LESSON MAKER PRO

Fraction Building Lab

Compose and decompose fractions and mixed numbers.

GRADE 4 · 4.NS.3.f

4.NS.3.f "Compose and decompose fractions (proper and improper) and/or mixed numbers with denominators of 12 or less, in multiple ways, with and without models.*"

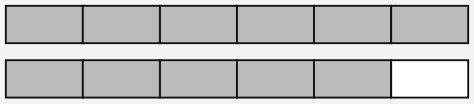
NAME _____ DATE _____

BUILD AND BREAK FRACTIONS

An improper fraction has a numerator that is at least as large as its denominator. You can make a mixed number by grouping equal parts into wholes, or make an improper fraction by changing each whole into equal fractional parts.

WORKED EXAMPLE

Use the model to write 11/6 as a mixed number.



1. One full bar is 6/6, which equals 1 whole.
2. The shaded part of the second bar is 5/6.
3. Combine the whole and the remaining fraction.

Answer: 11/6 = 1 5/6

PRACTICE 6 problems

1 Write 1 + 3/5 as an improper fraction.

ANSWER _____

2 Write 9/4 as a mixed number.

ANSWER _____

3 Write two different sums of fractions that equal 7/8. Use denominator 8 in both sums.

ANSWER _____

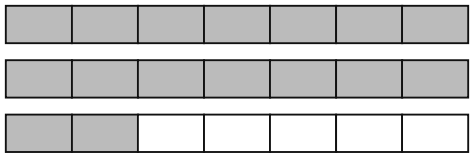
4 Write 2 2/3 as an improper fraction.

ANSWER _____

5 Write 13/10 as a mixed number and as a sum of a whole and a fraction.

ANSWER _____

6 Use the model. Write the shaded amount as an improper fraction and as a mixed number.



ANSWER _____

APPLY IT Show your work

1 Ava skated for 1 3/4 hours on Saturday and 2 2/4 hours on Sunday. Write her total skating time as an improper fraction and as a mixed number.

WORK SPACE

ANSWER _____

2 The art club has 17/9 yard of ribbon for making friendship bracelets. Write the amount as a mixed number. Then decompose it into a whole and a fraction with denominator 9.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Write 2 5/12 as a sum of three fractions with denominator 12. Each fraction must have a different numerator. Then explain why your sum equals 2 5/12.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Building Lab

GRADE 4 · 4.NS.3.f

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write 1 + 3/5 as an improper fraction.	**8/5**
2	Write 9/4 as a mixed number.	**2 1/4**
3	Write two different sums of fractions that equal 7/8. Use denominator 8 in both sums.	**Sample answers: 3/8 + 4/8 and 1/8 + 6/8**
4	Write 2 2/3 as an improper fraction.	**8/3**
5	Write 13/10 as a mixed number and as a sum of a whole and a fraction.	**1 3/10; 1 + 3/10**
6	Use the model. Write the shaded amount as an improper fraction and as a mixed number.	**16/7; 2 2/7**

PART 2 · APPLY IT

1. **17/4; 4 1/4 hours** Change the mixed numbers to fourths: 1 3/4 = 7/4 and 2 2/4 = 10/4. Add to get 17/4, which is 4 1/4.
2. **1 8/9; 1 + 8/9** One whole is 9/9, leaving 8/9. Therefore, 17/9 = 1 8/9 = 1 + 8/9.

CHALLENGE

Sample answer: 4/12 + 10/12 + 15/12 = 29/12 = 2 5/12. The numerators add to 29, and 29/12 is 2 wholes and 5/12.

Accept equivalent fraction sums when all denominators meet the directions. For the challenge, accept any three fractions with denominator 12, different numerators, and numerators that add to 29.