 =$  \_\_\_\_\_

$100 \times 7 =$  \_\_\_\_\_

$1,000 \times 7 =$  \_\_\_\_\_

**Find the product. Show your multiplication and division.**



$3 \times 10 =$  \_\_\_\_\_

$3 \times 4 =$  \_\_\_\_\_

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

$3 \times 14 = \blacksquare$

$3 \times 14 =$  \_\_\_\_\_

**Use base-ten blocks and your MathBoard to divide.**

8.  $132 \div 6 =$  \_\_\_\_\_

9.  $160 \div 8 =$  \_\_\_\_\_

### Problem Solving



10. Jerry printed 48 photos. He gave 4 friends the same number of photos. How many photos did each friend receive?

\_\_\_\_\_

11. Tina divides 17 crayons into 3 equal groups. How many crayons will be in each group? How many crayons will be left over?

\_\_\_\_\_

**Fill in the bubble for the correct answer choice.**

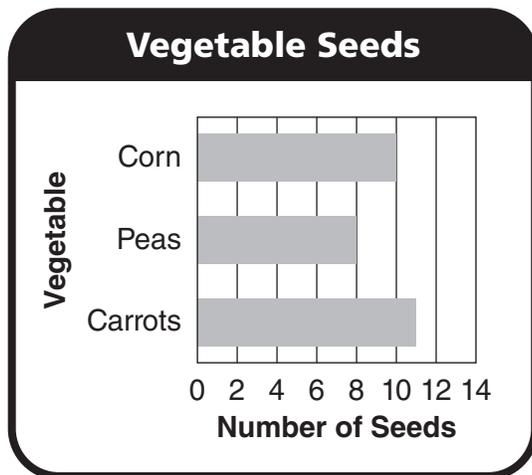
12. Marita cuts 72 daisies to make bouquets. She makes 6 equal bouquets. How many daisies are in each bouquet?

- (A) 6                      (C) 8  
(B) 7                      (D) 12

13. Christine charges \$5 an hour to babysit. How much money does she earn in 16 hours?

- (A) \$21                    (C) \$64  
(B) \$50                    (D) \$80

14. Use the bar graph. Hector divides the carrot seeds evenly in 4 garden plots. How many carrot seeds will be left over?



- (A) 5  
(B) 4  
(C) 3  
(D) 2

15. Roberto has 39 model cars. He wants to display an equal number of model cars on each of 3 shelves. How many model cars will he put on each shelf?

- (A) 2                      (C) 13  
(B) 9                      (D) 39

Name \_\_\_\_\_

# Model Tenths and Hundredths

**Essential Question** How can you model and write fractions in tenths and hundredths?



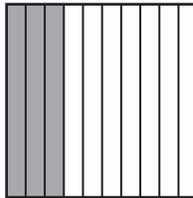
You can use models to represent fractions in tenths and hundredths.

## Example

**A**

**STEP 1**

This model has 10 equal parts. Each part is one **tenth**. Shade three parts out of ten equal parts.



**STEP 2**

Write the fraction.

**Think:** Three tenths are shaded.

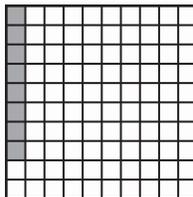
\_\_\_\_\_

• What do you need to find to write the fraction?  
\_\_\_\_\_

**B**

**STEP 1**

This model has 100 equal parts. Each part is one **hundredth**. Shade eight of one hundred equal parts.



**STEP 2**

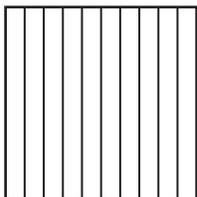
Write the fraction.

**Think:** Eight hundredths are shaded.

\_\_\_\_\_

### Try This!

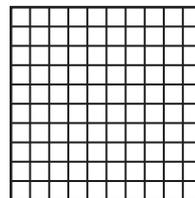
Shade the model to show nine of the ten equal parts.



Read: \_\_\_\_\_

Write: \_\_\_\_\_

Shade the model to show sixty-five of the hundred equal parts.



Read: \_\_\_\_\_

Write: \_\_\_\_\_

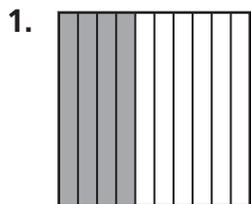
**Math Talk** **Mathematical Practices**

Which number in a fraction represents the number of parts being counted, and which represents the number of equal parts in the whole?

## Share and Show

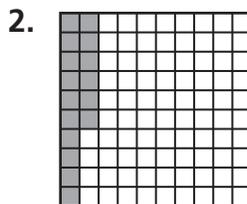


Write the fraction that names the shaded part.

