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Student Guide

Fraction Sentences (SG pp. 69–72)
Questions 1–19

1.* Answers will vary. One possible solution is: $\frac{5}{12} + \frac{1}{4} + \frac{1}{3} = 1$. See Figures 2 and 3 in the lesson for other solutions.
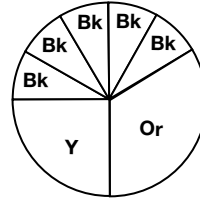
2. A. Answers will vary. Another possible number sentence is: $\frac{2}{6} + \frac{2}{12} = \frac{1}{2}$.

   B. Answers will vary. One possible solution is: $\frac{1}{6} + \frac{1}{3} = \frac{1}{2}$.
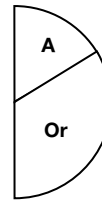
3. $\frac{1}{4} + \frac{1}{12} + \frac{1}{6} = \frac{1}{2}$
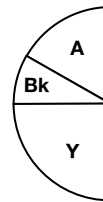
4. Answers will vary. One possible solution is: $\frac{2}{4} + \frac{1}{12} + \frac{1}{6} = \frac{3}{4}$.

***Answers and/or discussion are included in the lesson.**
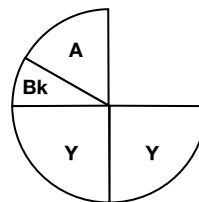
5. Answers will vary. One possible solution is:
$\frac{1}{3} + \frac{2}{6} + \frac{2}{12} = \frac{5}{6}$.
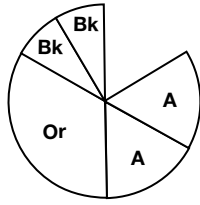
6. Answers will vary. One possible solution is:
$\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{2}{3}$.

7. A.* Answers will vary. One possible solution
is: $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = 1$.
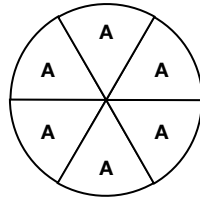
B.* Answers will vary. One possible solution
is: $\frac{3}{3} = 1$.
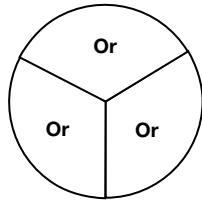
C.* The numerator and denominator are the
same number when the fraction is equal
to 1.

8. Answers will vary. One possible solution is:
$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{6} + \frac{1}{6} = \frac{5}{3}$.

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

9. A. Show $\frac{7}{4}$ using only yellow pieces. Write an addition sentence and a multiplication sentence for your figure.

B. Show $\frac{7}{4}$ using red and yellow pieces. Write an addition sentence for your figure.

C. Write $\frac{7}{4}$ as a mixed number.

10. A. Show $\frac{5}{2}$ using only pink pieces. Write an addition sentence and a multiplication sentence for your figure.

B. Show $\frac{5}{2}$ using the fewest number of pieces possible. Write an addition sentence for your figure.

C. Write a mixed number for $\frac{5}{2}$.

11. A. Show $2\frac{1}{3}$ using only orange pieces. Write a number sentence for your figure.

B. Show $2\frac{1}{3}$ using the fewest number of pieces possible. Write an addition sentence for your figure.

C. Write $2\frac{1}{3}$ as an improper fraction.

12. Write a mixed number and an improper fraction for the following figures:

A.

B.

13. Fill in the box to make the sentence true.

A. $2\frac{1}{3} = \boxed{} + \frac{1}{3}$

B. $2\frac{1}{3} = \dfrac{\boxed{}}{3}$

C. $\frac{5}{4} = \boxed{} + \frac{1}{4}$

D. $\frac{25}{12} = 2 + \dfrac{1}{\boxed{}}$

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9. A. Addition sentences will vary. One possible sentence is $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{7}{4}$; $7 \times \frac{1}{4} = \frac{7}{4}$.

