

# Compare Fractions and Identify Equivalent Fractions

## ✓ Show What You Know

### ► Halves and Fourths

1. Find the shape that is divided into 2 equal parts. Color  $\frac{1}{2}$ .



2. Find the shape that is divided into 4 equal parts. Color  $\frac{1}{4}$ .



### ► Parts of a Whole Write the number of shaded parts and the number of equal parts.

3.  \_\_\_\_\_ shaded parts  
\_\_\_\_\_ equal parts

4.  \_\_\_\_\_ shaded parts  
\_\_\_\_\_ equal parts

### ► Fractions of a Whole

Write the fraction that names the shaded part of each shape.

5.  \_\_\_\_\_

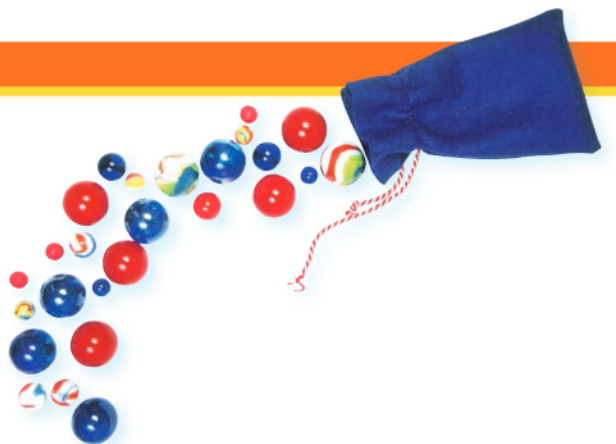
6.  \_\_\_\_\_

7.  \_\_\_\_\_

**MATH** in the



Hannah keeps her marbles in bags with 4 marbles in each bag. She writes  $\frac{3}{4}$  to show the number of red marbles in each bag. Find another fraction to name the number of red marbles in 2 bags.



## ► Visualize It

Complete the flow map by using the words with a ✓.

### Fractions and Whole Numbers

What is it?

What are some examples?


\frac{2}{3} > \frac{1}{3}
"/>


\frac{1}{4} < \frac{2}{4}
"/>


\frac{1}{2} = \frac{2}{4}
"/>


\frac{1}{3}, \frac{1}{4}
"/>




### Connect to Vocabulary

#### Review Words

- denominator
- fifths eighths
- fourths
- fraction
- ✓ greater than
- halves
- ✓ less than
- numerator
- order
- sixths
- tenths
- thirds
- twelfths
- ✓ unit fractions
- ✓ whole numbers

#### Preview Words

- ✓ equivalent fractions

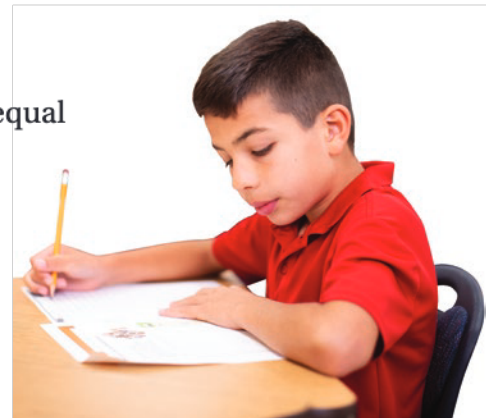
## ► Understand Vocabulary

Write the review word or preview word that answers the riddle.

- We are two fractions that name the same amount.

- I am the part of a fraction above the line. I tell how many parts are being counted.

- I am the part of a fraction below the line. I tell how many equal parts are in the whole or in the group.



Name \_\_\_\_\_

# Compare Fractions Using Visual Models

**I Can** compare fractions using visual models.

Florida's B.E.S.T.

- Fractions 3.FR.2.1
- Mathematical Thinking & Reasoning  
MTR 1.1, MTR 2.1, MTR 3.1, MTR 4.1,  
MTR 6.1, MTR 7.1



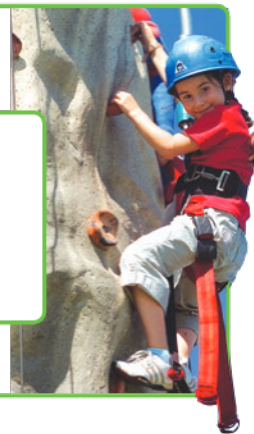
## UNLOCK the Problem Real World

Mary and Vincent climbed up a rock wall at the park. Mary climbed  $\frac{3}{4}$  of the way up the wall. Vincent climbed  $\frac{3}{8}$  of the way up the wall. Who climbed higher?

You can solve the problem by using visual models to help you compare fractions.

### Remember

- < is less than
- > is greater than
- = is equal to



### Read the Problem

**What do I need to find?**

\_\_\_\_\_

**What information do I need to use?**

Mary climbed \_\_\_\_\_ of the way.

Vincent climbed \_\_\_\_\_ of the way.

**How will I use the information?**

I will use \_\_\_\_\_

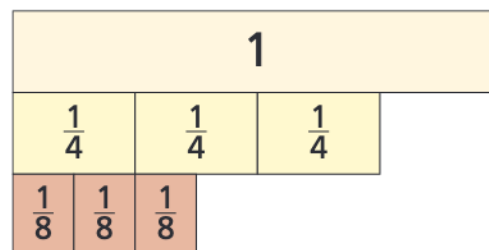
and \_\_\_\_\_ the lengths of

the models to find who climbed

\_\_\_\_\_.

### Solve the Problem

**Record the steps you used to solve the problem.**



Compare the lengths

\_\_\_\_\_ ○ \_\_\_\_\_

The length of the  $\frac{3}{4}$  model is \_\_\_\_\_

than the length of the  $\frac{3}{8}$  model.

So, \_\_\_\_\_ climbed higher on the rock wall.

**Math Talk**

**MTR 4.1** Engage in discussions on mathematical thinking.


When comparing fractions using fraction strips, how do you know which fraction is the lesser fraction?

**Go Online** For more help

## Try Another Problem

Students at day camp are decorating paper circles for placemats. Tracy finished  $\frac{3}{6}$  of her placemat. Kim finished  $\frac{5}{6}$  of her placemat. Who finished more of her placemat?

Read the Problem	Solve the Problem
What do I need to find?	Record the steps you used to solve the problem.
What information do I need to use?	
How will I use the information?	



**TR**  
**4.1**

Engage in discussions on mathematical thinking.  
How do you know that  $\frac{5}{6}$  is greater than  $\frac{3}{6}$  without using models?

1. How did your model help you solve the problem? \_\_\_\_\_

2. Silke and Kim each had a carton of milk with lunch. Silke drank  $\frac{5}{8}$  of her milk. Kim drank  $\frac{7}{8}$  of her milk. Who drank more of her milk? Explain.



**Share and Show**

1. At the park, people can climb a rope ladder to its top. Rosa climbed  $\frac{2}{8}$  of the way up the ladder. Justin climbed  $\frac{2}{6}$  of the way up the ladder. Who climbed higher on the rope ladder?

**First**, what are you asked to find?

\_\_\_\_\_

**Then**, model and compare the fractions. **Think:** Compare  $\frac{2}{8}$  and  $\frac{2}{6}$ .

**Last**, find the greater fraction.

\_\_\_\_\_ ○ \_\_\_\_\_

So, \_\_\_\_\_ climbed higher on the rope ladder.

2. What if Cara also tried the rope ladder and climbed  $\frac{2}{4}$  of the way up? Who climbed highest on the rope ladder: Rosa, Justin, or Cara? Explain how you know.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**On Your Own**

3. **MTR** Len walked  $\frac{2}{3}$  mile to his soccer game. Then he walked  $\frac{1}{3}$  mile to his friend's house. Which distance is shorter? Explain how you know.

\_\_\_\_\_  
\_\_\_\_\_

**Unlock the Problem**

- ✓ Circle the question.
- ✓ Underline important facts.
- ✓ Solve the problem using visual models.


# Problem Solving • Applications

Use the table for 4–5.

4. Suri is spreading jam on 12 biscuits for breakfast. The table shows the fraction of biscuits spread with each jam flavor. Which flavor did Suri use on the most biscuits?

**Hint:** Use 12 counters to model the biscuits.

Suri's Biscuits	
Jam Flavor	Fraction of Biscuits
Peach	$\frac{3}{12}$
Raspberry	$\frac{4}{12}$
Strawberry	$\frac{1}{12}$

5.  *ath* **What's the Question?** The answer is strawberry.

## Show the Math

Demonstrate Your Thinking

6. Suppose Suri had also used plum jam on the biscuits. She frosted  $\frac{1}{2}$  of the biscuits with peach jam,  $\frac{1}{4}$  with raspberry jam,  $\frac{1}{8}$  with strawberry jam, and  $\frac{1}{8}$  with plum jam. Which flavor of jam did Suri use on the most biscuits?



7. Ms. Gordon has many snack bar recipes. One recipe uses  $\frac{1}{3}$  cup oatmeal,  $\frac{1}{4}$  cup of milk, and  $\frac{1}{2}$  cup flour. Which ingredient will Ms. Gordon use the most of?

8. Lyulf lives  $\frac{4}{5}$  mile from school. Noah lives  $\frac{3}{5}$  mile from school.

Use the fractions and symbols to show which distance is longer.

$\frac{3}{5}$

$\frac{4}{5}$

< and >

○

# Compare Fractions Using Visual Models

Go Online

Interactive Examples

**Solve.**

1. Luis skates  $\frac{2}{3}$  mile from his home to school.  
Isabella skates  $\frac{2}{4}$  mile to get to school. Who skates farther?

**Think:** Use fraction strips to model the problem.

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Luis

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2. Sandra makes a pizza. She puts mushrooms on  $\frac{2}{8}$  of the pizza. She adds green peppers to  $\frac{5}{8}$  of the pizza. Which topping covers more of the pizza?

3. The jars of paint in the art room have different amounts of paint. The green paint jar is  $\frac{4}{8}$  full. The purple paint jar is  $\frac{4}{6}$  full. Which paint jar is less full?

4. Winola has a recipe for bread. She uses  $\frac{2}{3}$  cup of flour and  $\frac{1}{3}$  cup of chopped onion. Which ingredient does she use more of, flour or onion?