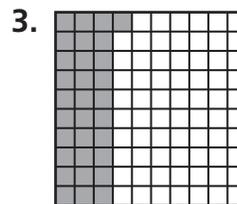


**Think:** How many equal parts are shaded?

\_\_\_\_\_



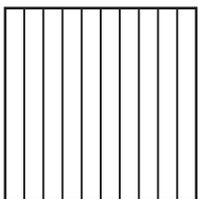
\_\_\_\_\_



\_\_\_\_\_

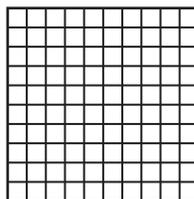
Shade to model the fraction. Then write the fraction in numbers.

4. three tenths



\_\_\_\_\_

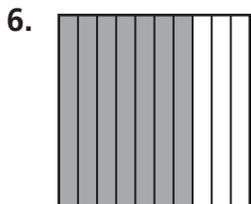
5. twenty-three hundredths



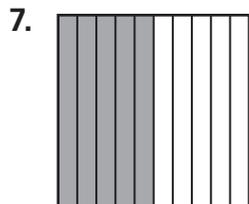
\_\_\_\_\_

## On Your Own

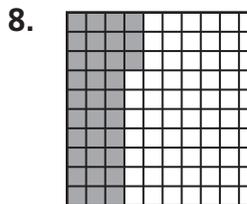
Write the fraction that names the shaded part.



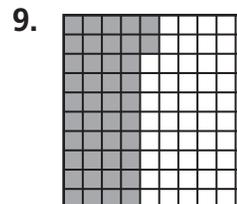
\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

## Problem Solving



10. Each player shot a basketball 10 times. Eric made 4 baskets. Write a fraction to represent the part of Eric's shots that were baskets.

\_\_\_\_\_

11. Nina asked 100 students if they have a pet. Of the students,  $\frac{19}{100}$  have a cat. How many students have a cat?

\_\_\_\_\_

Name \_\_\_\_\_

## Fractions Greater Than One

**Essential Question** When might you use a fraction greater than 1 or a mixed number?



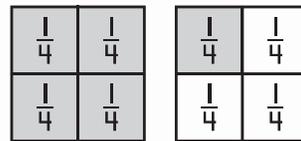
Troy uses  $\frac{1}{4}$  of a box of clay to make one model of a car. How many boxes of clay does he use to make 5 model cars?

- How much clay does Troy use to make each model car?

- How many model cars does Troy make?

### Make a model.

- Draw squares divided into fourths to show the boxes of clay. Shade  $\frac{1}{4}$  for the amount of clay Troy uses for each of the 5 model cars.
- Count the number of shaded parts. There are \_\_\_\_\_ shaded parts.
- Write the fraction.



**Think:**  $\frac{4}{4} = 1$

One whole and one fourth are shaded.

**Write:**  $1\frac{1}{4}$

shaded parts  
 parts in the whole

The number  $\frac{5}{4}$  is a fraction greater than 1. A fraction greater than 1 can be written as a **mixed number**. A mixed number has a whole number and a fraction.

So, Troy uses  $\frac{5}{4}$  or  $1\frac{1}{4}$  boxes of clay to make 5 model cars.

### Read Math

Read  $1\frac{1}{4}$  as *one and one fourth*.

### Math Talk

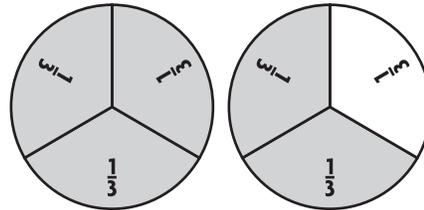
#### Mathematical Practices

Why are  $\frac{5}{4}$  and  $1\frac{1}{4}$  equal?

## Share and Show



1. Each fraction circle is 1 whole. Write a mixed number for the parts that are shaded.



There are \_\_\_\_\_ parts shaded.

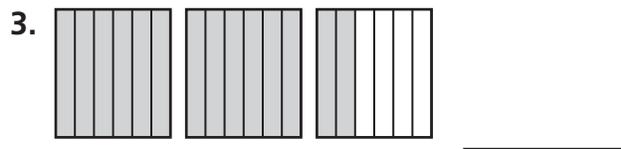
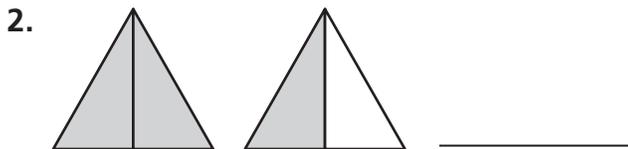
There are \_\_\_\_\_ equal parts in the whole.

Fraction:  $\frac{\square}{\square}$  shaded parts  
 $\frac{\square}{\square}$  parts in a whole

There is \_\_\_\_\_ whole shaded and \_\_\_\_\_ thirds shaded.

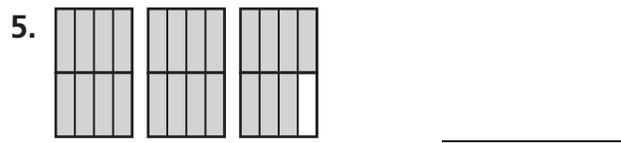
The mixed number is \_\_\_\_\_.

