LESSON MAKER PRO

Whole to Pieces

Use fraction bars to turn whole amounts into equal shares.

GRADE 5 · 5.NF.B.15.c

5.NF.B.15.c "Create a story context for a whole number divided by a unit fraction, and use a visual fraction model to show the quotient."

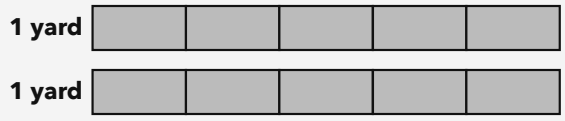
NAME _____ DATE _____

COUNT THE PIECES

To divide a whole number by a unit fraction, ask how many equal pieces of that size fit in the whole amount. A bar model can show one bar for each whole. Divide every bar into equal parts, then count all the parts.

WORKED EXAMPLE

The model shows ribbon for badges. Each badge needs 1/5 yard. How many badges can be made?

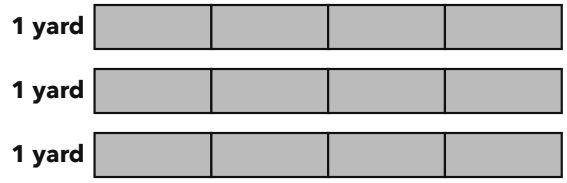


1. Count 2 whole yards in the model.
2. Each yard has 5 pieces that are 1/5 yard long.
3. Count 5 + 5 = 10 pieces.

Answer: 2 ÷ 1/5 = 10 badges

PRACTICE 6 problems

1 The model shows ribbon for wristbands. Each wristband needs 1/4 yard. How many wristbands can be made? Write a division equation.



ANSWER _____

2 The model shows paper for bookmarks. Each bookmark uses 1/3 sheet. How many bookmarks can be made? Write a division equation.

1 sheet 

1 sheet 

1 sheet 

1 sheet 

ANSWER _____

3 Write a short story that matches the model. Each share must be 1/6 of the whole. Give the quotient in a division equation.

1 whole 

ANSWER _____

4 The model shows tape for team flags. Each flag needs 1/7 roll. How many flags can be made? Write a division equation.

1 roll 

1 roll 

1 roll 

ANSWER _____

5 Write a story for 4 ÷ 1/8. Sketch equal-part bars to show the quotient, then write the answer.

ANSWER _____

6 The model shows a pan of brownies. Each serving is 1/9 of the pan. How many servings are there? Write a division equation.

1 pan 

ANSWER _____

APPLY IT Show your work

1 You have 3 yards of string for friendship bracelets. Each bracelet uses 1/9 yard. Draw a bar model and find how many bracelets you can make.

WORK SPACE

ANSWER _____

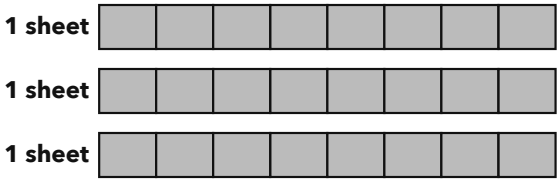
2 At game night, you have 4 liters of lemonade. Each cup holds 1/7 liter. Draw a bar model and find how many cups you can fill.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A classmate says the model shows 11 pieces because 3 + 8 = 11. Write a story about cutting sheets into pieces that are each 1/8 of a sheet. Explain why the classmate's answer is wrong.



WORK SPACE AND ANSWER

ANSWER KEY

Whole to Pieces

GRADE 5 · 5.NF.B.15.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The model shows ribbon for wristbands. Each wristband needs 1/4 yard. How many wristbands can be made? Write a division equation.	**3 ÷ 1/4 = 12 wristbands**
2	The model shows paper for bookmarks. Each bookmark uses 1/3 sheet. How many bookmarks can be made? Write a division equation.	**4 ÷ 1/3 = 12 bookmarks**
3	Write a short story that matches the model. Each share must be 1/6 of the whole. Give the quotient in a division equation.	**A pizza is cut into slices that are each 1/6 of the pizza. 1 ÷ 1/6 = 6 slices.**
4	The model shows tape for team flags. Each flag needs 1/7 roll. How many flags can be made? Write a division equation.	**3 ÷ 1/7 = 21 flags**
5	Write a story for 4 ÷ 1/8. Sketch equal-part bars to show the quotient, then write the answer.	**An artist cuts 4 sheets of paper into pieces that are each 1/8 of a sheet. Four bars with 8 equal parts each show 4 ÷ 1/8 = 32 pieces.**
6	The model shows a pan of brownies. Each serving is 1/9 of the pan. How many servings are there? Write a division equation.	**1 ÷ 1/9 = 9 servings**

PART 2 · APPLY IT

1. **3 ÷ 1/9 = 27 bracelets** Draw 3 bars, each divided into 9 equal parts. Count 27 parts.
2. **4 ÷ 1/7 = 28 cups** Draw 4 bars, each divided into 7 equal parts. Count 28 parts.

CHALLENGE

A class cuts 3 sheets of paper into pieces that are each 1/8 of a sheet. Each of the 3 bars has 8 parts, so 3 ÷ 1/8 = 24 pieces, not 11.

Accept other sensible stories with the correct whole amount, unit-fraction piece size, and quotient. Student-drawn models should show one bar per whole, with each bar divided into the number of equal parts named by the denominator.