5.  **WRITE** *Math* Explain how you can find whether  $\frac{5}{6}$  or  $\frac{5}{8}$  is greater.

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Lesson Check

6.

Ali and Jonah collect seashells in identical buckets. When they are finished, Ali’s bucket is  $\frac{2}{6}$  full and Jonah’s bucket is  $\frac{3}{6}$  full. Compare the fractions using  $>$ ,  $<$  or  $=$ .
7.

Rosa paints a wall in her bedroom. She puts green paint on  $\frac{5}{10}$  of the wall and blue paint on  $\frac{5}{6}$  of the wall. Compare the fractions using  $>$ ,  $<$  or  $=$ .

$\frac{3}{6} \bigcirc \frac{2}{6}$

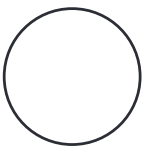
$\frac{5}{6} \bigcirc \frac{5}{10}$

Spiral Review

8.

Rikard divides a pie into eighths. How many equal parts are there?
9.

Draw lines to divide the circle into 4 equal parts.



\_\_\_\_\_

10.

Orlan places 30 pictures on his bulletin board in 6 equal rows. How many pictures are in each row?
11.

Describe a pattern in the table.

Tables	1	2	3	4	5
Chairs	5	10	15	20	25

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

# Compare Fractions with the Same Denominator

Florida's B.E.S.T.

- Fractions 3.FR.2.1
- Mathematical Thinking & Reasoning  
MTR.2.1, MTR.3.1, MTR.4.1, MTR.5.1

**I Can** compare fractions with the same denominator.



## UNLOCK the Problem Real World

Jeremy and Christina are each making a quilt block. Both blocks are the same size and both are made of 4 equal-sized squares.  $\frac{2}{4}$  of Jeremy's squares are green.  $\frac{1}{4}$  of Christina's squares are green. Whose quilt block has more green squares?

**Compare fractions of a whole.**

- Shade  $\frac{2}{4}$  of Jeremy's quilt block.
- Shade  $\frac{1}{4}$  of Christina's quilt block.
- Compare  $\frac{2}{4}$  and  $\frac{1}{4}$ .

The greater fraction will have the larger amount of the whole shaded.

$$\frac{2}{4} \bigcirc \frac{1}{4}$$

So, \_\_\_\_\_ quilt block has more green squares.

**Compare fractions of a group.**

Gia and Maggie each have 6 buttons.

- Shade 3 of Gia's buttons to show the number of buttons that are red. Shade 5 of Maggie's buttons to show the number that are red.
- Write a fraction to show the number of red buttons in each group. Compare the fractions.

There are the same number of buttons in each group, so you can count the number of red buttons to compare the fractions.

$$3 < \frac{\quad}{6}, \text{ so } \frac{\quad}{6} < \frac{\quad}{6}.$$

So, \_\_\_\_\_ has a greater fraction of red buttons.

- Circle the two fractions you need to compare.
- How are the two fractions alike?

**Jeremy's  
Quilt Block**



**Christina's  
Quilt Block**



### Math Idea

You can compare two fractions when they refer to the same whole or to groups that are the same size.

**Gia's Buttons**



**Maggie's Buttons**



### Use fraction strips and a number line.

At the craft store, one piece of ribbon is  $\frac{2}{8}$  yard long. Another piece of ribbon is  $\frac{7}{8}$  yard long. If Sean wants to buy the longer piece of ribbon, which piece should he buy?

#### Compare $\frac{2}{8}$ and $\frac{7}{8}$ .

- Shade the fraction strips to show the locations of  $\frac{2}{8}$  and  $\frac{7}{8}$ .
- Draw and label points on the number line to represent the distances  $\frac{2}{8}$  and  $\frac{7}{8}$ .
- Compare the lengths.

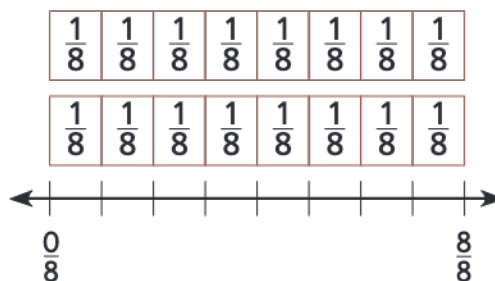
$\frac{2}{8}$  is to the left of  $\frac{7}{8}$ . It is closer to  $\frac{0}{8}$ , or \_\_\_\_\_.

$\frac{7}{8}$  is to the \_\_\_\_\_ of  $\frac{2}{8}$ . It is closer to \_\_\_\_\_, or \_\_\_\_\_.

$$\frac{\square}{\square} < \frac{\square}{\square} \text{ and } \frac{\square}{\square} > \frac{\square}{\square}$$

So, Sean should buy the piece of ribbon that is  $\frac{\square}{\square}$  yard long.

- On a number line, a fraction farther to the right is greater than a fraction to its left.
- On a number line, a fraction farther to the left is \_\_\_\_\_ a fraction to its right.



### Use reasoning.

Ana and Omar are decorating same-size bookmarks. Ana covers  $\frac{5}{5}$  of her bookmark with glitter. Omar covers  $\frac{1}{5}$  of his bookmark with glitter. Whose bookmark is covered with more glitter?

#### Compare $\frac{5}{5}$ and $\frac{1}{5}$ .

- When the denominators are the same, the whole is divided into same-size pieces. You can look at the \_\_\_\_\_ to compare the number of pieces.
- Both fractions involve fifth-size pieces. \_\_\_\_\_ pieces are more than \_\_\_\_\_ piece.  $5 > \underline{\hspace{1cm}}$ , so  $\frac{\square}{\square} > \frac{\square}{\square}$ .

So, \_\_\_\_\_ bookmark is covered with more glitter.



**Math Talk**

**MTR 4.1** Engage in discussions on mathematical thinking.

Explain how you can use reasoning to compare fractions with the same denominator.

**Share and Show****Math Board**

1. Draw points on the number line to show  $\frac{1}{6}$  and  $\frac{5}{6}$ . Then compare the fractions.



**Think:**  $\frac{1}{6}$  is to the left of  $\frac{5}{6}$  on the number line.

$$\frac{1}{6} \bigcirc \frac{5}{6}$$

**Math Talk**

**MTR 5.1** Use patterns and structure.

Why do fractions increase in size as you move right on the number line?

**Compare. Write  $<$ ,  $>$ , or  $=$ .**

2.  $\frac{4}{8} \bigcirc \frac{3}{8}$

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

4.  $\frac{1}{12} \bigcirc \frac{1}{12}$

5.  $\frac{3}{6} \bigcirc \frac{2}{6}$

**On Your Own**

**Compare. Write  $<$ ,  $>$ , or  $=$ .**

6.  $\frac{2}{10} \bigcirc \frac{3}{10}$

7.  $\frac{2}{3} \bigcirc \frac{2}{3}$

8.  $\frac{4}{6} \bigcirc \frac{2}{6}$

9.  $\frac{0}{8} \bigcirc \frac{2}{8}$

**Write a fraction less than, greater than, or equal to the given fraction.**

10.  $\frac{1}{2} < \frac{\square}{\square}$

11.  $\frac{\square}{\square} < \frac{12}{6}$

12.  $\frac{8}{8} = \frac{\square}{\square}$

13.  $\frac{\square}{\square} > \frac{2}{4}$

**Problem Solving • Applications****Real World**

14. Carlos finished  $\frac{5}{8}$  of his art project on Monday. Tyler finished  $\frac{7}{8}$  of his art project on Monday. Who finished more of his art project on Monday?

15. **MTR** Ms. Endo made two loaves of bread that are the same size. Her family ate  $\frac{1}{4}$  of the banana bread and  $\frac{3}{4}$  of the cinnamon bread. Which loaf of bread had less left over?



16. Kant and Oma are comparing fraction strips. Which statements are correct?

Mark all that apply.

Ⓐ  $\frac{1}{4} < \frac{4}{4}$

Ⓑ  $\frac{5}{6} < \frac{4}{6}$

Ⓒ  $\frac{2}{3} > \frac{1}{3}$

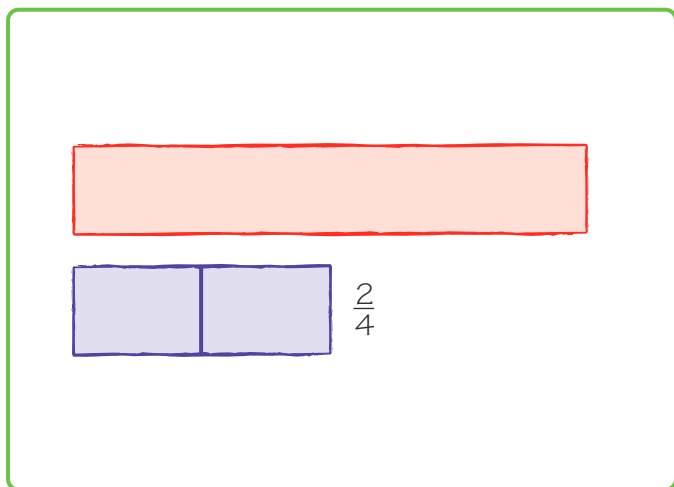
Ⓓ  $\frac{5}{8} > \frac{4}{8}$

### What's the Error?

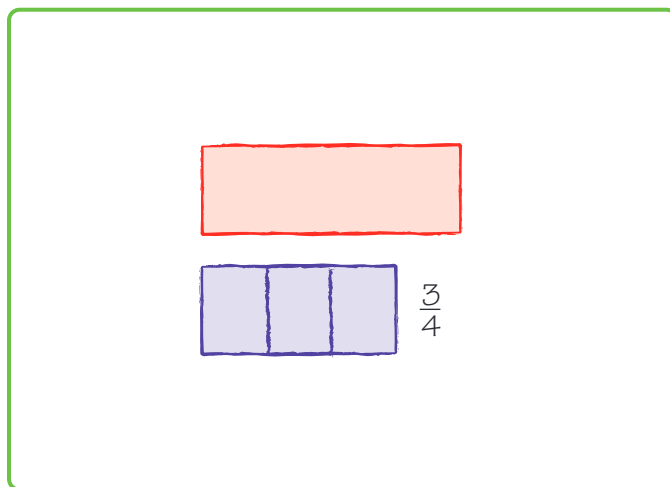
17. Gary and Vanessa are comparing fractions. Vanessa models  $\frac{2}{4}$  and Gary models  $\frac{3}{4}$ . Vanessa writes  $\frac{3}{4} < \frac{2}{4}$ . Look at Gary's model and Vanessa's model and describe her error.



