LESSON MAKER PRO

Fraction Split Lab

Find more than one way to make the same fraction.

GRADE 4 · 4.N.3.4

4.N.3.4 "Decompose a fraction into a sum of fractions with the same denominator in more than one way, using concrete and pictorial models and recording results with numerical representations (e.g., 3/4 = 1/4 + 1/4 + 1/4 and 3/4 = 2/4 + 1/4)."

NAME _____ DATE _____

SAME PARTS, NEW GROUPS

You can split a fraction into a sum of smaller fractions without changing its value. Keep the denominator the same, and make sure the numerators add up to the numerator you started with.

WORKED EXAMPLE

The bar shows 5/9. Write it as a sum in two different ways.

5/9



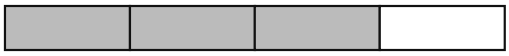
1. There are 5 shaded ninths.
2. Group them as 2 shaded ninths and 3 shaded ninths: 5/9 = 2/9 + 3/9.
3. Group them again as 1 shaded ninth, 1 shaded ninth, and 3 shaded ninths: 5/9 = 1/9 + 1/9 + 3/9.

Answer: 5/9 = 2/9 + 3/9 = 1/9 + 1/9 + 3/9

PRACTICE 6 problems

1 The bar shows 3/4. Write it as a sum of two fourths. Then write it as a sum of three fourths.

3/4



ANSWER _____

_____

2 Fill in the blank: 4/6 = 1/6 + ___. Then write a different sum of two sixths that equals 4/6.

ANSWER _____

_____

3 The bar shows 6/8. Split the shaded part into three equal fractions. Then split it into two equal fractions.

6/8 

ANSWER _____

_____

4 This sum does not equal 7/10: 4/10 + 3/8. Replace 3/8 to make a correct sum with denominator 10. Then write a different sum of two tenths that equals 7/10.

ANSWER _____

_____

5 The bar shows 3/3. Write it as a sum of two thirds. Then write it as a sum of three thirds.

3/3 

ANSWER _____

_____

6 Write 8/12 as a sum of four equal twelfths. Then write it as a sum of two unequal, positive twelfths.

ANSWER _____

_____

APPLY IT Show your work

1 A game progress bar shows that 4/7 of a level is complete. Write two different ways to split the completed part into a sum of two positive fractions with denominator 7.

Level complete: 4/7 

ANSWER _____

2 Jules has painted 6/11 of a skateboard design. The blue paint covers 2/11 of the design. Write the painted part as blue plus the rest. Then show a different split into two positive fractions with denominator 11.

WORK SPACE

ANSWER _____

CHALLENGE One step up

The bar shows 8/13. Write two different sums of three fractions with denominator 13. In each sum, all three numerators must be different positive whole numbers.

8/13 

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Split Lab

GRADE 4 · 4.N.3.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The bar shows 3/4. Write it as a sum of two fourths. Then write it as a sum of three fourths.	**3/4 = 1/4 + 2/4; 3/4 = 1/4 + 1/4 + 1/4**
2	Fill in the blank: 4/6 = 1/6 + ___. Then write a different sum of two sixths that equals 4/6.	**3/6; 4/6 = 2/6 + 2/6**
3	The bar shows 6/8. Split the shaded part into three equal fractions. Then split it into two equal fractions.	**6/8 = 2/8 + 2/8 + 2/8; 6/8 = 3/8 + 3/8**
4	This sum does not equal 7/10: 4/10 + 3/8. Replace 3/8 to make a correct sum with denominator 10. Then write a different sum of two tenths that equals 7/10.	**7/10 = 4/10 + 3/10; 7/10 = 2/10 + 5/10**
5	The bar shows 3/3. Write it as a sum of two thirds. Then write it as a sum of three thirds.	**3/3 = 1/3 + 2/3; 3/3 = 1/3 + 1/3 + 1/3**
6	Write 8/12 as a sum of four equal twelfths. Then write it as a sum of two unequal, positive twelfths.	**8/12 = 2/12 + 2/12 + 2/12 + 2/12; 8/12 = 3/12 + 5/12**

PART 2 · APPLY IT

1. **4/7 = 1/7 + 3/7; 4/7 = 2/7 + 2/7** Split the 4 completed sevenths into groups of 1 and 3, then into groups of 2 and 2.
2. **6/11 = 2/11 + 4/11; 6/11 = 1/11 + 5/11** The rest of the painted part is 4/11 because 2 + 4 = 6. For a different split, 1 + 5 = 6.

CHALLENGE

8/13 = 1/13 + 2/13 + 5/13; 8/13 = 1/13 + 3/13 + 4/13

Accept other correct decompositions when the prompt allows them. Check that each sum keeps the required denominator and meets any rules about the number or size of its parts.