Problem Solving • Compare Fractions

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 act it out.

   _____ Luis _____

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. Jan 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.

   _____

   _____

Lesson Check (3.NF.A.3d)

**1.** 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 =.

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

2. Rosa paints a wall in her bedroom. She puts green paint on $\frac{5}{8}$ of the wall and blue paint on $\frac{3}{8}$ of the wall. Compare the fractions using >, < or =.

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

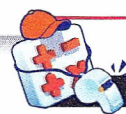## Spiral Review (3.OA.B.6, 3.OA.D.9, 3.NF.A.1)

3. Dan divides a pie into eighths. How many equal parts are there?

4. Draw lines to divide the circle into 4 equal parts.
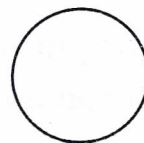
5. Charles places 30 pictures on his bulletin board in 6 equal rows. How many pictures are in each row?

6. Describe a pattern in the table.

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

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Compare Fractions with the Same Denominator

Common Core **COMMON CORE STANDARD—3.NF.A.3d**
Develop understanding of fractions as numbers.

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

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. $\frac{1}{2}$ $\bigcirc$ $\frac{0}{2}$

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

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

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

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

Problem Solving · Real World

16. Ben 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?

_____

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

_____

_____

Lesson Check

1. Julia 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?

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

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

Spiral Review

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

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

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

6. Ella wants to use the Commutative Property of Multiplication to help find the product 5×4. What number sentence can she use?
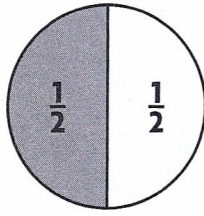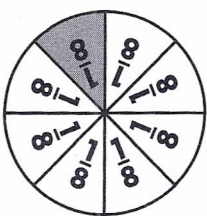
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Compare Fractions with the Same Numerator

Compare. Write <, >, or =.

1. $\frac{1}{8}$ ◯< $\frac{1}{2}$

2. $\frac{3}{8}$ ◯ $\frac{3}{6}$

3. $\frac{2}{3}$ ◯ $\frac{2}{4}$

4. $\frac{2}{8}$ ◯ $\frac{2}{3}$

5. $\frac{3}{6}$ ◯ $\frac{3}{4}$

6. $\frac{1}{2}$ ◯ $\frac{1}{6}$

7. $\frac{5}{6}$ ◯ $\frac{5}{8}$

8. $\frac{4}{8}$ ◯ $\frac{4}{8}$

9. $\frac{6}{8}$ ◯ $\frac{6}{6}$

Problem Solving Real World

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. Rachel bought some buttons. Of the buttons, $\frac{2}{4}$ are yellow and $\frac{2}{8}$ are red. Rachel bought more of which color buttons?

    _____

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

    _____

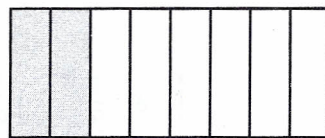   _____

Lesson Check (3.NF.A.3d)

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

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

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

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

Spiral Review (3.OA.C.7, 3.NF.A.1)

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

_____

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

_____

5. 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?

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

_____

_____

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Compare Fractions

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

1. $\frac{3}{8}$ ⬤< $\frac{3}{4}$

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

   same numerator

2. $\frac{2}{3}$ ◯ $\frac{7}{8}$

3. $\frac{3}{4}$ ◯ $\frac{1}{4}$

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 Real World

6. At the third-grade party, two groups each had their own pizza. The blue group ate $\frac{7}{8}$ pizza. The green group ate $\frac{2}{8}$ pizza. Which group ate more of their pizza?

7. Ben and Antonio both take the same bus to school. Ben's ride is $\frac{7}{8}$ mile. Antonio's ride is $\frac{3}{4}$ mile. Who has a longer bus ride?

8. **WRITE** ▸*Math* Explain how to use the missing pieces strategy to compare two fractions. Include a diagram with your explanation.
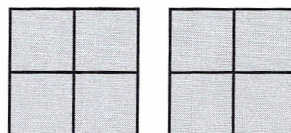
1. Compare $\frac{2}{3}$ and $\frac{7}{8}$. Write $<$, $>$, or $=$.

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

$$\frac{2}{3} \bigcirc \frac{7}{8}$$

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

Spiral Review (3.OA.A.4, 3.NBT.A.3, 3.NF.A.3c)

3. Cam, Stella, and Rose each picked 40 apples. They put all their apples in one crate. How many apples are in the crate?

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

_____

_____

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

6. What is the unknown factor?

$$9 \times \blacksquare = 36$$

_____

_____

_____

_____

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Compare and Order Fractions

Write the fractions in order from greatest to least.

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

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

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

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

4. $\frac{2}{3}, \frac{2}{6}, \frac{2}{8}$ ____, ____, ____

Write the fractions in order from least to greatest.

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

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

Problem Solving Real World

7. Mr. Jackson 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. Jackson 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.