Vanessa's Model



Gary's Model



- Describe Vanessa's error.

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18. Explain how to correct Vanessa's error. Then show the correct model.

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## Compare Fractions with the Same Denominator

**Go Online**

Interactive Examples

Compare. Write  $<$ ,  $>$ , or  $=$ .

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

2.  $\frac{3}{6} \bigcirc \frac{0}{6}$

3.  $\frac{1}{2} \bigcirc \frac{1}{2}$

4.  $\frac{5}{6} \bigcirc \frac{6}{6}$

5.  $\frac{7}{10} \bigcirc \frac{5}{10}$

6.  $\frac{2}{3} \bigcirc \frac{3}{3}$

7.  $\frac{8}{8} \bigcirc \frac{0}{8}$

8.  $\frac{1}{6} \bigcirc \frac{1}{6}$

9.  $\frac{3}{4} \bigcirc \frac{2}{4}$

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

11.  $\frac{1}{5} \bigcirc \frac{0}{5}$

12.  $\frac{3}{8} \bigcirc \frac{3}{8}$

13.  $\frac{1}{4} \bigcirc \frac{4}{4}$

14.  $\frac{5}{12} \bigcirc \frac{4}{12}$

15.  $\frac{4}{6} \bigcirc \frac{6}{6}$

### Problem Solving



16. Hahn mowed  $\frac{5}{6}$  of his lawn in one hour. John mowed  $\frac{4}{6}$  of his lawn in one hour. Who mowed less of his lawn in one hour?

17. Darcy baked 8 muffins. She put blueberries in  $\frac{5}{8}$  of the muffins. She put raspberries in  $\frac{3}{8}$  of the muffins. Did more muffins have blueberries or raspberries?

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18. **WRITE** *Math* Explain how you can use reasoning to compare two fractions with the same denominator.

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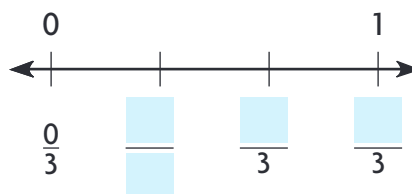
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## Lesson Check

19. Kerstin paints  $\frac{2}{6}$  of a wall in her room white. She paints more of the wall green than white. What fraction could show the part of the wall that is green?

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20. Complete the fractions on the number line. Which fraction is greater,  $\frac{1}{3}$  or  $\frac{2}{3}$ ?



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## Spiral Review

21. Mr. Schaffer buys 2 new knobs for each of his kitchen cabinets. The kitchen has 9 cabinets. How many knobs does he buy?

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22. Otylia builds a new bookcase with 8 shelves. She can put 30 books on each shelf. How many books can the bookcase hold?

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23. The Good Morning Café has 28 customers for breakfast. There are 4 people sitting at each table. How many tables are filled?

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24. Zenzi wants to use the Commutative Property of Multiplication to help find the product  $5 \times 4$ . What equation can she use?

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Name \_\_\_\_\_

# Compare Fractions with the Same Numerator

**I Can** compare fractions with the same numerator.

Florida's B.E.S.T.

- Fractions 3.FR.2.1
- Mathematical Thinking & Reasoning  
MTR 1.1, MTR 2.1, MTR 3.1, MTR 4.1,  
MTR 5.1, MTR 7.1



## UNLOCK the Problem



Markos is at Athena's Cafe. He can sit at a table with 5 of his friends or at a different table with 7 of his friends. One spinach pie is shared equally among the people at each table. The pies are the same size. At which table should Markos sit to get more pie?

### Model the problem.

There will be 6 friends sharing Pie A or 8 friends sharing Pie B.

So, Markos will get either  $\frac{1}{6}$  or  $\frac{1}{8}$  of a pie.

- Shade  $\frac{1}{6}$  of Pie A.
- Shade  $\frac{1}{8}$  of Pie B.
- Which piece of pie is larger?
- Compare  $\frac{1}{6}$  and  $\frac{1}{8}$ .

$$\frac{1}{6} \bigcirc \frac{1}{8}$$

So, Markos should sit at the table with \_\_\_\_\_ friends to get more pie.

- Including Markos, how many friends will be sharing pie at each table?

- What will you compare?

Pie A



Pie B



**Math Talk**

**MTR 4.1**

Engage in discussions on mathematical thinking.

Suppose Markos wants two pieces of one of the pies above. Is  $\frac{2}{6}$  or  $\frac{2}{8}$  of the pie a greater amount? Explain how you know.

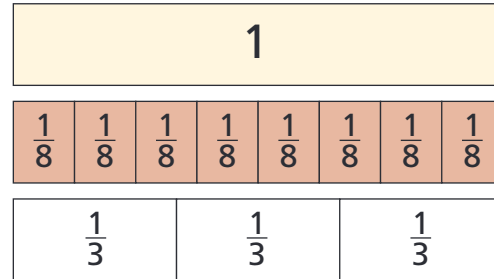
- Which pie has more pieces? \_\_\_\_\_  
The *more* pieces a whole is divided into,  
the \_\_\_\_\_ the pieces are.
- Which pie has fewer pieces? \_\_\_\_\_  
The *fewer* pieces a whole is divided into,  
the \_\_\_\_\_ the pieces are.

### Use fraction strips.

On Saturday, the campers paddled  $\frac{2}{8}$  of their planned route down the river. On Sunday, they paddled  $\frac{2}{3}$  of their route down the river. On which day did the campers paddle farther?

Compare  $\frac{2}{8}$  and  $\frac{2}{3}$ .

- Place a  $\checkmark$  next to the fraction strips that show more parts in the whole.
- Shade  $\frac{2}{8}$ . Then shade  $\frac{2}{3}$ . Compare the shaded parts.
- $\frac{2}{8}$  ☐  $\frac{2}{3}$



Think:  $\frac{1}{8}$  is less than  $\frac{1}{3}$ , so  $\frac{2}{8}$  is less than  $\frac{2}{3}$ .

So, the campers paddled farther on \_\_\_\_\_.

### Use reasoning.

For her class party, Felicia baked two trays of snacks that were the same size. After the party, she had  $\frac{3}{4}$  of the carrot snack and  $\frac{3}{6}$  of the apple snack left over. Was more carrot snack or more apple snack left over?

Compare  $\frac{3}{4}$  and  $\frac{3}{6}$ .

- Since the numerators are the same, look at the denominators to compare the size of the pieces.

- The *more* pieces a whole is divided into, the \_\_\_\_\_ the pieces are.
- The *fewer* pieces a whole is divided into, the \_\_\_\_\_ the pieces are.

$$\frac{3}{4} \text{ } \bullet \text{ } \frac{3}{6}$$

- $\frac{1}{4}$  is \_\_\_\_\_ than  $\frac{1}{6}$  because there are \_\_\_\_\_ pieces.

$$\frac{3}{4} \text{ } \bullet \text{ } \frac{3}{6}$$

So, there was more of the \_\_\_\_\_ snack left over.



#### Common Error

When comparing fractions with the same numerator, be sure the symbol shows that the fraction with fewer pieces in the whole is the greater fraction.

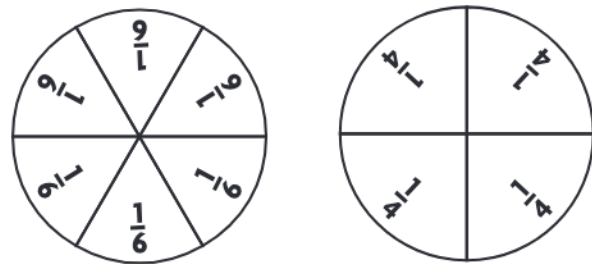
# Share and Show

Math Board

1. Shade the models to show  $\frac{1}{6}$  and  $\frac{1}{4}$ .

Then compare the fractions.

$$\frac{1}{6} \bigcirc \frac{1}{4}$$



Compare. Write  $<$ ,  $>$ , or  $=$ .

2.  $\frac{1}{8} \bigcirc \frac{1}{3}$

3.  $\frac{3}{10} \bigcirc \frac{3}{12}$

4.  $\frac{2}{6} \bigcirc \frac{2}{3}$

5.  $\frac{4}{8} \bigcirc \frac{4}{4}$

6.  $\frac{3}{6} \bigcirc \frac{3}{6}$

7.  $\frac{5}{4} \bigcirc \frac{5}{5}$



**MTR 4.1** Engage in discussions on mathematical thinking.

Why is  $\frac{1}{2}$  greater than  $\frac{1}{4}$ ?

# On Your Own

Compare. Write  $<$ ,  $>$ , or  $=$ .

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

9.  $\frac{2}{3} \bigcirc \frac{2}{6}$

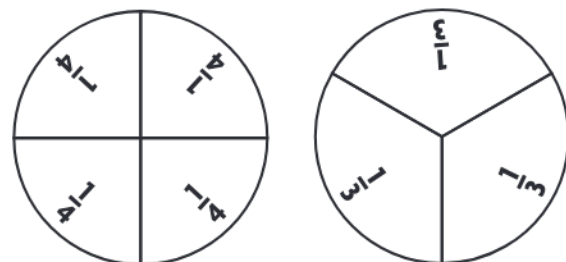
10.  $\frac{4}{8} \bigcirc \frac{4}{2}$

11.  $\frac{6}{8} \bigcirc \frac{6}{6}$

12.  $\frac{1}{10} \bigcirc \frac{1}{5}$

13.  $\frac{5}{12} \bigcirc \frac{5}{5}$

14. Ancel ate  $\frac{3}{4}$  of his quesadilla. Dewitt ate  $\frac{2}{3}$  of his quesadilla. Both of the quesadillas are the same size. Who ate more of his quesadilla? Ancel said he had less left over. So, he ate more. Shade the models. Look at the amounts left over. Does his answer make sense? Explain.



