

Fraction Building Blocks

Break fractions into equal unit parts.

GRADE 3 • TEKS 3.3.D

3.3.D "compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$;"

NAME _____

DATE _____

BUILD WITH UNIT FRACTIONS

A unit fraction has 1 as its numerator. To decompose a fraction, keep the denominator the same and add one unit fraction for each count in the numerator.

WORKED EXAMPLE

Write $5/8$ as a sum of unit fractions.

1. The denominator is 8, so each unit part is $1/8$.
2. The numerator is 5, so use five parts of $1/8$.
3. Add the five equal unit fractions.

Answer: $5/8 = 1/8 + 1/8 + 1/8 + 1/8 + 1/8$

PRACTICE 6 problems

- 1** Write $3/4$ as a sum of unit fractions.

ANSWER _____

- 2** Complete: $1/6 + 1/6 + 1/6 + 1/6 = \underline{\hspace{1cm}}$

ANSWER _____

- 3** Which unit-fraction sum equals $2/3$? A. $1/2 + 1/2$ B. $1/3 + 1/3$ C. $1/3 + 1/3 + 1/3$

ANSWER _____

- 4** Write $6/7$ as a sum of unit fractions.

ANSWER _____

- 5** Complete with a fraction that has denominator 2: $1/2 + 1/2 = \underline{\hspace{1cm}}$

ANSWER _____

- 6** Complete: $3/4 = 1/4 + 1/4 + \underline{\hspace{1cm}}$

ANSWER _____

APPLY IT Show your work

- 1** A pan of brownies is cut into 7 equal pieces. Four pieces are eaten at a game night. What fraction of the pan is eaten? Write the fraction as a sum of unit fractions.

WORK SPACE

ANSWER _____

- 2** A robot race path is split into 3 equal sections. A robot travels 2 sections. What fraction of the path does it travel? Write the fraction as a sum of unit fractions.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Jalen says $\frac{6}{6}$ can be written with too few unit fractions because $\frac{6}{6}$ is one whole. Is Jalen correct? Explain and write the correct sum.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write $\frac{3}{4}$ as a sum of unit fractions.	$\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$
2	Complete: $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \underline{\hspace{1cm}}$	$\frac{4}{6}$
3	Which unit-fraction sum equals $\frac{2}{3}$? A. $\frac{1}{2} + \frac{1}{2}$ B. $\frac{1}{3} + \frac{1}{3}$ C. $\frac{1}{3} + \frac{1}{3} + \frac{1}{3}$	B. $\frac{1}{3} + \frac{1}{3}$
4	Write $\frac{6}{7}$ as a sum of unit fractions.	$\frac{6}{7} = \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7}$
5	Complete with a fraction that has denominator 2: $\frac{1}{2} + \frac{1}{2} = \underline{\hspace{1cm}}$	$\frac{2}{2}$
6	Complete: $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \underline{\hspace{1cm}}$	$\frac{1}{4}$

PART 2 • APPLY IT

- $\frac{4}{7} = \frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7}$** Four of 7 equal pieces are eaten, so the fraction is $\frac{4}{7}$. Each piece is $\frac{1}{7}$, so add four $\frac{1}{7}$ parts.
- $\frac{2}{3} = \frac{1}{3} + \frac{1}{3}$** The robot travels 2 of 3 equal sections, so it travels $\frac{2}{3}$. Each section is $\frac{1}{3}$, so add two $\frac{1}{3}$ parts.

CHALLENGE

No. $\frac{6}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = 1$, so it needs six $\frac{1}{6}$ parts.

Accept unit-fraction addends in any order. For problem 5, accept $\frac{2}{2}$ because the prompt specifically asks for a fraction with denominator 2; $\frac{2}{2}$ is also equal to 1.