Student Guide

Circle Pieces: Red, Pink, Yellow, Blue
(SG pp. 249–252)
Questions 1–20

I. **A.** 2

   B. 4

   C. 8

2. **A.** 2

   B. 4

3. 2

4. blue, yellow, pink, and red

5. **A.** 3 blues

   B. 1 pink

   C. 3 yellows

6. 1 yellow, 2 blues

7. 1 pink, 1 yellow, 2 blues

8. **A.*** 1 pink, 2 yellows

   B.* Possible responses:
      1 pink, 4 blues;
      1 yellow, 6 blues;
      2 yellows, 4 blues

9.* blue; 5 pieces

10. 2 yellow and 1 blue

11. **A.** pink

   B. yellow

   C. blue

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

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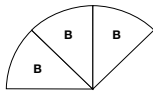
Circle Pieces: Red, Pink, Yellow, Blue

You will use circles and pieces of circles to study fractions. Find all the pieces with these colors in your fraction-circle set to use in this lesson.

Red   Pink   Yellow   Blue

Explore

Use the red, pink, yellow, and blue pieces to answer the questions.

1. Cover the red circle with all one color.
   A. How many pink pieces does it take?
   B. How many yellows?
   C. How many blues?
2. Cover a pink piece with all one color.
   A. How many yellow pieces does it take?
   B. How many blues?
3. How many blues cover one yellow?
4. Write the color of each of the four different pieces in order from smallest to largest.
5. Which is larger:
   A. One yellow or three blues?
   B. One pink or three blues?
   C. One pink or three yellows?
6. Cover a pink piece with two different colors. How many of each color does it take?
7. Cover the red circle with three different colors. How many of each color does it take?

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8. **A.** Cover the red circle with two different colors. How many of each color does it take?
   B. Solve this problem a second way.

9. Make the shape below using pieces that are the same color. What color did you use? How many pieces?

10. Make the shape in Question 9 with the least number of pieces possible. What colors did you use? How many of each color?

Naming Fractions

If the red circle is the unit whole, a pink piece covers one-half of the circle. We write $\frac{1}{2}$ to show that the circle is divided into 2 equal parts and that 1 of the parts is covered.

Three yellows cover three-fourths of the circle. We write $\frac{3}{4}$ to show that the circle is divided into 4 equal parts and that 3 of the four parts are covered.

11. The red circle is the unit whole.
   A. What piece is one-half?
   B. What piece is one-fourth?
   C. What piece is one-eighth?
   D. We can write $\frac{3}{8}$ for three blues. Show this fraction with pieces.

one-half $\frac{1}{2}$

three-fourths $\frac{3}{4}$

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*Answers and/or discussion are included in the lesson.

12. The red circle is the unit whole.
   A. Write a fraction for 5 blues. Show this fraction with pieces.
   B Write a fraction for 2 yellows. Show this fraction with pieces.
   C. Are two yellows greater than, less than, or equal to one-half?
   D. Are 3 blues greater than, less than, or equal to one-half?
   E. Are 7 blues greater than, less than, or equal to one whole?

13. The pink piece is the unit whole.
   A. What piece is one-half?
   B. What piece is one-fourth?
   C. Write a fraction for 2 blues. Show this fraction with pieces.
   D. What other piece makes the same fraction as 2 blues?
   E. Write a fraction for 3 blues. Show this fraction with pieces.
   F. Are 3 blues greater than, less than, or equal to one-half?
   G. Write a fraction for 4 blues. Show this fraction with pieces.
   H. What other piece is equal to 4 blues?
   I. Are 4 blues greater than, less than, or equal to one whole?

14. If the yellow piece is the unit whole, write a fraction for one blue as a number and in words.

15. The shape below is the unit whole.
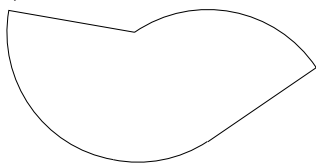
   A. Write a fraction for 1 blue.
   B. Write a fraction for 2 blues. Show this fraction with pieces.
   C. What other piece makes the same fraction as 2 blues?
   D. Write a fraction for 3 blues. Show this fraction.
   E. Are 3 blues greater than, less than, or equal to one-half? Explain.

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12. A. $\frac{5}{8}$
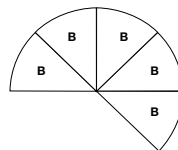
B. $\frac{1}{2}$ or $\frac{2}{4}$
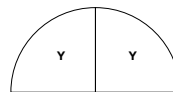
C. equal

D. less than

E. less than

13. A. yellow

B. blue

C. $\frac{2}{4}$ or $\frac{1}{2}$

D. 1 yellow

E. $\frac{3}{4}$
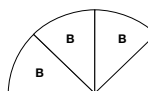
F. greater than

G. $\frac{4}{4}$ or 1
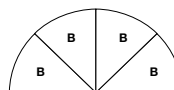
H. 1 pink

I. equal

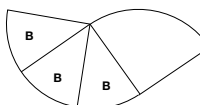**14.** $\frac{1}{2}$; one half

15. A. $\frac{1}{5}$

B. $\frac{2}{5}$;
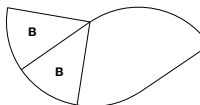
C. 1 yellow

D. $\frac{3}{5}$;

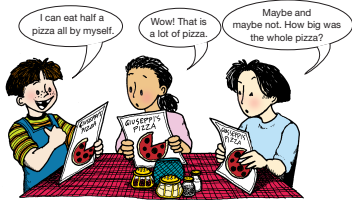**E.** greater than; if 3 blues was the same as half or less than half, it would take 6 or more blue pieces to cover the entire shape.