Ancel

Dewitt

## Problem Solving · Applications



15. **TR** Quinton and Hunter are biking on trails in Katy Trail State Park. They biked  $\frac{5}{6}$  mile in the morning and  $\frac{5}{8}$  mile in the afternoon. Did they bike a greater distance in the morning or in the afternoon?

a. What do you need to know? \_\_\_\_\_

b. The numerator is 5 in both fractions, so compare  $\frac{1}{6}$  and  $\frac{1}{8}$ . Explain.

\_\_\_\_\_

c. How can you solve the problem?

d. Complete the sentences.

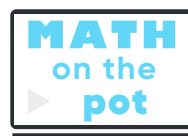
In the morning, the boys biked

\_\_\_\_\_ mile. In the afternoon, they biked \_\_\_\_\_ mile.

So, the boys biked a greater distance

in the \_\_\_\_\_.  $\frac{5}{6}$    $\frac{5}{8}$

16. Canon has a piece of pie that is  $\frac{1}{4}$  of a pie. Fabron has a piece of pie that is  $\frac{1}{2}$  of a pie. Fabron's piece is smaller than Canon's piece. Explain how this could happen. Draw a picture to show your answer.
- \_\_\_\_\_
- \_\_\_\_\_



17. Before taking a hike, Babette and Frasier each ate part of their same-size granola bars. Babette ate  $\frac{1}{3}$  of her bar. Frasier ate  $\frac{1}{2}$  of his bar. Who ate more of the granola bar? Explain how you solved the problem.
- \_\_\_\_\_
- \_\_\_\_\_



# Compare Fractions with the Same Numerator

Go Online

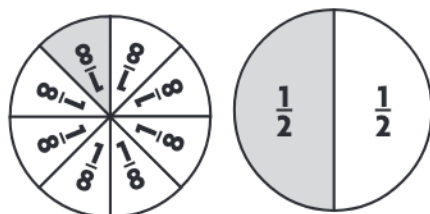
Interactive Examples

Compare. Write  $<$ ,  $>$ , or  $=$ .

1.  $\frac{1}{8} \bigcirc \frac{1}{2}$

2.  $\frac{3}{8} \bigcirc \frac{3}{6}$

3.  $\frac{2}{3} \bigcirc \frac{2}{4}$



4.  $\frac{2}{8} \bigcirc \frac{2}{3}$

5.  $\frac{3}{6} \bigcirc \frac{3}{4}$

6.  $\frac{1}{12} \bigcirc \frac{1}{5}$

7.  $\frac{5}{6} \bigcirc \frac{5}{8}$

8.  $\frac{4}{10} \bigcirc \frac{4}{10}$

9.  $\frac{6}{8} \bigcirc \frac{6}{6}$

## Problem Solving

10. Javier is buying food in the lunch line.


The tray of salad plates is  $\frac{3}{8}$  full. The tray of fruit plates is  $\frac{3}{4}$  full. Which tray is more full?

\_\_\_\_\_

11. Deja bought some buttons. Of the buttons,
- $\frac{2}{4}$
- are yellow and
- $\frac{2}{8}$
- are red.

Deja bought more of which color buttons?

\_\_\_\_\_

12.  **WRITE** *Math* Explain how the number of equal pieces in a whole relates to the size of each piece.

\_\_\_\_\_

\_\_\_\_\_

## Lesson Check

13. What symbol makes the statement true? Write  $<$ ,  $>$ , or  $=$ .

$$\frac{3}{4} \bigcirc \frac{3}{8}$$

14. What symbol makes the statement true? Write  $<$ ,  $>$ , or  $=$ .

$$\frac{2}{12} \bigcirc \frac{2}{3}$$

## Spiral Review

15. Anita divided a circle into 6 equal parts and shaded 1 of the parts. What fraction names the part she shaded?

---

16. What fraction names the shaded part of the rectangle?



---

17. Chip worked at the animal shelter for 6 hours each week for several weeks. He worked for a total of 42 hours. How many weeks did Chip work at the animal shelter?

---

18. Mr. Briar has 20 quarters. If he gives 4 quarters to each of his children, how many children does Mr. Briar have?

---

Name \_\_\_\_\_

# Use Reasoning to Compare Fractions

**I Can** use reasoning and number lines to compare fractions.

Florida's B.E.S.T.

- Fractions 3. FR.2.1
- Mathematical Thinking & Reasoning  
MTR.1.1, MTR.2.1, MTR.3.1, MTR.4.1,  
MTR.5.1, MTR.7.1



## UNLOCK the Problem Real World

Use a ruler to compare fractions.

### Measure Materials inch ruler

**STEP 1** Use the ruler to mark halves on the first number line. Write each fraction above its mark on the number line.



**STEP 2** Use the ruler to mark fourths on the second number line. Write each fraction below its mark on the number line.



**STEP 3** Mark halves and fourths on the third number line. Write the halves above the number line and the fourths below it.



**STEP 4** Use your marks to compare  $\frac{6}{4}$  to  $\frac{6}{2}$  and  $\frac{6}{4}$  to  $\frac{9}{4}$ .

Write  $>$ ,  $<$  or  $=$ .

$$\frac{6}{4} \bigcirc \frac{6}{2}$$

$$\frac{6}{4} \bigcirc \frac{9}{4}$$

**Math Talk**

**MTR 5.1** Use patterns and structure.

How can you find 1 half-inch on an inch ruler?

Morgan ran  $\frac{2}{3}$  mile. Alexa ran  $\frac{1}{3}$  mile.  
Who ran farther?

Compare  $\frac{2}{3}$  and  $\frac{1}{3}$ .

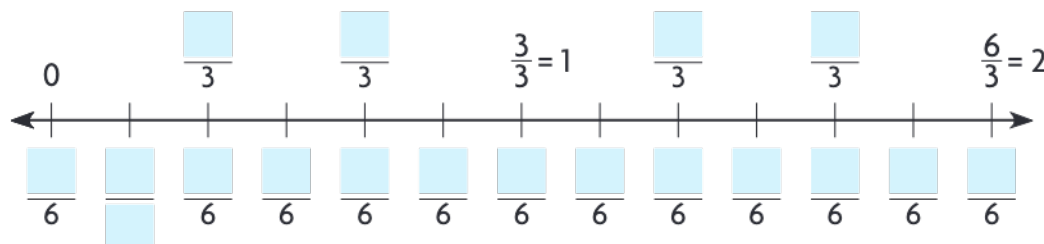
$$\frac{\boxed{\phantom{00}}}{3} > \frac{\boxed{\phantom{00}}}{3}$$

So, \_\_\_\_\_ ran farther.

### Same Denominator Strategy

- When the denominators are the same, you can compare only the number of pieces, or the numerators.

**Try This!** Complete the fractions on the number line. Write  $>$ ,  $<$  or  $=$  to compare.



$$\frac{4}{6} \bigcirc \frac{4}{3}$$

$$\frac{4}{6} \bigcirc \frac{10}{6}$$

Ms. Davis is making a fruit salad with  $\frac{3}{4}$  pound of cherries and  $\frac{3}{8}$  pound of strawberries. Which weighs less, the cherries or the strawberries?

Compare  $\frac{3}{4}$  and  $\frac{3}{8}$ .

### Same Numerator Strategy

- When the numerators are the same, look at the denominators to compare the size of the pieces.

**Think:**  $\frac{1}{8}$  is smaller than  $\frac{1}{4}$ , because there are more pieces.

$$\frac{3}{8} < \frac{3}{4}$$

So, the \_\_\_\_\_ weigh less.



## Share and Show

Math Board

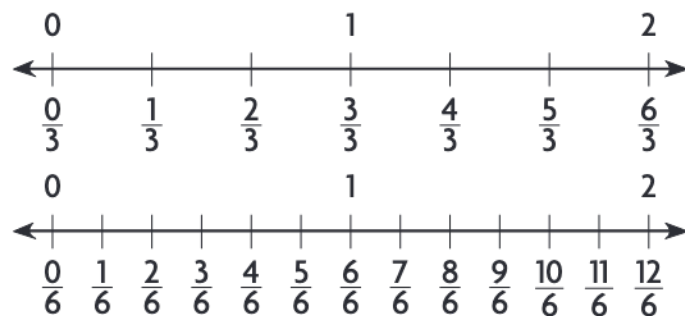
1. Use the number lines to compare.

Write  $<$ ,  $>$ , or  $=$ .

**Think:** The greater number is to the right of the lesser number.

$$\frac{6}{6} \bigcirc \frac{6}{3}$$

$$\frac{7}{6} \bigcirc \frac{8}{6}$$



Compare. Write  $<$ ,  $>$ , or  $=$ . Write the strategy you used.

2.  $\frac{1}{5} \bigcirc \frac{1}{3}$

3.  $\frac{3}{4} \bigcirc \frac{2}{4}$

4.  $\frac{3}{8} \bigcirc \frac{3}{6}$

5.  $\frac{3}{8} \bigcirc \frac{7}{8}$

**On Your Own**

Compare. Write  $<$ ,  $>$ , or  $=$ . Write the strategy you used.

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

7.  $\frac{1}{3} \bigcirc \frac{1}{10}$   
\_\_\_\_\_

8.  $\frac{2}{3} \bigcirc \frac{5}{3}$   
\_\_\_\_\_

9.  $\frac{4}{6} \bigcirc \frac{4}{2}$   
\_\_\_\_\_

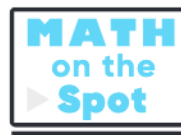
Name a fraction that is less than or greater than the given fraction. Draw to justify your answer.

10. less than  $\frac{5}{6}$  \_\_\_\_\_

11. greater than  $\frac{3}{8}$  \_\_\_\_\_

12. Didier, Seth, and Anja have empty glasses. Mr. Gabel pours  $\frac{3}{6}$  cup of orange juice in Seth's glass. Then he pours  $\frac{1}{6}$  cup of orange juice in Didier's glass and  $\frac{2}{6}$  cup of orange juice in Anja's glass. Who gets the most orange juice?
- \_\_\_\_\_

13. Germain says that  $\frac{5}{8}$  is greater than  $\frac{5}{6}$  because the denominator 8 is greater than the denominator 6. Describe Germain's error. Draw a picture to explain your answer.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



# Problem Solving • Applications

14. **TR** Kala is making blueberry muffins. She is using  $\frac{4}{4}$  cup of honey and  $\frac{4}{2}$  cups of flour. Does Kala use more honey or more flour?

a. What do you need to know?