_____

_____

_____

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

$$\frac{1}{8}, \frac{1}{3}, \frac{1}{6}$$

_____

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

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

_____

Spiral Review (3.OA.B.5, 3.NF.A.1, 3.MD.B.3)

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

_____

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

_____
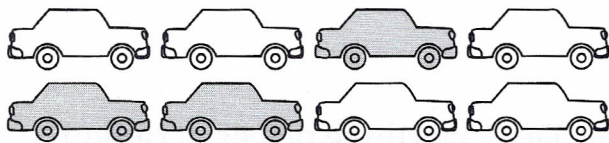
5. Toby collects data and makes a bar graph about his classmates' pets. He finds that 9 classmates have dogs, 2 classmates have fish, 6 classmates have cats, and 3 classmates have gerbils. What pet will have the longest bar on the bar graph?

_____

6. The number sentence is an example of which multiplication property?

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

_____

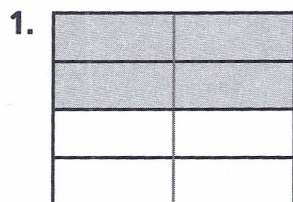**FOR MORE PRACTICE GO TO THE Personal Math Trainer**
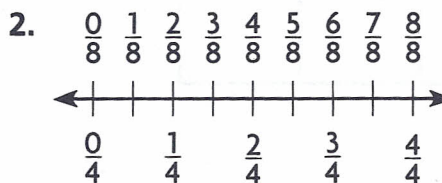
Model Equivalent Fractions

COMMON CORE STANDARD—3.NF.A.3a
Develop understanding of fractions as numbers.

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

1.

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

Use the number line to find the equivalent fraction.

2. $\frac{0}{8}$ $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ $\frac{5}{8}$ $\frac{6}{8}$ $\frac{7}{8}$ $\frac{8}{8}$

$\frac{0}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$

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

Problem Solving Real World

3. Mike says that $\frac{3}{3}$ of his fraction model is shaded blue. Ryan says that $\frac{6}{6}$ of the same model is shaded blue. Are the two fractions equivalent? If so, what is another equivalent fraction?

_____

4. Brett shaded $\frac{4}{8}$ 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?
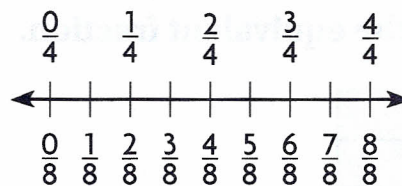
_____

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.

_____

Lesson Check

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

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

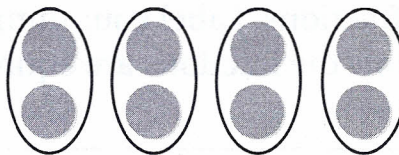$$\frac{0}{4} \quad \frac{1}{4} \quad \frac{2}{4} \quad \frac{3}{4} \quad \frac{4}{4}$$

$$\frac{0}{8} \quad \frac{1}{8} \quad \frac{2}{8} \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{5}{8} \quad \frac{6}{8} \quad \frac{7}{8} \quad \frac{8}{8}$$

_____

_____

Spiral Review

3. Eric 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 Eric practice the piano this week?

4. Kylee 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?

_____

_____

5. 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?

6. Write a division equation for the picture.

_____

_____

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Equivalent Fractions

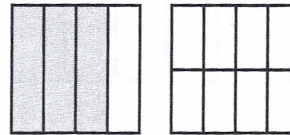**Each shape is 1 whole. Shade the model to find the equivalent fraction.**

1.

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

2.

$\frac{3}{4} = \frac{6}{}$
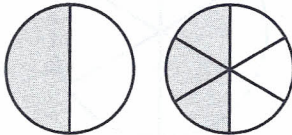
Circle equal groups to find the equivalent fraction.

3.

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

4.

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

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5. May painted 4 out of 8 equal parts of a poster board blue. Jared painted 2 out of 4 equal parts of a same-size poster board red. Write fractions to show which part of the poster board each person painted.
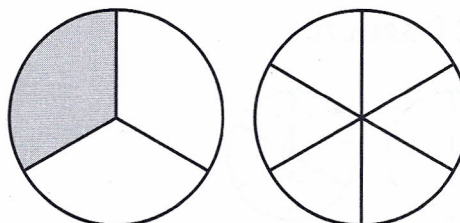
    _____

6. **WRITE** ▸ *Math* Explain how you can find a fraction that is equivalent to $\frac{1}{4}$.

    _____

    _____

Lesson Check

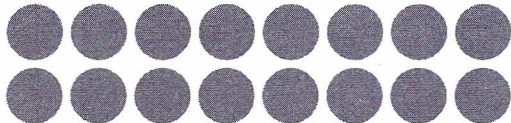**1.** What fraction is equivalent to $\frac{6}{8}$?

2. What fraction is equivalent to $\frac{1}{3}$?

_____

_____

Spiral Review

3. What division number sentence is shown by the array?

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

_____

_____

_____

_____

5. Write a division number sentence that is a related fact to $7 \times 3 = 21$.

6. Find the quotient.

$$4\overline{)36}$$

_____

_____

_____

_____

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