LESSON MAKER PRO

Fraction Split Lab

Break one fraction into equal-denominator sums.

GRADE 4 · TEKS 4.3.B

4.3.B "decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations;"

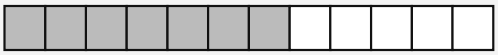
NAME _____ DATE _____

SPLIT THE NUMERATOR

Keep the denominator the same because the parts stay the same size. Split the numerator into two or more addends that equal the original numerator.

WORKED EXAMPLE

Use the bar to decompose 7/12 into two fractions. One part is 3/12.

7/12 

1. The shaded amount has 7 parts.
2. Use 3 parts for the first fraction.
3. 7 - 3 = 4 parts remain.
4. Write 7/12 = 3/12 + 4/12.

Answer: 7/12 = 3/12 + 4/12

PRACTICE 4 problems

1 Complete: 6/8 = 1/8 + ___/8

ANSWER _____

2 Complete: 9/10 = ___/10 + 8/10

ANSWER _____

3 Complete: ___/6 + 2/6 = 5/6

ANSWER _____

4 Write 8/9 as two different sums. Use two nonzero fractions in each sum.

ANSWER _____

_____

APPLY IT Show your work

1 Maya finished 6/8 of a game design tutorial, shown by the bar. Write two ways to split the finished part into two nonzero fractions.

Finished 

ANSWER _____

2 At art club, 8/10 of a mural is painted. Write two ways to split the painted part between two scenes.

WORK SPACE

ANSWER _____

3 Your teacher supplies eight equal rectangular fraction pieces and a whole-strip outline exactly as long as all eight pieces together. Assemble the whole, then take six pieces to show 6/8. Separate those six pieces into two nonempty groups in two different ways, showing your teacher each grouping. For each way, trace a strip picture with the groups marked and write the matching same-denominator addition sentence.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Decompose 9/13 into three nonzero fractions in two different ways. Do not use 1/13.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Split Lab

GRADE 4 · TEKS 4.3.B

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Complete: 6/8 = 1/8 + ___/8	**5/8**
2	Complete: 9/10 = ___/10 + 8/10	**1/10**
3	Complete: ___/6 + 2/6 = 5/6	**3/6**
4	Write 8/9 as two different sums. Use two nonzero fractions in each sum.	**8/9 = 1/9 + 7/9; 8/9 = 2/9 + 6/9**

PART 2 · APPLY IT

1. **6/8 = 1/8 + 5/8; 6/8 = 2/8 + 4/8** Keep eighths as the denominator. Choose two different pairs of numerators that add to 6.
2. **8/10 = 1/10 + 7/10; 8/10 = 3/10 + 5/10** Both fractions in each sum must have denominator 10. Their numerators must add to 8.
3. **For example, 6/8 = 1/8 + 5/8 and 6/8 = 2/8 + 4/8.** Prepare equal eighth pieces referenced to the same whole. Observe actual six-piece models split into two nonempty groups twice. Accept any two different correct group sizes summing to 6, with denominator 8, two matching labeled pictures and addition sentences. Merely reversing the same two group sizes is not a new grouping.

CHALLENGE

9/13 = 2/13 + 2/13 + 5/13; 9/13 = 3/13 + 3/13 + 3/13

Accept other correct decompositions when all denominators match and the numerators add to the original numerator. For the challenge, each addend must be nonzero, no addend may be 1/13, and the two sums must differ. For Apply 3 require actual equal-piece regrouping of the same 6/8 amount, two corresponding strip drawings and two same-denominator equations. Provide the eight pieces and whole outline; equations alone are incomplete. For Practice 1–3, the blank numerators are 5, 1 and 3; the key gives the corresponding missing fractions.