LESSON MAKER PRO

Fraction Partitions

Split fractions and use bars to show why.

GRADE 4 · 4.NF.3b

4.NF.3b "Understand a fraction a/b with a > 1 as a sum of unit fractions (1/b). Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation..."

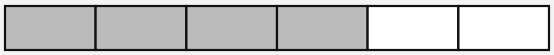
NAME _____ DATE _____

THE BIG IDEA

The denominator tells how many equal parts make one whole. To split a fraction, keep the denominator the same and make the numerators add up to the number of shaded parts.

WORKED EXAMPLE

Write the shaded fraction as a sum of unit fractions and as a sum of two fractions.



1. Count 4 shaded parts out of 6 equal parts.
2. Write one fraction for each shaded part: 4/6 = 1/6 + 1/6 + 1/6 + 1/6.
3. Group the shaded parts into 1 part and 3 parts: 4/6 = 1/6 + 3/6.

Answer: 4/6 = 1/6 + 1/6 + 1/6 + 1/6; 4/6 = 1/6 + 3/6

PRACTICE 6 problems

1 Write the shaded fraction in two different ways: once as a sum of unit fractions and once as a sum of two fractions.



ANSWER _____

_____

2 Write 4/9 as a sum of unit fractions.

ANSWER _____

3 Write two different sums of two fractions for the shaded part of the bar.



ANSWER _____

_____

4 Fill in the blank: 7/10 = 3/10 + ___.

ANSWER _____

5 Write 6/7 as a sum of three fractions with denominator 7. Use a numerator greater than 1 in at least one fraction.

ANSWER _____

6 Write 8/12 as a sum of two fractions. Then write it as a sum of three fractions. Keep the denominator 12.

ANSWER _____

_____

APPLY IT Show your work

1 A class banner has 8 equal panels. Ali colors 3 panels, and Bea colors 2 other panels. Write an equation that shows the colored part as a sum of their parts. Then write it as a sum of unit fractions.

WORK SPACE

ANSWER _____

2 A game progress bar has 10 equal blocks. Zuri fills 2 blocks on Monday and 4 more blocks on Tuesday. Write an equation that shows the filled part as a sum for the two days. Then write a different sum of three fractions with denominator 10 for the same filled part.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Write three different sums of two fractions for the shaded part of the bar. Keep the denominator the same. Explain how the bar shows that all three sums are correct.



WORK SPACE AND ANSWER

ANSWER KEY

Fraction Partitions

GRADE 4 · 4.NF.3b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write the shaded fraction in two different ways: once as a sum of unit fractions and once as a sum of two fractions.	**3/5 = 1/5 + 1/5 + 1/5; 3/5 = 1/5 + 2/5**
2	Write 4/9 as a sum of unit fractions.	**4/9 = 1/9 + 1/9 + 1/9 + 1/9**
3	Write two different sums of two fractions for the shaded part of the bar.	**5/8 = 1/8 + 4/8; 5/8 = 2/8 + 3/8**
4	Fill in the blank: 7/10 = 3/10 + ___.	**4/10**
5	Write 6/7 as a sum of three fractions with denominator 7. Use a numerator greater than 1 in at least one fraction.	**6/7 = 1/7 + 2/7 + 3/7**
6	Write 8/12 as a sum of two fractions. Then write it as a sum of three fractions. Keep the denominator 12.	**8/12 = 2/12 + 6/12; 8/12 = 1/12 + 3/12 + 4/12**

PART 2 · APPLY IT

1. **3/8 + 2/8 = 5/8; 5/8 = 1/8 + 1/8 + 1/8 + 1/8 + 1/8** Each panel is 1/8 of the banner. Add the 3 panels and 2 panels, then write one 1/8 for each colored panel.
2. **2/10 + 4/10 = 6/10; 1/10 + 2/10 + 3/10 = 6/10** Six of the 10 blocks are filled. For the second equation, split those 6 blocks into three groups whose sizes add to 6.

CHALLENGE

7/9 = 1/9 + 6/9; 7/9 = 2/9 + 5/9; 7/9 = 3/9 + 4/9. Each sum splits the 7 shaded ninths into two groups.

Accept any sums that meet each prompt's number of addends and denominator requirements. For visual explanations, students should connect their groups to all of the shaded parts, with none left out or counted twice.