**Each shape is 1 whole. Write a mixed number for the parts that are shaded.**



## On Your Own

**Each shape is 1 whole. Write a mixed number for the parts that are shaded.**



## Problem Solving



6. Luis played  $\frac{6}{4}$  games of soccer this season. How can you write the number of games Luis played as a mixed number?
- \_\_\_\_\_

7. Marci used  $\frac{7}{3}$  packages of juice drinks. How can you write the number of packages of juice drinks Marci used as a mixed number?
- \_\_\_\_\_

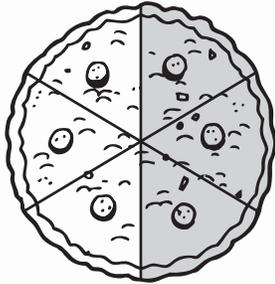
Name \_\_\_\_\_

## Equivalent Fractions

**Essential Question** How can you use models to find equivalent fractions?

### Unlock the Problem **Real World**

Bart brought an apple pie to the picnic. He cut the pie into 6 equal pieces and 3 pieces were eaten.



- What fraction names the amount of the pie that was eaten? \_\_\_\_\_
- What fraction names the amount of the pie that was left over? \_\_\_\_\_

Bart divided each of the leftover pieces into 2 equal pieces. Draw a dashed line on each piece to show how Bart divided it.

After you divide each sixth-size piece into 2 equal pieces, there will be 12 pieces in the whole pie. The pieces are called twelfths.

- What fraction names the total number of pieces

Bart has left? \_\_\_\_\_

$\frac{\square}{6}$  and  $\frac{\square}{12}$  are equivalent since they both name the same amount of the pie.

**Math Talk**

**Mathematical Practices**

How do the size of the parts compare in the equivalent fractions? How do the number of parts compare?

## Share and Show



Use models to find the equivalent fraction.

1.  $\frac{1}{2} = \frac{\square}{4}$

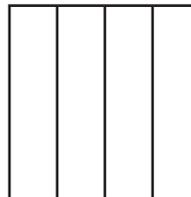
This model shows a whole divided into 2 equal parts.

Shade the model to show the fraction  $\frac{1}{2}$ .



This model shows a whole divided into 4 equal parts.

Shade the model to show a fraction equivalent to  $\frac{1}{2}$ .

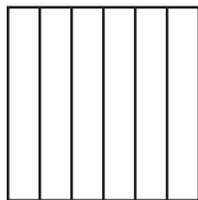
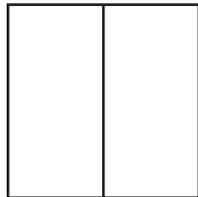


So,  $\frac{\square}{2} = \frac{\square}{4}$ .

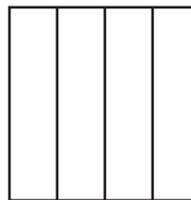
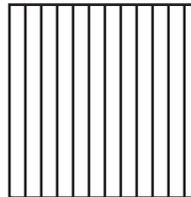
## On Your Own

Use models to find the equivalent fraction.

2.  $\frac{1}{2} = \frac{\square}{6}$



3.  $\frac{9}{12} = \frac{\square}{4}$



## Problem Solving



4. A loaf of bread has 12 slices. Micky ate  $\frac{1}{4}$  of the loaf. Write the fraction of the loaf Micky ate in twelfths.

---

5. Sandra used  $\frac{1}{4}$  of a meter of string to make a bracelet. Write the fraction of a meter of string Sandra used in eighths.

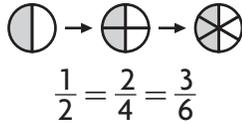
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Name \_\_\_\_\_

## Equivalent Fractions on a Multiplication Table

**Essential Question** How can you generate equivalent fractions using a multiplication table?

**CONNECT** You can use a model to show the equivalent fractions  $\frac{1}{2}$ ,  $\frac{2}{4}$ , and  $\frac{3}{6}$ .



**Think:** The same amount is shaded in the models; the second model and third model have more parts shaded.

### Unlock the Problem Real World

You can use a multiplication table for other equivalent fractions for  $\frac{1}{2}$ .

**Activity** What are some equivalent fractions for  $\frac{1}{2}$ ?

**Materials** ■ multiplication table

- Shade the row for the numerator of the fraction  $\frac{1}{2}$ . The numerator is 1.
- Shade the row for the denominator of the fraction  $\frac{1}{2}$ . The denominator is 2.
- Look across the rows for numerator 1 and denominator 2.

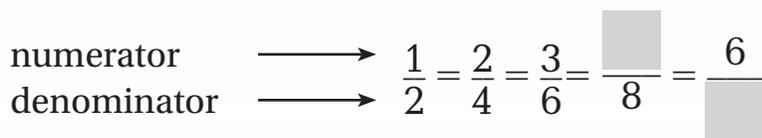
• In a multiplication table, how are a product and the product below it related?