B. $1 + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{7}{4}$.

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

10. A. Addition sentences will vary. One possible addition sentence is: $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{5}{2}$; $5 \times \frac{1}{2} = \frac{5}{2}$.
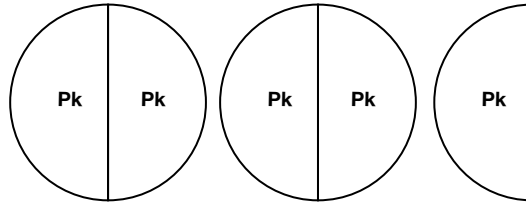
B. $1 + 1 + \frac{1}{2} = \frac{5}{2}$
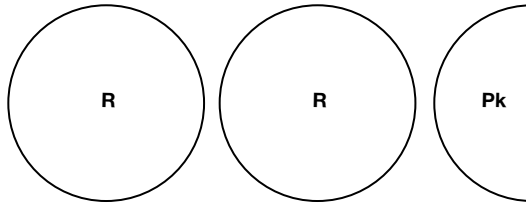
C. $2\frac{1}{2}$

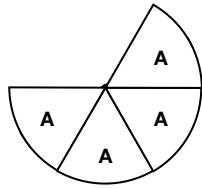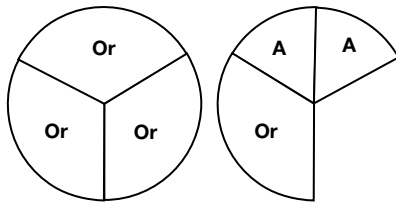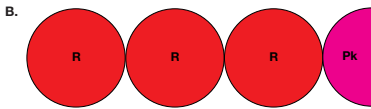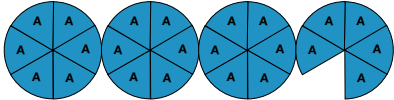**11. A.** Answers will vary. One possible addition sentence is: $\frac{3}{3} + \frac{3}{3} + \frac{1}{3} = 2\frac{1}{3}$; $7 \times \frac{1}{3} = 2\frac{1}{3}$.
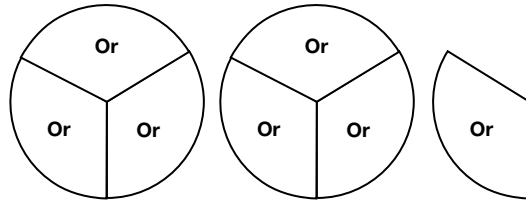
B. $1 + 1 + \frac{1}{3} = 2\frac{1}{3}$
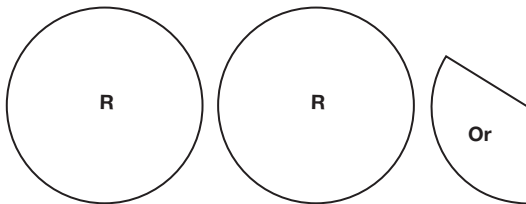
C. $\frac{7}{3}$

12. A. $3\frac{5}{6}$; $\frac{23}{6}$

B. $3\frac{1}{2}$; $\frac{7}{2}$

13. A. 2   **B.** 7

C. 1   **D.** 12

14. **A.*** $2\frac{1}{4}$
   B. $1\frac{5}{12}$
   C. $3\frac{2}{3}$
   D. $1\frac{5}{6}$

15. **A.** $\frac{13}{12}$
   B. $\frac{7}{2}$
   C.* $\frac{8}{3}$
   D. $\frac{11}{4}$

16.* Answers will vary. Possible response: To decide how many wholes there are you can divide the numerator by the denominator. The remainder is the number of pieces that are left over. Use the remainder as the numerator for the fraction. For example, if you have $\frac{17}{6}$, you first divide 17 by 6 to find that you have 2 wholes. There is a remainder of 5 pieces, so that becomes $\frac{5}{6}$. The mixed number is $2\frac{5}{6}$.