---

b. What strategy will you use to compare the fractions?

---

c. Show the steps you used to solve the problem.

d. Complete the comparison.

$$\frac{\square}{\square} > \frac{\square}{\square}$$

So, Kala uses more \_\_\_\_\_.



15. Alina says that  $\frac{5}{2}$  is less than  $\frac{5}{4}$ . Use the number line and an inch ruler to show that she has made a mistake. Show that  $\frac{5}{2}$  is greater than  $\frac{5}{4}$ . Explain why.




---



---

16. You have heard the phrase *one and a half*. The fraction  $\frac{2}{2}$  equals 1, so  $\frac{3}{2}$  equals one-and-a-half. Complete the sentences with *greater* or *less* to compare the fractions.

$\frac{2}{2}$  equals 1 and  $\frac{3}{2}$  equals one-and-a-half.

$\frac{2}{2}$  is \_\_\_\_\_ than  $\frac{3}{2}$ .

One is \_\_\_\_\_ than one-and-a-half.

$\frac{4}{2}$  equals 2 and  $\frac{5}{2}$  equals two-and-a-half.

$\frac{5}{2}$  is \_\_\_\_\_ than  $\frac{4}{2}$ .

Two-and-a-half is \_\_\_\_\_ than two.

# Use Reasoning to Compare Fractions

**Go Online**

Interactive Examples

Compare. Write  $<$ ,  $>$ , or  $=$ . Write the strategy you used.

1.  $\frac{3}{8} \bigcirc \frac{3}{4}$

2.  $\frac{2}{3} \bigcirc \frac{4}{3}$

3.  $\frac{3}{10} \bigcirc \frac{1}{10}$

**Think:** The numerators are the same. Compare the denominators. The greater fraction will have the lesser denominator.

same numerator \_\_\_\_\_

Name a fraction that is less than or greater than the given fraction. Draw to justify your answer.

4. greater than  $\frac{1}{3}$  —

5. less than  $\frac{3}{4}$  —

## Problem Solving

6. At the third-grade party, two groups each had their own pizza. The blue group ate  $\frac{7}{12}$  pizza. The green group ate  $\frac{2}{12}$  pizza. Which group ate more of their pizza?

7. Jacques and Antonio both take the same bus to school. Jacques's ride is  $\frac{7}{8}$  mile. Antonio's ride is  $\frac{7}{12}$  mile. Who has a longer bus ride?

8.  **WRITE** *Math* Explain how to use a number line to compare two fractions. Include a diagram with your explanation.



## Lesson Check

9. Compare  $\frac{2}{3}$  and  $\frac{7}{3}$ . Write  $<$ ,  $>$ , or  $=$ .

10. What symbol makes the statement true? Write  $<$ ,  $>$ , or  $=$ .

$$\frac{2}{3} \bigcirc \frac{7}{3}$$

$$\frac{2}{5} \bigcirc \frac{2}{6}$$

## Spiral Review

11. Cam, Laverne, and Mauve each picked 40 apples. They put all their apples in one crate. How many apples are in the crate?

12. Each shape is 1 whole. What fraction is represented by the shaded part of the model?



13. What related multiplication fact can you use to find  $16 \div \blacksquare = 2$ ?

14. What is the unknown factor?

$$9 \times \blacksquare = 36$$

Name \_\_\_\_\_

# Compare and Order Fractions

**I Can** compare and order fractions.



## UNLOCK the Problem Real World

Sierra, Tad, and Dale ride their bikes to school.

Sierra rides  $\frac{3}{4}$  mile, Tad rides  $\frac{3}{8}$  mile, and Dale rides  $\frac{3}{6}$  mile. Compare and order the distances from least to greatest.

Florida's B.E.S.T.

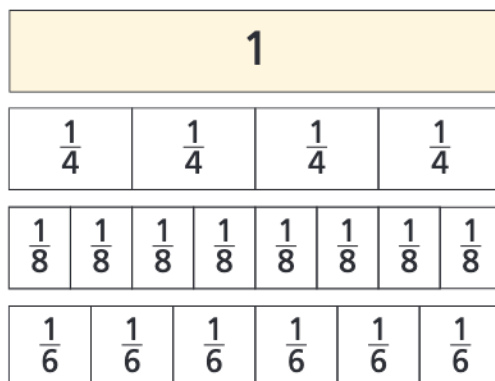
- Fractions 3.FR.2.1
- Mathematical Thinking & Reasoning  
MTR 1.1, MTR 3.1, MTR 4.1, MTR 6.1

- Circle the fractions you need to use.
- Underline the sentence that tells you what you need to do.

### Activity 1 Order fractions with the same numerator.

**Materials** ■ color pencil

You can order fractions by reasoning about the size of unit fractions.



#### Remember

- The *more* pieces a whole is divided into, the smaller the pieces are.
- The *fewer* pieces a whole is divided into, the larger the pieces are.

**STEP 1** Shade one unit fraction for each fraction strip.

\_\_\_\_\_ is the longest unit fraction.

\_\_\_\_\_ is the shortest unit fraction.

**STEP 2** Shade one more unit fraction for each fraction strip.

Are the shaded fourths still the longest? \_\_\_\_\_

Are the shaded eighths still the shortest? \_\_\_\_\_

**STEP 3** Continue shading the fraction strips so that three unit fractions are shaded for each strip.

Are the shaded fourths still the longest? \_\_\_\_\_

Are the shaded eighths still the shortest? \_\_\_\_\_

$\frac{3}{4}$  mile is the \_\_\_\_\_ distance.  $\frac{3}{8}$  mile is the \_\_\_\_\_ distance.  $\frac{3}{6}$  mile is *between* the other two distances.

So, the distances in order from least to greatest are

\_\_\_\_\_ mile, \_\_\_\_\_ mile, \_\_\_\_\_ mile.

**Try This!** Order  $\frac{2}{6}$ ,  $\frac{2}{3}$ , and  $\frac{2}{4}$  from greatest to least.

Order the fractions  $\frac{2}{6}$ ,  $\frac{2}{3}$ , and  $\frac{2}{4}$  by thinking about the length of the unit fraction strip. Then label the fractions *shortest*, *between*, or *longest*.

Fraction	Unit Fraction	Length
$\frac{2}{6}$		
$\frac{2}{3}$		
$\frac{2}{4}$		

**Math  
Talk**

**TR** Engage in discussions on mathematical thinking.  
**4.1**

When ordering three fractions, what do you know about the third fraction when you know which fraction is the shortest and which fraction is the longest? Explain your answer.

- When the numerators are the same, think about the \_\_\_\_\_ of the pieces to compare and order fractions.

So, the order from greatest to least is \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

## Activity 2 Order fractions with the same denominator.

**Materials** ■ color pencil

Shade fraction strips to order  $\frac{5}{8}$ ,  $\frac{8}{8}$ , and  $\frac{3}{8}$  from least to greatest.

1							
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Shade  $\frac{5}{8}$ .

Shade  $\frac{8}{8}$ .

Shade  $\frac{3}{8}$ .

- When the denominators are the same, the size of the pieces is the \_\_\_\_\_.

So, think about the \_\_\_\_\_ of pieces to compare and order fractions.

\_\_\_\_\_ is the shortest. \_\_\_\_\_ is the longest.

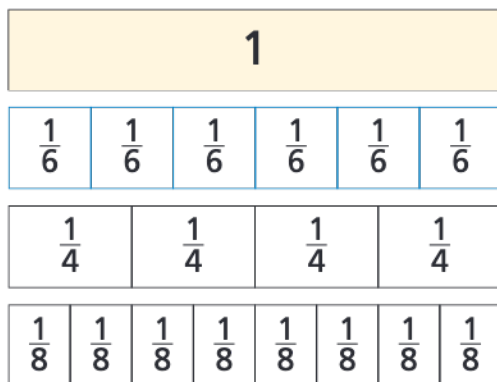
\_\_\_\_\_ is between the other two fractions.

So, the order from least to greatest is \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

## Share and Show

Math  
Board

1. Shade the fraction strips to order  $\frac{4}{6}$ ,  $\frac{4}{4}$ , and  $\frac{4}{8}$  from least to greatest.



\_\_\_\_\_ is the shortest. \_\_\_\_\_ is the longest.  
 \_\_\_\_\_ is between the other two lengths. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Write the fractions in order from least to greatest.

✓ 2.  $\frac{1}{2}, \frac{0}{2}, \frac{2}{2}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

✓ 3.  $\frac{1}{5}, \frac{1}{2}, \frac{1}{3}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

## On Your Own

Write the fractions in order from greatest to least.

4.  $\frac{6}{6}, \frac{2}{6}, \frac{5}{6}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

5.  $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Write the fractions in order from least to greatest.

6.  $\frac{6}{3}, \frac{6}{2}, \frac{6}{8}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

7.  $\frac{8}{4}, \frac{7}{4}, \frac{9}{4}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

8. **MTR** Edwina is making biscuits. She needs  $\frac{2}{6}$  cup of oil,  $\frac{2}{3}$  cup of water, and  $\frac{2}{4}$  cup of milk. Write the ingredients from greatest to least amount.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Math  
Talk**MTR**  
**4.1**

Engage in discussions on mathematical thinking.

Why does using fraction strips help you order fractions with unlike denominators?

## Problem Solving • Applications



9. In 15 minutes, Bronson's sailboat went  $\frac{3}{6}$  mile, Imelda's sailboat went  $\frac{6}{6}$  mile, and Clovis's sailboat went  $\frac{4}{6}$  mile. Whose sailboat went the longest distance in 15 minutes?

---

Whose sailboat went the shortest distance?

---

10. Look back at Problem 9. Write a similar problem by changing the fraction of a mile each sailboat traveled, so the answers are different from Problem 9. Then solve the problem.

---



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---



---



---

11. Tom has three pieces of wood. The length of the longest piece is  $\frac{3}{4}$  foot. The length of the shortest piece is  $\frac{3}{10}$  foot. What might be the length of the third piece of wood?

---

12. Liese ran  $\frac{2}{4}$  mile on Monday,  $\frac{2}{3}$  mile on Tuesday, and  $\frac{2}{8}$  mile on Wednesday. Order the fractions from least to greatest.