\_\_\_\_\_

\_\_\_\_\_

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30

Write the products with the numerator 1 as a factor. Then write the products with the denominator 2 as a factor. The first three are done for you.



**Math Talk** Mathematical Practices

Why is the arrangement of factors and products in a multiplication table helpful in finding equivalent fractions?

- What do you notice about the products from the column for 1 to the column for 2?  
The numerator and denominator both increase by a factor of \_\_\_\_\_.
- What do you notice about the products from the column for 1 to the column for 3?  
The numerator and denominator both increase by a factor of \_\_\_\_\_.
- What do you notice about the products from the column for 1 to the column for 4?  
The numerator and denominator both increase by a factor of \_\_\_\_\_.

So,  $\frac{2}{4}$ ,  $\frac{3}{6}$ ,  $\frac{4}{8}$ , and  $\frac{6}{12}$  are some equivalent fractions for  $\frac{1}{2}$ .

**Math Idea**

To find an equivalent fraction, you can multiply both the numerator and denominator by the same number.

## Share and Show



Use a multiplication table to find equivalent fractions.

1. Write 3 equivalent fractions for  $\frac{1}{3}$ .

- Shade the row for the numerator of the fraction  $\frac{1}{3}$ . The numerator is \_\_\_\_\_.
- Shade the row for the denominator of the fraction  $\frac{1}{3}$ . The denominator is \_\_\_\_\_.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30

- Look across the rows for numerator 1 and denominator 3.

Write the products with the numerator 1 as a factor. Then write the products with the denominator 3 as a factor.

$$\begin{array}{l} \text{numerator} \quad \longrightarrow \\ \text{denominator} \quad \longrightarrow \end{array} \frac{1}{3} = \frac{\square}{6} = \frac{\square}{\square} = \frac{\square}{\square}.$$

$$\text{So, } \frac{1}{3} = \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

List 3 equivalent fractions.

2.  $\frac{1}{6}$

\_\_\_\_\_

3.  $\frac{1}{4}$

\_\_\_\_\_

## On Your Own

Use a multiplication table to find three equivalent fractions.

4.  $\frac{2}{5}$

\_\_\_\_\_

5.  $\frac{3}{10}$

\_\_\_\_\_

## Problem Solving



6. On Jan's soccer team,  $\frac{1}{5}$  of the players are on the field. What are three equivalent fractions that name the part of the team on the field?

\_\_\_\_\_

7. Chen used  $\frac{3}{4}$  of a carton of milk. What are three equivalent fractions that name the part of the carton of milk that Chen used?

\_\_\_\_\_

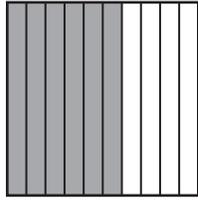
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## ✓ Checkpoint

### Concepts and Skills

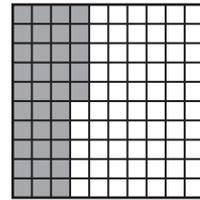
Write the fraction that names the shaded part.

1.



\_\_\_\_\_

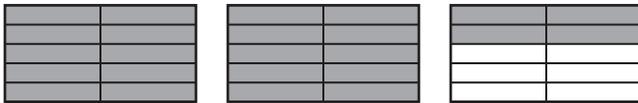
2.



\_\_\_\_\_

Each shape is 1 whole. Write a mixed number for the parts that are shaded.

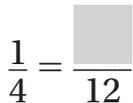
3.



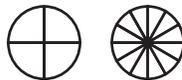
\_\_\_\_\_

Use models to find the equivalent fraction.

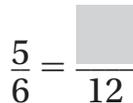
4.



$$\frac{1}{4} = \frac{\quad}{12}$$



5.



$$\frac{5}{6} = \frac{\quad}{12}$$



Use a multiplication table to find three equivalent fractions.

6.

$$\frac{3}{4}$$

\_\_\_\_\_

7.

$$\frac{4}{10}$$

\_\_\_\_\_

### Problem Solving



8. Three friends shared 4 pies equally. Each person got  $\frac{4}{3}$  pies. How can you write how much pie each person got as a mixed number?

\_\_\_\_\_

9. Bill bought a large submarine sandwich and cut it into 8 equal pieces. He ate  $\frac{1}{4}$  of the sandwich. How can you write how much of the sandwich Bill ate as eighths?