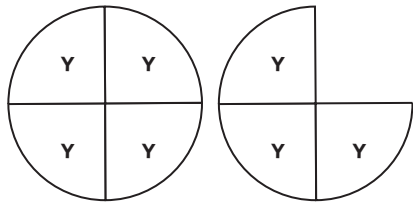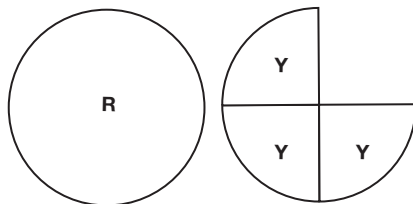**17.*** Answers will vary. Possible response: To find out how many total pieces there are you multiply the whole number by the denominator and then add that answer to the numerator. For example, if the mixed number is $4\frac{1}{5}$, you multiply 4×5 to see that there are 20 fifths in 4 wholes. You add the $\frac{20}{5}$ to $\frac{1}{5}$ for a total of $\frac{21}{5}$.

18. **A.** $\frac{11}{8}$
   B. $\frac{15}{4}$
   C. $\frac{19}{5}$
   D. $\frac{29}{6}$

19. **A.** $3\frac{1}{4}$
   B. $4\frac{1}{2}$
   C. $4\frac{2}{3}$
   D. $2\frac{2}{5}$

Homework (SG p. 73)
Questions 1–3

1. **A.** Answers will vary. One possible solution is: $\frac{2}{6} + \frac{1}{3} + \frac{1}{4} + \frac{1}{12} = 1$.
   B. $\frac{1}{3} + \frac{1}{4} + \frac{1}{12} = \frac{2}{3}$
   C. Answers will vary. One possible solution is: $1 + \frac{3}{6} = 1\frac{3}{6}$ or $1\frac{1}{2}$.
   D. $\frac{1}{3} + \frac{1}{4} + \frac{1}{6} = \frac{3}{4}$

2. **A.** $5\frac{1}{2}$
   B. $2\frac{3}{8}$
   C. $3\frac{1}{6}$
   D. $2\frac{1}{9}$
   E. $2\frac{3}{5}$
   F. $5\frac{2}{3}$
   G. $6\frac{3}{4}$
   H. $2\frac{3}{10}$

3. **A.** $\frac{25}{6}$
   B. $\frac{19}{3}$
   C. $\frac{23}{4}$
   D. $\frac{31}{10}$
   E. $\frac{13}{2}$
   F. $\frac{19}{5}$
   G. $\frac{27}{8}$
   H. $\frac{14}{9}$

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14. Write each improper fraction as a mixed number. Use circle pieces.
   A. $\frac{9}{4}$ **B.** $\frac{17}{12}$ **C.** $\frac{11}{3}$ **D.** $\frac{11}{6}$

15. Write each mixed number as an improper fraction. Use circle pieces.
   A. $1\frac{1}{12}$ **B.** $3\frac{1}{2}$ **C.** $2\frac{2}{3}$ **D.** $2\frac{3}{4}$

16. Explain to a friend how you can change an improper fraction to a mixed number without using circle pieces. Use an example in your explanation.

17. Explain to a friend how you can change a mixed number to an improper fraction without using circle pieces. Use an example in your explanation.

18. Write each mixed number as an improper fraction.
   A. $1\frac{3}{8}$ **B.** $3\frac{3}{4}$ **C.** $3\frac{4}{5}$ **D.** $4\frac{5}{6}$

19. Write each improper fraction as a mixed number.
   A. $\frac{13}{4}$ **B.** $\frac{9}{2}$ **C.** $\frac{14}{3}$ **D.** $\frac{12}{5}$

Practice writing number sentences as you play *Fraction Fill Games* in the *Student Activity Book*.

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Homework

1. Write a number sentence for each of the following figures. Remember, the red circle is one whole.

A.   **B.**   **C.**   **D.**

2. Change each improper fraction to a mixed number.
   A. $\frac{11}{2}$ **B.** $\frac{19}{8}$ **C.** $\frac{19}{6}$ **D.** $\frac{19}{9}$
   E. $\frac{13}{5}$ **F.** $\frac{17}{3}$ **G.** $\frac{27}{4}$ **H.** $\frac{23}{10}$

3. Change each mixed number to an improper fraction.
   A. $4\frac{1}{6}$ **B.** $6\frac{1}{3}$
   C. $5\frac{3}{4}$ **D.** $3\frac{1}{10}$
   E. $6\frac{1}{2}$ **F.** $3\frac{4}{5}$
   G. $3\frac{3}{8}$ **H.** $1\frac{5}{9}$

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