LESSON MAKER PRO

Fraction Share Strategies

Use models, estimates, and checks to divide with unit fractions.

GRADE 5 · TEKS 5.3

5.3 "Number and operations. The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy..."

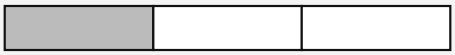
NAME _____ DATE _____

SPLIT OR COUNT PIECES

To divide a whole number by a unit fraction, count how many pieces of that size fit in the whole. To divide a unit fraction by a whole number, split that fraction into equal shares. Estimate first, then check by multiplying your answer by the divisor.

WORKED EXAMPLE

The fraction bar shows the length of one trail lap. A runner walks 4 miles. How many laps does the runner walk?

1/3 mile 

1. One mile has 3 thirds.
2. 4 miles has 4 × 3 = 12 thirds.
3. Check: 12 × 1/3 = 4.

Answer: 12 laps

PRACTICE 4 problems

1 A craft club has 5 yards of cord. Each bracelet needs 1/5 yard. Estimate, solve, and check.

ANSWER _____

2 A baker shares 1/2 cup of icing equally among 6 cookies. Estimate, solve, and check.

ANSWER _____

3 A garden has 7 liters of plant food. Each plant needs 1/7 liter. Estimate, solve, and check.

ANSWER _____

_____

4 A pet shelter shares 1/8 kilogram of treats equally between 2 puppies. Estimate, solve, and check.

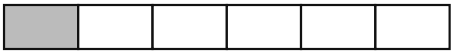
ANSWER _____

_____

APPLY IT Show your work

1 A design team has 9 yards of ribbon. The fraction bar shows the ribbon for one bookmark. Estimate, solve, and check how many bookmarks the team can make.

1/6 yard

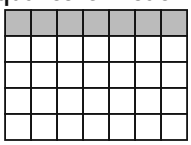


ANSWER _____

2 This rectangle is 1 pound of clay. Its shaded top row is 1/5 pound. Share only that shaded clay among 7 students. Circle one student's share. What fraction of the whole pound is it? Estimate, solve and check.

7 equal cells in each row

5 equal rows



ANSWER _____

CHALLENGE One step up

The bars show smoothie for a gaming event. Each sample cup holds 1/8 liter. How many full cups can be filled? Explain how the model helps.

1 liter



1 liter



1/2 liter



WORK SPACE AND ANSWER

ANSWER KEY

Fraction Share Strategies

GRADE 5 · TEKS 5.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A craft club has 5 yards of cord. Each bracelet needs 1/5 yard. Estimate, solve, and check.	**About 25; 25 bracelets**
2	A baker shares 1/2 cup of icing equally among 6 cookies. Estimate, solve, and check.	**About 1/10 cup; 1/12 cup per cookie**
3	A garden has 7 liters of plant food. Each plant needs 1/7 liter. Estimate, solve, and check.	**About 50; 49 plants**
4	A pet shelter shares 1/8 kilogram of treats equally between 2 puppies. Estimate, solve, and check.	**About 1/16 kilogram; 1/16 kilogram per puppy**

PART 2 · APPLY IT

1. **About 50; 54 bookmarks** Each yard contains 6 pieces of size 1/6. Multiply 9 × 6 to get 54, then check that 54 × 1/6 = 9.
2. **About 1/35 pound; 1/35 pound per student** The whole has 5 × 7 = 35 equal cells. The shaded fifth has 7 cells; each student gets 1 cell, or 1/35 pound. Check: 7 × 1/35 = 1/5.

CHALLENGE

20 cups; the model shows 2 1/2 liters, which equals 20 eighths.

Accept equivalent fraction forms, such as 2/24 for 1/12 if the student simplifies when asked for the final share. Accept reasonable benchmark estimates that are close to the exact amount.