\_\_\_\_\_

**Fill in the bubble for the correct answer choice.**

10. Each player hit a baseball 10 times. Linda batted 8 balls to the outfield. Write a fraction to show what part of 10 hits Linda batted to the outfield.
- (A)  $\frac{18}{18}$
- (B)  $\frac{10}{8}$
- (C)  $\frac{9}{10}$
- (D)  $\frac{8}{10}$
11. Vilma used  $\frac{8}{3}$  packages of graham crackers to make piecrusts. How can you write the packages of crackers Vilma used as a mixed number?
- (A)  $2\frac{1}{8}$                       (C)  $2\frac{2}{3}$
- (B)  $2\frac{1}{3}$                         (D)  $3\frac{1}{3}$
12. Sam used  $\frac{10}{12}$  of a meter of ribbon to decorate a picture frame. What fraction of a meter of ribbon, in sixths, did Sam use?
- (A)  $\frac{2}{12}$
- (B)  $\frac{5}{6}$
- (C)  $\frac{6}{12}$
- (D)  $\frac{12}{10}$
13. Leona used  $\frac{3}{8}$  of a bottle of juice. Which is an equivalent fraction that names the part of the bottle of juice that Leona used?
- (A)  $\frac{6}{16}$                       (C)  $\frac{3}{4}$
- (B)  $\frac{5}{8}$                          (D)  $\frac{8}{3}$

Name \_\_\_\_\_

## Same Size, Same Shape

**Essential Question** How can you identify shapes that have the same size and are shaped the same?

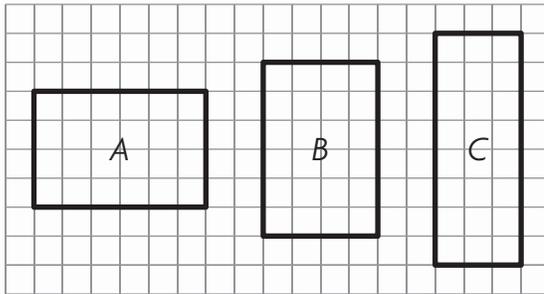
### Unlock the Problem Real World

You can tell if two shapes have the same size and are shaped the same by comparing the matching parts of the shapes.

**Activity** Compare size and shape.

**Materials** ■ grid paper ■ scissors ■ ruler

**STEP 1** Trace Shape A on grid paper. Cut out Shape A.



• What parts of the shapes do you need to compare?  
\_\_\_\_\_

**STEP 2** Move Shape A in any way to compare it to Shape B.

• Do the shapes match exactly? \_\_\_\_\_

Shape A and Shape B \_\_\_\_\_ the same size and \_\_\_\_\_ shaped the same.

**STEP 3** Move Shape A in any way to compare it to Shape C.

• Do the shapes match exactly? \_\_\_\_\_

Shape A and Shape C \_\_\_\_\_ shaped the same.

### Try This!

Since all the angles in Shapes A and B are the same, you can compare shapes by their matching sides.

The length of the shorter side of Shape A is \_\_\_\_\_ units.

The length of the shorter side of Shape B is \_\_\_\_\_ units.

The length of the longer side of Shape A is \_\_\_\_\_ units.

The length of the longer side of Shape B is \_\_\_\_\_ units.

So, Shape A and Shape B have the \_\_\_\_\_ size and are shaped the \_\_\_\_\_.

### Math Talk

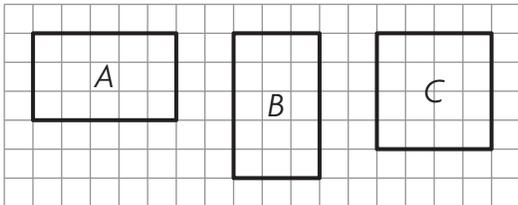
#### Mathematical Practices

Explain how the size and shape of Shape A compares to the size and shape of Shape C.

## Share and Show



1. Which shape appears to have the same size and the same shape as Shape A?

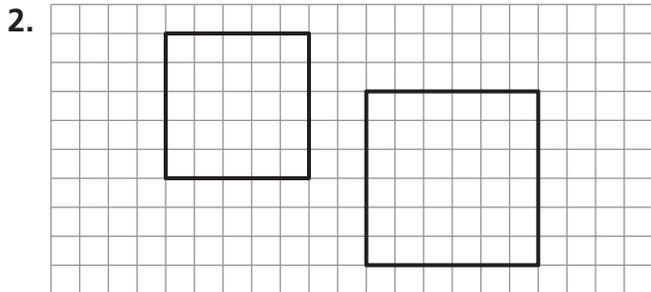


**Think:** If I trace Shape A and move it, which shape might it match exactly?

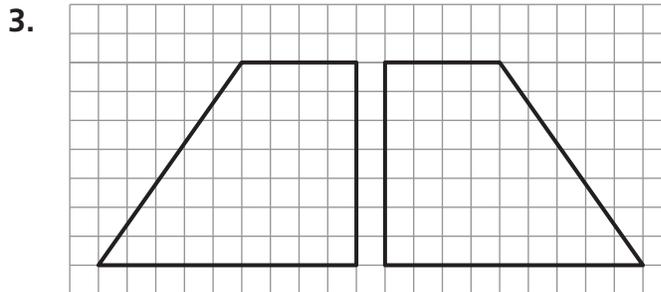
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## On Your Own

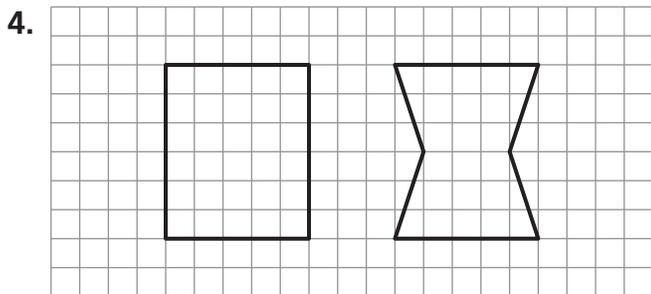
Look at the first shape. Tell if it appears to have the same size and shape as the second shape. Write *yes* or *no*.