$\frac{2}{4}$  ,  $\frac{2}{3}$  and  $\frac{2}{8}$      

### Show the Math

Demonstrate Your Thinking



# Compare and Order Fractions

Go Online

Interactive Examples

Write the fractions in order from greatest to least.

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

2.  $\frac{2}{8}, \frac{5}{8}, \frac{1}{8}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**Think:** The denominators are the same, so compare the numerators:  $4 > 3 > 1$ .

3.  $\frac{1}{3}, \frac{1}{6}, \frac{1}{2}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

4.  $\frac{14}{5}, \frac{14}{10}, \frac{14}{12}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Write the fractions in order from least to greatest.

5.  $\frac{2}{4}, \frac{4}{4}, \frac{3}{4}, \frac{5}{4}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

6.  $\frac{20}{6}, \frac{13}{6}, \frac{9}{6}$  \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

## Problem Solving

7. Mr. Hildebrand ran  $\frac{7}{8}$  mile on Monday. He ran  $\frac{3}{8}$  mile on Wednesday and  $\frac{5}{8}$  mile on Friday. On which day did Mr. Hildebrand run the shortest distance?

8. Delia has three pieces of ribbon. Her red ribbon is  $\frac{2}{4}$  foot long. Her green ribbon is  $\frac{2}{3}$  foot long. Her yellow ribbon is  $\frac{2}{6}$  foot long. She wants to use the longest piece for a project. Which color ribbon should Delia use?

---

9.  **WRITE**  *Math* Describe how fraction strips can help you order fractions.

---



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## Lesson Check

10. Write the fractions in order from least to greatest.

$$\frac{1}{12}, \frac{1}{5}, \frac{1}{10}$$

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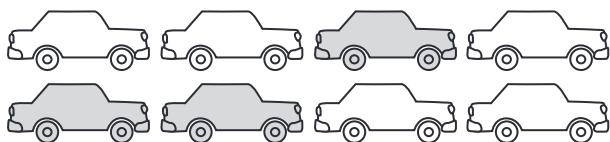
11. Write the fractions in order from greatest to least.

$$\frac{3}{6}, \frac{3}{4}, \frac{3}{8}$$

---

## Spiral Review

12. What fraction of the group of cars is shaded?



---

13. Dejon has 6 pieces of fruit. Of these, 2 pieces are bananas. What fraction of Dejon's fruit is bananas?

---

14. What is the area of a rectangle with length 12 centimeters and width 11 centimeters?

---

15. The equation is an example of which multiplication property?

$$6 \times 7 = (6 \times 5) + (6 \times 2)$$

---



Name \_\_\_\_\_

# Model Equivalent Fractions

**I Can** use models to find equivalent fractions.

## Investigate

**Materials** ■ sheet of paper ■ crayon or color pencil

Two or more fractions that name the same amount are called **equivalent fractions**. You can use a sheet of paper to model fractions equivalent to  $\frac{1}{2}$ .

- A.** First, fold a sheet of paper into two equal parts. Open the paper and count the parts.

There are \_\_\_\_\_ equal parts. Each part is \_\_\_\_\_ of the paper.

Shade one of the halves. Write  $\frac{1}{2}$  on each of the halves.

- B.** Next, fold the paper in half two times. Open the paper.

Now there are \_\_\_\_\_ equal parts. Each part is \_\_\_\_\_ of the paper.

Write  $\frac{1}{4}$  on each of the fourths.

Look at the shaded parts.  $\frac{1}{2} = \frac{\square}{4}$

- C.** Last, fold the paper in half three times.

Now there are \_\_\_\_\_ equal parts. Each part is \_\_\_\_\_ of the paper.

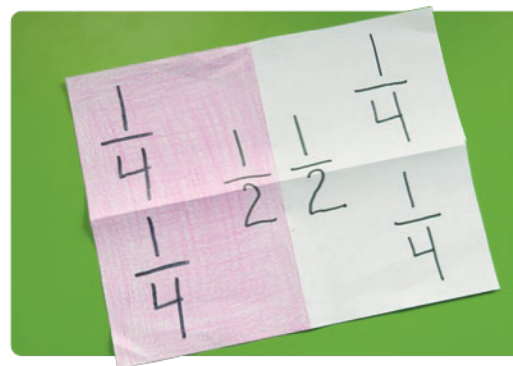
Write  $\frac{1}{8}$  on each of the eighths.

Find the fractions equivalent to  $\frac{1}{2}$  on your paper.

So,  $\frac{1}{2}$ ,  $\frac{\square}{\square}$ , and  $\frac{\square}{\square}$  are equivalent.

Florida's B.E.S.T.

- Fractions 3.FR.2.2
- Mathematical Thinking & Reasoning  
MTR 1.1, MTR 2.1, MTR 3.1, MTR 4.1



## Draw Conclusions

1. Explain how many  $\frac{1}{8}$  parts are equivalent to one  $\frac{1}{4}$  part on your paper.

---

---

### Math Idea

Two or more numbers that have the same value or name the same amount are *equivalent*.

2. How did the denominators change for the shaded part as you folded? \_\_\_\_\_

What does this tell you about the change in the size of the parts? \_\_\_\_\_

What can you say about  $\frac{2}{2}$ ,  $\frac{4}{4}$ , and  $\frac{8}{8}$  of the piece of paper? \_\_\_\_\_

---

## Make Connections

You can use a number line to find equivalent fractions.

Find a fraction equivalent to  $\frac{2}{3}$ .

**Materials** ■ fraction strips



**STEP 1** Draw a point on the number line to represent the distance  $\frac{2}{3}$ .

**STEP 2** Use fraction strips to divide the number line into sixths. At the end of each strip, draw a mark on the number line and label the marks to show sixths.

**STEP 3** Identify the fraction that names the same point as  $\frac{2}{3}$ . \_\_\_\_\_

So,  $\frac{2}{3} = \frac{\boxed{\phantom{4}}}{6}$ .

### Math Talk

**TR 4.1** Engage in discussions on mathematical thinking.

Explain how the number of sixths in a distance on the number line is related to the number of thirds in the same distance.

# Share and Show

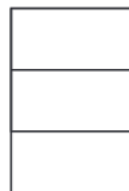
## Math Board

1. Is  $\frac{1}{4}$  equivalent to  $\frac{2}{8}$  or  $\frac{3}{8}$ ? Shade the model to show  $\frac{1}{4}$ . Then draw a line to divide the model into eighths. Use what you see to decide.



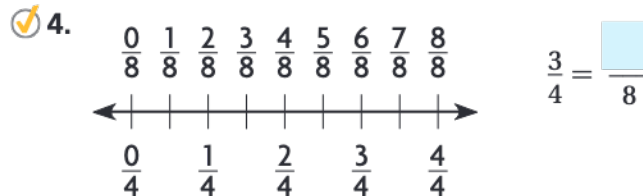
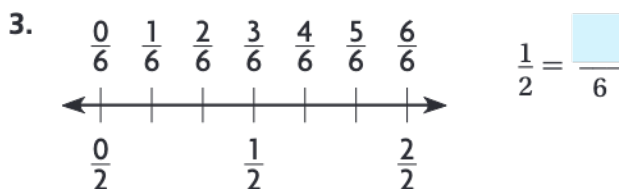
$$\frac{1}{4} = \frac{\boxed{\phantom{000}}}{8}$$

2. Is  $\frac{2}{3}$  equivalent to  $\frac{4}{6}$  or  $\frac{5}{6}$ ? Shade the model to show  $\frac{2}{3}$ . Then divide the model into sixths. Use what you see to decide.



$$\frac{2}{3} = \frac{\boxed{\phantom{000}}}{6}$$

Use the number line to decide which of the fractions shown is the equivalent fraction.



# On Your Own

5. **MTR** Explain why  $\frac{2}{2} = 1$ . Draw to justify your answer.

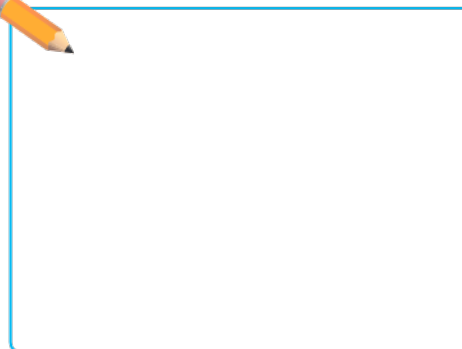
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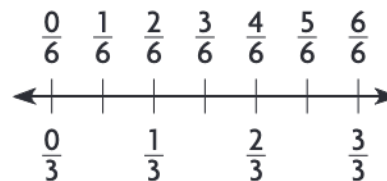


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6. For numbers 6a–6d, select True or False to tell whether the fractions are equivalent.

- 6a.  $\frac{6}{6}$  and  $\frac{3}{3}$  ☐ True ☐ False  
 6b.  $\frac{4}{6}$  and  $\frac{1}{3}$  ☐ True ☐ False  
 6c.  $\frac{2}{3}$  and  $\frac{3}{6}$  ☐ True ☐ False  
 6d.  $\frac{1}{3}$  and  $\frac{2}{6}$  ☐ True ☐ False



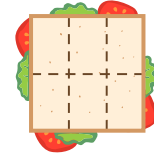
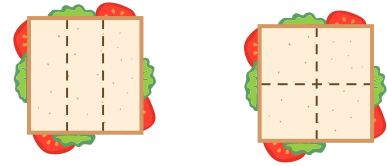
## Connect to Reading

### Summarize

You can *summarize* the information in a problem by underlining it or writing the information needed to answer a question.

Read the problem. Underline the important information.

7. Mrs. Akers bought three sandwiches that were the same size. She cut the first one into thirds. She cut the second one into fourths and the third one into sixths. Marian ate 2 pieces of the first sandwich. Jason ate 2 pieces of the second sandwich. Marcos ate 3 pieces of the third sandwich. Which children ate the same amount of a sandwich? Explain.



The first sandwich was cut into \_\_\_\_\_.

Marian ate \_\_\_\_\_ pieces of the sandwich. Shade the part Marian ate.



Marian ate  $\frac{2}{3}$  of the first sandwich.

The second sandwich was cut into \_\_\_\_\_.

