



GRADE 4 SUPPLEMENT

Set B2 Algebra: Multiplication Comparisons & Equations

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Skills & Concepts

- ★ Interpret a multiplication equation as a comparison
- ★ Represent verbal statements of multiplicative comparisons as multiplication equations.

Bridges in Mathematics Grade 4 Supplement

Set B2 Algebra: Multiplication Comparisons & Equations

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Bridges in Mathematics is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at www.mathlearningcenter.org.

Set B2 ★ Activity 1



ACTIVITY

Farmer Worth's Crops Extension

Overview

After students complete Farmer Worth's Crops Student Book page invite them to interpret a multiplication equation as a comparison and a verbal statement of a comparison as an equation on a white board or journal page.

Skills & Concepts

- ★ Interpret a multiplication equation as a comparison (CCSS 4.OA.1)
- ★ Represent verbal statements of multiplicative comparisons as multiplication equations. (CCSS 4.OA.1)

You'll Need

- ★ *Once Upon a Dime* by Nancy Kelly Allen
- ★ Farmer Worth's Crops Student Book page 38
- ★ Whiteboards or journal page

Instructions for Farmer Worth's Crops Extension

1. Have students complete Farmer Worth's Crops Student Book page
2. Pose the following problems orally to the class. Ask students to write the comparison as a multiplication equation on a white board with markers or in a journal page. Do the first problem together.
 - a. \$5.00 is 100 times as much as 5 cents.
 - b. \$5.00 is also 5 times as much as 100 pennies.
 - c. \$10.00 is _____ times as much as 10 cents.
 - d. \$10.00 is also 10 times as much as _____.
 - e. \$25.00 is _____ times as much as 25 cents.
 - f. \$25.00 is also 25 times as much as _____
 - g. \$100 is _____ times as much as \$1
3. Invite students to share their equation and explain their reasoning with the class.

| PROBLEM | ANSWER | EQUATION |
|---|--------|------------------------------|
| a \$5.00 is 100 times as much as 5 cents. | | $100 \times 5¢ = \$5.00$ |
| b \$5.00 is also 5 times as much as 100 pennies | | $5 \times 100¢ = \$5.00$ |
| c \$10.00 is _____ times as much as 10 cents. | 100 | $100 \times 10¢ = \$10.00$ |
| d \$10.00 is also 10 times as much as _____ | \$1.00 | $10 \times \$1.00 = \10.00 |
| e \$25.00 is _____ times as much as 25 cents. | 100 | $100 \times 25¢ = \$25.00$ |
| f \$25.00 is also 25 times as much as _____ | \$1.00 | $25 \times \$1 = \25.00 |
| g \$100 is _____ times as much as \$1. | 100 | $100 \times \$1 = \100 |

Activity 1 Farmer Worth's Crops Extension (cont.)

4. Repeat steps 2 and 3 using the multiplicative comparisons with money listed below.

| PROBLEM | ANSWER | EQUATION |
|--|--------|-----------------------------|
| a \$15.00 is _____ times as much as \$5. | 3 | $3 \times \$5.00 = \15.00 |
| b \$15.00 is also 5 times as much as _____ | \$3.00 | $5 \times \$3.00 = \15.00 |
| c \$1.00 is _____ times as much as 25 cents. | 4 | $4 \times 25¢ = \$1.00$ |
| d \$1.00 is also 25 times as much as _____ | \$0.04 | $25 \times \$0.04 = \1.00 |
| e \$1.00 is _____ times as much as 20 cents. | 5 | $5 \times 20¢ = \$1.00$ |
| f \$1.00 is also 20 times as much as _____ | \$0.05 | $20 \times 5¢ = \$1.00$ |

**CHALLENGE**

Challenge students to write their own multiplicative comparison with money. Suggest they use international money (like Australian) that deals with dollars, or other currency like pounds/pesos. Students can locate necessary information on the internet. Have students share their problems and invite the class to write equations to solve them.

NAME _____

DATE _____

Set B2 ★ Independent Worksheet 1



INDEPENDENT WORKSHEET

Multiplication Comparisons & Equations

Choose at least 3 of the problems below to solve in your journal. Record each problem number then write an equation to show your work.

| | |
|--|--|
| | <p>1 Ben is three years old. His brother is four times older. How old is his brother?</p> |
| | <p>2 Anna's dad is 40. He is eight times her age. How old is Anna?</p> |
| | <p>3 Jose's puppy joined the family 3 months ago. His older dog has been with the family five times that long. How long has the older dog been with the family?</p> |
| | <p>4 Our class has recess for 15 minutes each day. The first graders have recess four times longer. How long do they have recess?</p> |
| | <p>5 Sally washes her hands for 10 seconds before lunchtime. I wash my hands 5 times longer. How long do I wash my hands?</p> |
| | <p>6 Rene has six times more baseball cards than Joey. If Joey has 4 cards, how many does Rene have?</p> |
| | <p>7 I collected 5 times as many pieces of candy from the piñata as Jolie. If she collected 7, how many did I get?</p> |
| | <p>8 Caleb takes six times longer to clean his room than it takes his friend, John. If it takes John ten minutes, how long does it take Caleb?</p> |

NAME _____

DATE _____

Set B2 ★ Independent Worksheet 2



INDEPENDENT WORKSHEET

Multiplication Comparisons with Coins

1 Write a multiplication equation for each problem. Then write a multiplicative comparison to show how much each group of coins is worth.

| Group of Coins | Multiplication Equation | Multiplicative Comparison |
|----------------------|-------------------------|------------------------------------|
| ex 5 nickels | $5 \times 5¢ = 25¢$ | 25¢ is 5 times as much as a nickel |
| a 15 nickels | | |
| b 20 dimes | | |
| c 30 dimes | | |
| d 8 quarters | | |
| e 12 quarters | | |
| f 17 quarters | | |



CHALLENGE

2 Write your own problem. Tell what coin is used and how many coins are in the group. Write a multiplication equation and multiplicative comparison.