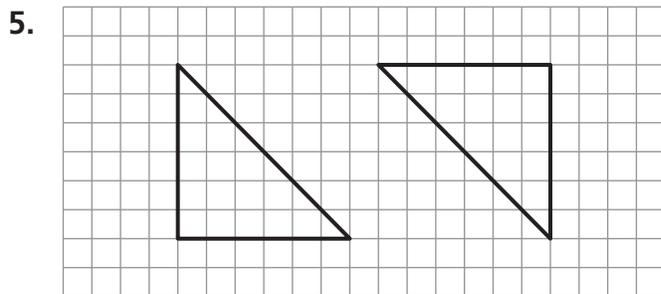

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## Problem Solving

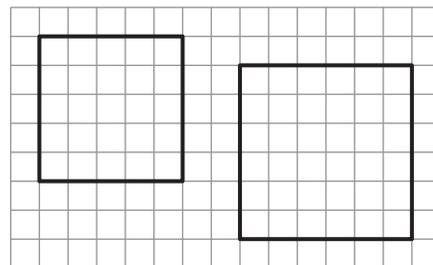


6. Kyra says that these shapes have the same size and same shape. Is she correct? **Explain.**

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Name \_\_\_\_\_

# Change Customary Units of Length

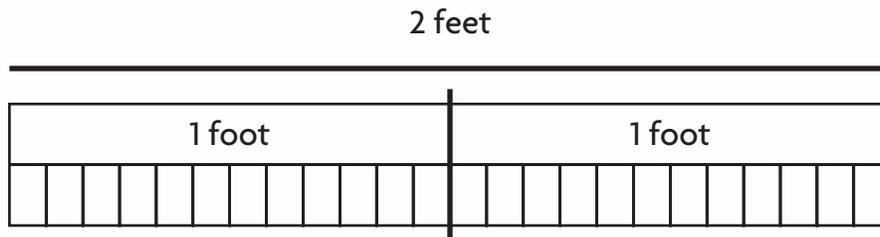
**Essential Question** How can you change feet to inches?

## Unlock the Problem Real World

You can use different units to name the same length.

Erin has a shelf that is 2 feet long. How many inches long is Erin's shelf?

**One Way** Draw a picture.



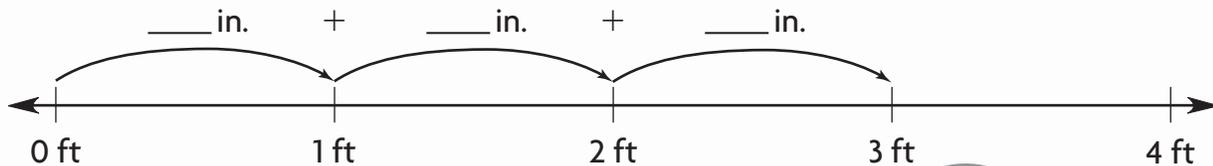
Draw one box to show each foot. Below each foot, draw 12 small boxes to show the number of inches in 1 foot. Count the total number of small boxes.

There are 24 small boxes in all. 2 feet = \_\_\_\_\_ inches.

So, Erin's shelf is \_\_\_\_\_ inches long.

**Another Way** Use a number line.

Erin has a table that is 3 feet long. How many inches long is her table? Draw a number line and label it in feet.



Draw a 12-inch jump for each foot. Add the lengths of the jumps to find the total number of inches.

3 feet = \_\_\_\_\_ inches.

So, Erin's table is \_\_\_\_\_ inches long.

- What do you need to find?

\_\_\_\_\_

\_\_\_\_\_

**Remember**

1 foot = 12 inches

**Math Talk**

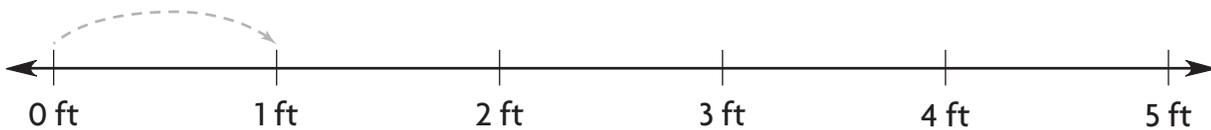
**Mathematical Practices**

Why do you count by 12s when you rename feet as inches?