16. **A.** red
    B. pink
    C. yellow

17. **A.** red
    B. pink

18. red

19. **A.** red
    B. pink

20. Responses will vary but answers should reflect the understanding that the same fractional parts of different-sized wholes are not equal. Possible response: A pink piece is a half when the red circle is the unit whole. A yellow piece is a half when the pink is the whole. A blue piece is a half when the yellow is a whole.

What Is 1?

The fraction one-half can be big or small, depending on the size of the whole. Half of a personal pizza is not the same as half of an extra-large pizza. Half of a pie for 50¢ is not the same as half a cupcake for 50¢.

✓ **Check-In: Questions 16–20**

Use your fraction circle pieces to answer the following questions.

16. What is the unit whole:
   A. if the pink piece is one-half?
   B. if the yellow piece is one-half?
   C. if the blue piece is one-half?

17. What is the unit whole:
   A. if the yellow piece is one-fourth?
   C. if the blue piece is one-fourth?

18. What is the unit whole if the blue piece is one-eighth?

19. What is the unit whole:
   A. if three yellow pieces are three-fourths?
   B. if three blue pieces are three-fourths?

20. Josh said, "In class, we have called the pink, yellow, and blue pieces one-half. How is that possible?" Explain how all of these pieces can show one-half of a whole.

Use the *Fractions in Shapes* pages in the *Student Activity Book* to show and name fractions.

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Student Activity Book - Page 331

Student Activity Book

Fourths (SAB pp. 331–333)
Questions A–F

Answers will vary. Possible response:

A. Shape A does show fourths because there are four pieces and each piece is the same size. This means that one of the pieces can be flipped to fit in all of the other spaces.

B. Shape B does not show fourths because there are five pieces, not four.

C. Shape C does not show fourths because the four pieces are not the same size.

D. Shape D does show fourths because there are four pieces that are all equal in size.

E. Shape E does not show fourths because the pieces are not the same size.

F. Shape F does not show fourths because the four pieces are not the same size.

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Fractions in Shapes (SAB pp. 335–336)
Questions 1–4

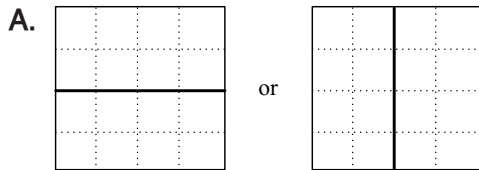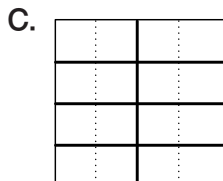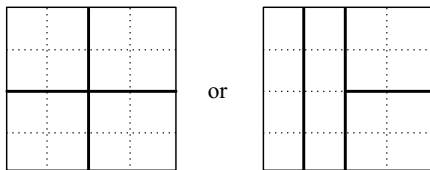**1. A.**

Eggs Design Cake Pan of Lasagna
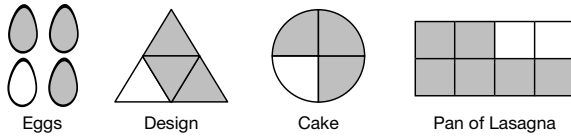
B. Student's drawings will vary.
Possible response:

2. Answers will vary. Possible partitions are shown for each. Whatever partitions students use should have the same area.

A.

 or

B.* See Figure 14 in the Lesson Guide.

 or

C.

3. Wording may vary.
A.* $\frac{1}{8}$ or $\frac{2}{16}$
one-eighth or two of sixteen
B. $\frac{12}{16}$ or $\frac{3}{4}$
twelve of sixteen or three-fourths
C.* $\frac{1}{2}$ or $\frac{8}{16}$
one-half or eight of sixteen

4. Answers will vary.
Possible solution:

*Answers and/or discussion are included in the lesson.

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Name _____ Date _____

Fraction Chart

Homework

Complete the chart. Use a ruler to make straight lines.

	Unit Whole	Picture	Fraction in Words	Fraction
Ex.			two-fourths	$\frac{2}{4}$
A.			one-half	
B.				
C.				
D.			one-eighth	
E.			three-fifths	

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Fraction Chart (SAB p. 338)
Questions A–E

A. , $\frac{1}{2}$

B. One-half, $\frac{1}{2}$.

C. Three-fourths, $\frac{3}{4}$.

D. , $\frac{1}{8}$

E. , $\frac{3}{5}$