Jason ate \_\_\_\_\_ pieces of the sandwich. Shade the part Jason ate.



Jason ate  $\frac{2}{4}$  of the second sandwich.

The third sandwich was cut into \_\_\_\_\_.

Marcos ate \_\_\_\_\_ pieces of the sandwich. Shade the part Marcos ate.



Marcos ate  $\frac{3}{6}$  of the third sandwich.

Are all the fractions equivalent? \_\_\_\_\_

Which fractions are equivalent?  $\frac{2}{3} = \frac{2}{4}$

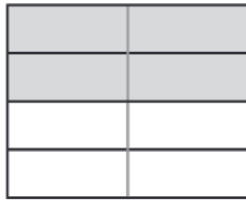
So, \_\_\_\_\_ and \_\_\_\_\_ ate the same amount of a sandwich.

# Model Equivalent Fractions

Go Online

Interactive Examples

1. Shade the model. Then divide the pieces to find the equivalent fraction.



$$\frac{2}{4} = \frac{4}{8}$$

2. Is  $\frac{3}{4}$  equivalent to  $\frac{5}{8}$ ,  $\frac{6}{8}$ ,  $\frac{7}{8}$ , or  $\frac{8}{8}$ ? Use the number line to decide.



$$\frac{3}{4} = \frac{\quad}{8}$$


## Problem Solving

3. Obert says that  $\frac{5}{5}$  of his fraction model is shaded blue. Ryan says that  $\frac{10}{10}$  of the same model is shaded blue. Are the two fractions equivalent? If so, what is another equivalent fraction?

---

4. Roswald shaded  $\frac{6}{12}$  of a sheet of notebook paper. Aisha says he shaded  $\frac{1}{2}$  of the paper. Are the two fractions equivalent? If so, what is another equivalent fraction?

---

5.  **WRITE** *Math* Draw a number line that shows two equivalent fractions. Label your number line and explain how you know the fractions are equivalent.

---

6. Are  $\frac{1}{5}$  and  $\frac{3}{10}$  equivalent fractions? Draw a shape and divide it into fifths. Shade one fifth. Then divide the shape into tenths. Use the new equal parts to decide.

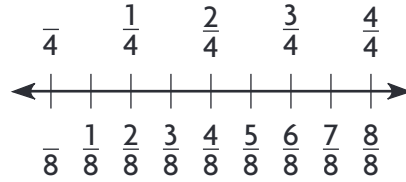
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## Lesson Check

7. Are  $\frac{2}{3}$  and  $\frac{4}{6}$  equivalent fractions? Shade  $\frac{2}{3}$  of the figure, then divide the figure into more equal parts to help you decide.



8. Find the fraction equivalent to  $\frac{1}{4}$ .



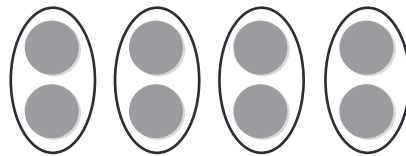
## Spiral Review

9. Lando practiced piano and guitar for a total of 8 hours this week. He practiced the piano for  $\frac{1}{4}$  of that time. How many hours did Lando practice the piano this week?

10. Tawanda bought a pack of 12 cookies. One-third of the cookies are peanut butter. How many of the cookies in the pack are peanut butter?

11. There are 56 students going to the game. The coach puts 7 students in each van. How many vans are needed to take the students to the game?

12. Write a division equation for the picture.



Name \_\_\_\_\_

# Identify Equivalent Fractions with Models

**I Can** use models to identify equivalent fractions.



## UNLOCK the Problem



Cole brought a submarine sandwich to the picnic. He shared the sandwich equally with 3 friends. The sandwich was cut into eighths. What are two ways to describe the part of the sandwich each friend ate?

Cole grouped the smaller pieces into twos. Draw circles to show equal groups of two pieces to show what each friend ate.



There are 4 equal groups. Each group is  $\frac{1}{4}$  of the whole sandwich. So, each friend ate  $\frac{1}{4}$  of the whole sandwich.

How many eighths did each friend eat? \_\_\_\_\_

$\frac{1}{4}$  and \_\_\_\_\_ are equivalent fractions since they both name the \_\_\_\_\_ amount of the sandwich.

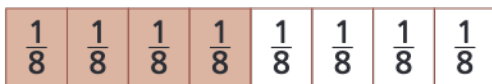
So,  $\frac{1}{4}$  and \_\_\_\_\_ of the sandwich are two ways to describe the part of the sandwich each friend ate.

Florida's B.E.S.T.

- Fractions 3.FR.2.2
- Mathematical Thinking & Reasoning  
MTR 1.1, MTR 3.1, MTR 4.1, MTR 6.1

- How many people shared the sandwich?

**Try This!** Circle equal groups. Write an equivalent fraction for the shaded part of the whole.



$$\frac{4}{8} = \underline{\hspace{2cm}}$$

**Math Talk**

**MTR 4.1** Engage in discussions on mathematical thinking.

What is a different way you could have circled the equal groups?

**Go Online** For more help

## Example Model the problem.

Heidi ate  $\frac{3}{6}$  of her fruit bar. Molly ate  $\frac{4}{8}$  of her fruit bar, which is the same size. Which girl ate more of her fruit bar?

Shade  $\frac{3}{6}$  of Heidi's fruit bar and  $\frac{4}{8}$  of Molly's fruit bar.

- Is  $\frac{3}{6}$  greater than, less than, or equal to  $\frac{4}{8}$ ? \_\_\_\_\_

So, both girls ate the \_\_\_\_\_ amount.

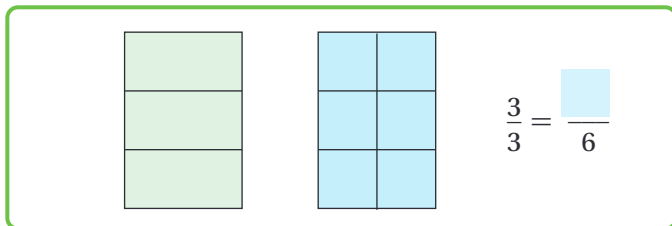
Heidi

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

Molly

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

**Try This!** Each shape is 1 whole. Write equivalent fractions based on the shaded part of the models.



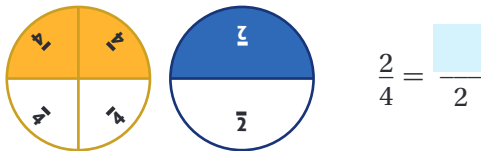
**Math Talk**

**TR 4.1** Engage in discussions on mathematical thinking.

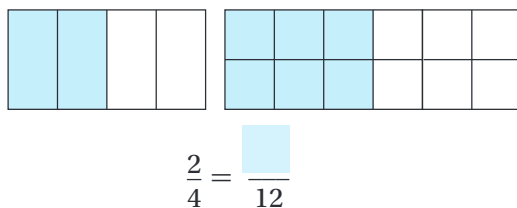
Explain why equivalent fractions name the same amount.

## Share and Show **Math Board**

- Each shape is 1 whole. Use the model to find the equivalent fraction.



- Compare the shaded areas. How many twelfths are equal to  $\frac{2}{4}$ ?



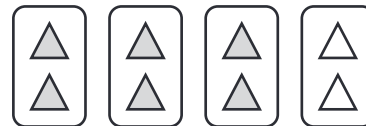
- Dolf swam  $\frac{8}{8}$  mile in a race. Is  $\frac{4}{4}$  mile the same distance? Explain how you can use the number line to decide.

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- Are  $\frac{3}{4}$  and  $\frac{6}{8}$  equivalent fractions? Use the model to decide.



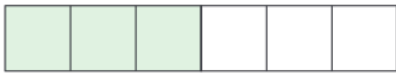
$$\frac{12}{6} = \frac{\quad}{3}$$





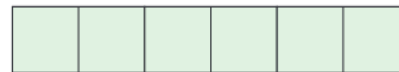
**Circle equal groups to discover the equivalent fraction.**

5.



$$\frac{3}{6} = \frac{\boxed{\phantom{00}}}{2}$$

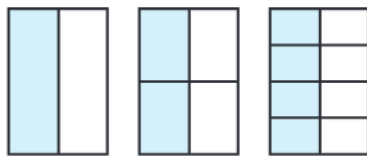
6.



$$\frac{6}{6} = \frac{\boxed{\phantom{00}}}{3}$$

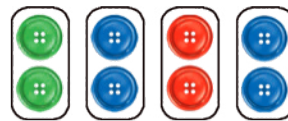
## On Your Own

7. Each shape is 1 whole. Compare the shaded areas to decide how many fourths and how many eighths are equivalent to  $\frac{1}{2}$ .



$$\frac{1}{2} = \frac{\boxed{\phantom{00}}}{4} = \frac{\boxed{\phantom{00}}}{8}$$

8. What fraction of buttons are green? Write two equivalent fractions that both answer the question.



\_\_\_\_\_

**Circle equal groups to discover the equivalent fraction.**

9.



$$\frac{6}{8} = \frac{\boxed{\phantom{00}}}{4}$$

10.



$$\frac{2}{6} = \frac{\boxed{\phantom{00}}}{3}$$

11. Write the fraction that names the shaded part of each circle.



\_\_\_\_\_

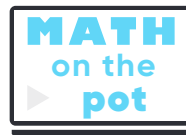
Which pairs of fractions are equivalent? \_\_\_\_\_

## Problem Solving · Applications

12. Antje bought 8 muffins. She chose 2 apple, 2 banana, and 4 blueberry. She and her family ate the apple and banana muffins for breakfast. What fraction of the muffins did they eat? Write two equivalent fractions that both describe the amount. Draw a picture.

---

13. After dinner,  $\frac{2}{3}$  of the corn bread is left. Suppose 4 friends want to share it equally. What fraction names how much of the whole pan of corn bread each friend will get? Use the model on the right. Explain your answer.




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14. Layla wants to eat  $\frac{1}{4}$  of a pizza. The pizza is cut into 8 pieces. How many pieces should she eat? Use your answer to decide how many eighths are equal to  $\frac{1}{4}$ .

---

15. Ten gulls are running along a beach. Two of them are in the lead. Write two equivalent fractions that name how many are in the lead. Make a drawing to show how you found your answer and explain.