## Share and Show



1. Use the number line. Rename 4 feet using inches.



4 feet = \_\_\_\_\_ inches

## On Your Own

**Draw a picture.**

2. Rename 7 feet using inches.

--	--	--	--	--	--	--

7 feet = \_\_\_\_\_ inches

3. Rename 6 feet using inches.

--	--	--	--	--	--

6 feet = \_\_\_\_\_ inches

4. Use the number line. Rename 8 feet using inches.



8 feet = \_\_\_\_\_ inches

## Problem Solving



5. Ella has a rope that is 10 feet long. How many inches long is the rope?

\_\_\_\_\_

6. Jose is 5 feet tall. How many inches tall is he?

\_\_\_\_\_

Name \_\_\_\_\_

## Change Metric Units of Length

**Essential Question** How can you change meters to centimeters?

**CONNECT** You have learned to change feet to inches. In this lesson, you will change meters to centimeters.

### Unlock the Problem

Gina needs a piece of wood that is 4 meters long to make a bench. How many centimeters of wood does Gina need?

- What do you need to do to answer the question?

\_\_\_\_\_

 Complete the table to show how the units are related.

**STEP 1** Look for a pattern to complete the table. Describe the relationship.

Meters	1	2	3	4	5
Centimeters	100	200	300	<b>400</b>	

  
**Remember**

1 meter = 100 centimeters

To find the number of centimeters, add \_\_\_\_\_ centimeters for each meter.

**STEP 2** Use the relationship to find the number of centimeters in 4 meters.

4 meters = \_\_\_\_\_ centimeters

So, Gina needs \_\_\_\_\_ centimeters of wood to make a bench.

## Example

**A. Change 6 meters to centimeters.**

Add 100 to \_\_\_\_\_ centimeters.

So, 6 meters = \_\_\_\_\_ centimeters.

**B. Change 8 meters to centimeters.**

Multiply 100 centimeters by \_\_\_\_\_.

So, 8 meters = \_\_\_\_\_ centimeters.

**Math Talk**

**Mathematical Practices**

What do you need to know in order to change from one unit of length to another?

## Share and Show



1. How can you change 3 meters to centimeters?

Complete the table to show how the units are related.

Meters	1	2	3	4
Centimeters	100	200		400

To find the number of centimeters, add \_\_\_\_\_ centimeters for each meter.

So, 3 meters = \_\_\_\_\_ centimeters.

### Find the unknown number.

2. 2 meters = \_\_\_\_\_ centimeters

3. 5 meters = \_\_\_\_\_ centimeters

## On Your Own

### Complete the table.

4.

Meters	3	4	5	6	7	8	9	10
Centimeters	300	400	500				900	

### Find the unknown number.

5. 8 meters = \_\_\_\_\_ centimeters

6. 3 meters = \_\_\_\_\_ centimeters

## Problem Solving



7. Jorge needs 7 meters of wire for a garden fence. The wire is sold in centimeters. How many centimeters of wire does Jorge need?
- \_\_\_\_\_

8. Wanda needs 9 meters of fabric to make curtains. She has 1,000 centimeters of fabric. Does Wanda have enough fabric to make the curtains? **Explain.**
- \_\_\_\_\_
- \_\_\_\_\_

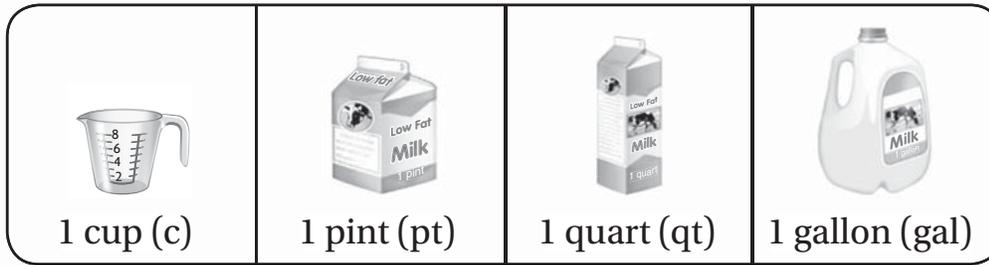
Name \_\_\_\_\_

# Estimate and Measure Liquid Volume

**Essential Question** How are cups, pints, quarts, and gallons related?

## Unlock the Problem Real World

You can use customary units to measure the amount of liquid a container will hold. Some customary units are **cup (c)**, **pint (pt)**, **quart (qt)**, and **gallon (gal)**.



**Activity** Show how cups, pints, quarts, and gallons are related.

**Materials** ■ cup, pint, quart, gallon containers ■ water

**STEP 1** Estimate the number of cups it will take to fill the pint container. Record your estimate in the table.

**STEP 2** Fill a cup and pour it into the pint container. Repeat until the pint container is full. Record the number of cups it took to fill the pint container.

**STEP 3** Repeat Steps 1 and 2 for the quart and gallon containers.

Number of Cups			
	Number of Cups in a Pint	Number of Cups in a Quart	Number of Cups in a Gallon
Estimate			
Liquid Volume			

**Math Talk**

**Mathematical Practices**

Which unit would you use to measure the amount of water needed to fill an aquarium? Explain your choice.



Name \_\_\_\_\_

# Estimate and Measure Weight

**Essential Question** How are ounces and pounds related?

## Unlock the Problem Real World

**Weight** is the measure of how heavy an object is. Customary units of weight include **ounce (oz)** and **pound (lb)**.



1 slice of bread weighs about 1 ounce.



1 loaf of bread weighs about 1 pound.

**Customary Units of Weight**  
1 pound = 16 ounces

**Activity** Show how ounces and pounds are related.

**Materials** ■ spring scale ■ classroom objects

**STEP 1** Estimate the weight of the object shown in the table. Record your estimate.

**STEP 2** Use a scale to measure the weight of the object to the nearest ounce or pound. Record the weight.

**STEP 3** Repeat Steps 1 and 2 for each object.

**Remember**

Include the unit when you record each estimate and measurement in your table.

Weight of Objects		
Object	Estimate	Weight
apple		
book		
pencil box		
tape dispenser		

**Math Talk** Mathematical Practices

How do your estimates compare to the actual weights?

## Share and Show



1. Which unit would you use to measure the weight of a grape? Write *ounce* or *pound*.

**ounce**

Think: A grape is a small, light object.

Choose the unit you would use to measure the weight.  
Write *ounce* or *pound*.

2.



\_\_\_\_\_

3.



\_\_\_\_\_

4.



\_\_\_\_\_

## On Your Own

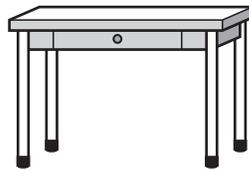
Choose the unit you would use to measure the weight.  
Write *ounce* or *pound*.

5.



\_\_\_\_\_

6.



\_\_\_\_\_

7.



\_\_\_\_\_

## Problem Solving



8. Duane bought some oregano to use in a batch of pasta sauce. Which is a more likely weight for the oregano, 1 ounce or 1 pound?

\_\_\_\_\_

9. Erin bought a bag of flour to use for baking dinner rolls. Did she buy 5 ounces of flour or 5 pounds of flour?

\_\_\_\_\_

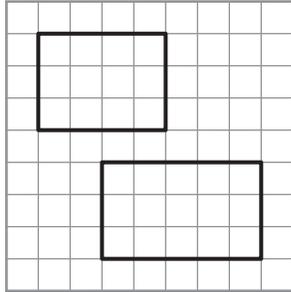
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## ✓ Checkpoint

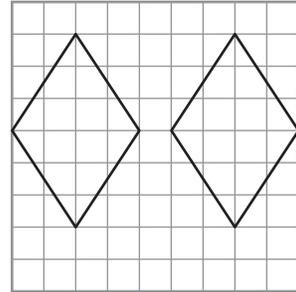
### Concepts and Skills

Look at the first shape. Tell if it appears to have the same size and shape as the second shape. Write *yes* or *no*.

1.



2.



3. Use the number line. Rename 5 feet using inches.



5 feet = \_\_\_\_\_ inches

Find the unknown number.

4. 6 meters = \_\_\_\_\_ centimeters

5. 8 meters = \_\_\_\_\_ centimeters

Choose the unit you would use to measure the amount of liquid the container will hold. Choose the better unit of measure.

6. a pitcher of iced tea: 1 cup or 1 gallon

### Problem Solving

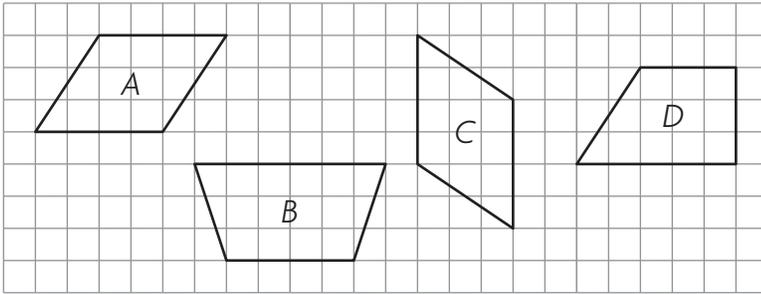


7. A tea pot holds 4 quarts of tea. How many 1-cup servings of tea does it hold?

8. Evan bought a large bag of dry dog food for his dog. Did Evan buy 6 ounces or 6 pounds of dog food?

Fill in the bubble for the correct answer choice.

9. Which shapes appear to have the same size and shape?



- A A and B       C B and D  
 B B and C       D A and C

10. Trey's desk is 3 feet wide. How many inches wide is the desk?

- A 3 inches       C 36 inches  
 B 24 inches       D 48 inches

11. Juana needs 2 meters of yarn for a friendship bracelet. How many centimeters of yarn does she need?

- A 2,000 centimeters       C 20 centimeters  
 B 200 centimeters       D 2 centimeters

12. Lana made 3 quarts of soup. How many pints of soup did she make?

- A 6 pints       C 18 pints  
 B 12 pints       D 24 pints

13. Which object weighs about 1 ounce?

- A a loaf of bread       C a strawberry  
 B a watermelon       D a chair