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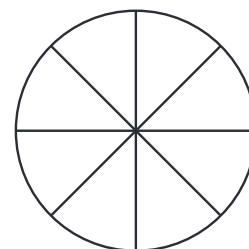
16. Mr. Godfrey made a pizza. There is  $\frac{4}{8}$  of the pizza left over. Select the fractions that are equivalent to the part of the pizza that is left over. Mark all that apply.

☐ (A)  $\frac{5}{8}$

☐ (B)  $\frac{3}{4}$

☐ (C)  $\frac{2}{4}$

☐ (D)  $\frac{1}{2}$



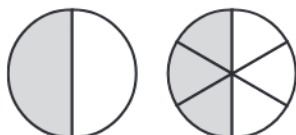
# Identify Equivalent Fractions with Models

Go Online

Interactive Examples

Each shape is 1 whole. Shade the model and write a fraction that is equivalent to the one given.

1.



$$\frac{1}{2} = \frac{\boxed{3}}{6}$$

2.



$$\frac{3}{4} = \frac{6}{\boxed{8}}$$

Circle equal groups. Which equivalent fractions are shown by the models?

3.



$$\frac{2}{4} = \frac{\boxed{2}}{2}$$

4.




$$\frac{4}{6} = \frac{\boxed{2}}{3}$$

## Problem Solving

5. Isela painted 4 out of 8 equal parts of a poster board blue. Jared painted 5 out of 10 equal parts of a same-size poster board red. Write fractions to show which part of the poster board each person painted. Are they equivalent?

---

6.  **WRITE** *Math* Explain how you can decide if  $\frac{4}{10}$  is equivalent to  $\frac{1}{5}$ .

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## Lesson Check

7. Is  $\frac{2}{4}$  equivalent to  $\frac{6}{8}$ ? Explain why or why not.

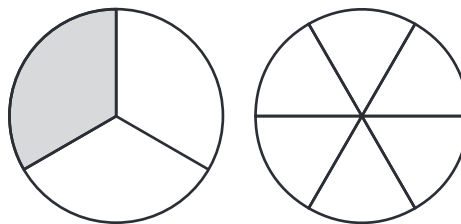



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8. Is  $\frac{2}{6}$  equivalent to  $\frac{1}{3}$ ? Explain why or why not.




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## Spiral Review

9. What division equation is shown by the array?




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10. Ivo put 4 plates on the table. He put 1 apple on each plate. What equation can be used to find the total number of apples on the table?

---



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11. Write a division equation that is a related fact to  $7 \times 3 = 21$ .

---



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12. Find the quotient.

$$4 \overline{)36}$$

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## Chapter Review

1. Alexa and Rose read books that have the same number of pages. Alexa's book is divided into 8 equal chapters. Rose's book is divided into 6 equal chapters. Each girl has read 3 chapters of her book.

Write a fraction to describe what part of the book each girl read. Then tell who read more pages. Explain.

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2. David, Maria, and Simone are shading same-sized index cards for a science project. David shaded  $\frac{2}{4}$  of his index card, Maria shaded  $\frac{2}{8}$  of her index card, and Simone shaded  $\frac{2}{6}$  of her index card.

For Problems 2a–2d, choose Yes or No to indicate whether the comparisons are correct.

2a.  $\frac{2}{4} > \frac{2}{8}$  ☐ Yes ☐ No

2b.  $\frac{2}{8} > \frac{2}{6}$  ☐ Yes ☐ No

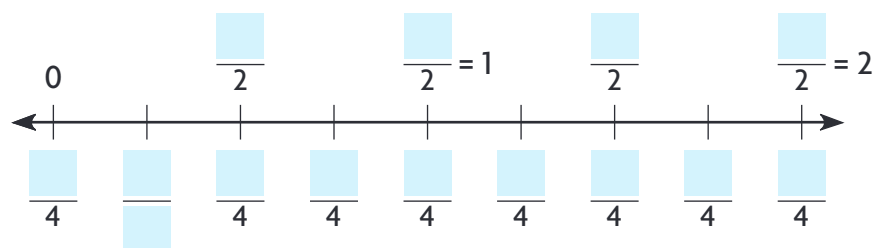
2c.  $\frac{2}{6} < \frac{2}{4}$  ☐ Yes ☐ No

2d.  $\frac{2}{6} = \frac{2}{4}$  ☐ Yes ☐ No

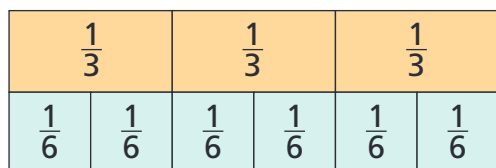
3. Dan and Miguel are working on the same homework assignment. Dan has finished  $\frac{1}{4}$  of the assignment. Miguel has finished  $\frac{3}{4}$  of the assignment. Which statement is correct? Mark all that apply.

- ☐ (A) Miguel has completed the entire assignment.  
☐ (B) Dan has not completed the entire assignment.  
☐ (C) Miguel has finished more of the assignment than Dan.  
☐ (D) Dan and Miguel have completed equal parts of the assignment.

4. Complete the number line. Then, compare one fraction above the number line to one fraction below the number line using  $<$ ,  $>$ , or  $=$ .



5. A nature center offers 2 guided walks. The morning walk is  $\frac{2}{3}$  mile. The evening walk is  $\frac{2}{6}$  mile. Which walk is shorter? Explain how you can use the model to find the answer.



6. Chun lives  $\frac{3}{8}$  mile from school. Gail lives  $\frac{5}{8}$  mile from school.

Use the fractions and symbols to show which distance is longer.



Name \_\_\_\_\_

7. Mrs. Reed baked four pans of lasagna for a family party. Use the rectangles to represent the pans.



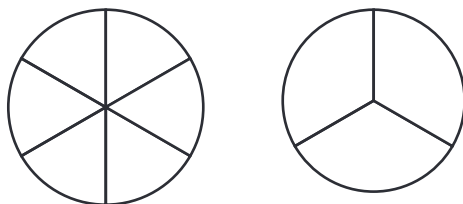
### Part A

Draw lines to show how Mrs. Reed could cut one pan of lasagna into thirds, one into fourths, one into sixths, and one into eighths.

### Part B

After dinner, two pans had the same amount of lasagna left over. Write a pair of equivalent fractions that could describe how much was left over in the two pans. Then write a different pair of equivalent fractions that could also describe how much was left over in the two pans.

- 
8. Tom rode his horse for  $\frac{4}{6}$  mile. Liz rode her horse for  $\frac{2}{3}$  mile. Did they ride the same distance? Use the models to show your work.



- 
9. Write the fractions in order from least to greatest:  $\frac{6}{2}$ ,  $\frac{6}{4}$ ,  $\frac{6}{3}$ .
-

10. Jenna painted  $\frac{1}{8}$  of one side of a fence. Mark painted  $\frac{1}{6}$  of the other side of the same fence. Use  $>$ ,  $=$ , or  $<$  to compare the parts that they painted.
- 

11. Bill used  $\frac{1}{3}$  cup of raisins and  $\frac{2}{3}$  cup of banana chips to make a snack.

For Problems 11a–11d, choose True or False for each comparison.

- |                                  |                            |                             |
|----------------------------------|----------------------------|-----------------------------|
| 11a. $\frac{1}{3} > \frac{2}{3}$ | <input type="radio"/> True | <input type="radio"/> False |
| 11b. $\frac{2}{3} = \frac{1}{3}$ | <input type="radio"/> True | <input type="radio"/> False |
| 11c. $\frac{1}{3} < \frac{2}{3}$ | <input type="radio"/> True | <input type="radio"/> False |
| 11d. $\frac{2}{3} > \frac{1}{3}$ | <input type="radio"/> True | <input type="radio"/> False |

12. Jorge, Lynne, and Crosby meet at the playground. Jorge lives  $\frac{5}{6}$  mile from the playground. Lynne lives  $\frac{4}{6}$  mile from the playground. Crosby lives  $\frac{4}{5}$  mile from the playground.

## Part A

Who lives closer to the playground, Jorge or Lynne? Explain how you know.

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## Part B

Who lives closer to the playground, Lynne or Crosby? Draw and shade figures, draw and label a number line, or use reasoning to decide. Explain which method you used and why.

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Name \_\_\_\_\_

13. Ming needs  $\frac{3}{4}$  pint of red paint for an art project. He has 6 jars that have the following amounts of red paint in them. He wants to use only 1 jar of paint. Mark all the jars of paints that Ming could use.

(A)  $\frac{3}{3}$  pint

(D)  $\frac{5}{4}$  pint

(B)  $\frac{1}{4}$  pint

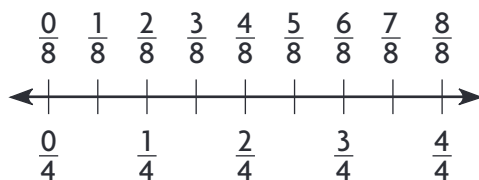
(E)  $\frac{3}{8}$  pint

(C)  $\frac{3}{2}$  pint

(F)  $\frac{3}{6}$  pint

14. Use the number line for Part A and Part B.

### Part A



Fill in the yes circle if the pair of fractions are equivalent fractions.

$\frac{3}{4}$  and  $\frac{5}{8}$

☐ Yes

☐ No

$\frac{4}{4}$  and  $\frac{8}{8}$

☐ Yes

☐ No

$\frac{2}{4}$  and  $\frac{4}{8}$

☐ Yes

☐ No

### Part B

Write these fractions in order from greatest to

least:  $\frac{6}{8}, \frac{0}{8}, \frac{3}{8}, \frac{5}{8}$

15. Mavis mixed  $\frac{5}{10}$  quart of apple juice with  $\frac{1}{2}$  quart of cranberry juice. Compare the fractions. Circle the symbol that makes the statement true.

$\frac{5}{10}$	<	$\frac{1}{2}$
	=	
	>	

16. Pat has three pieces of fabric that measure  $\frac{3}{6}, \frac{5}{6},$  and  $\frac{2}{6}$  yards long. Write the lengths in order from least to greatest.

17. Cora measures the heights of three plants. Draw a line to match each height on the left to the word on the right that describes its place in the order of heights.