

➤ Algebra/Geometry Institute Summer 2005



Lesson Plan 1: Whole numbers, Fractions, and Decimals

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Grade Level: 5th

1 Teaching objective(s)

Mississippi Framework-Grade 5

The students will express remainders as whole numbers, fractions, and decimals.

2 Instructional Activities

➤ The teacher explains: When dividing whole numbers, you must think about which way to express the remainder, when there is one.

➤ **Example 1:**

Fifty-three bananas are to be divided among 25 brown bag lunches. Are there any bananas left? What do we call this number?

Example 2:

We ordered 6 pizzas and four children will share the pizza. How much pizza will each child get? Will each child get a whole pizza? Will each child get a part of another pizza? What part of the other pizza will each child get? What is this number called?

$$\begin{array}{r} 1 \\ 4 \overline{)6} \\ \underline{-4} \\ 2 \end{array}$$

➤ **Example 3:**

You have \$55 and 25 children who have to each lunch. How much can you spend on each child's lunch. Each will get \$2 and we had \$5 left over. We wanted to share the five dollars among the 25 children.

$$\begin{array}{r} 2 \\ 25 \overline{)55} \\ \underline{-50} \\ 5 \end{array} \qquad \begin{array}{r} .20 \\ 25 \overline{)5.00} \\ \underline{-0} \\ 50 \\ \underline{-50} \\ 0 \end{array}$$

How much of the \$5 will each child get? 20 cents

- The teacher will tell the students to go back to example 1:
We have expressed the number as a whole number with a remainder. Can it be expressed as a fraction, if so how? Can it be expressed as a decimal, if so how?
- The teacher ask the students to refer back to example 2: We have expressed the number as a fraction, can it be expressed as a whole number with a remainder and if so how?
- The teacher will ask the students to go back to example 3. We have written the number as a decimal. Can it be written as a whole number with a remainder, if so, how? Can it be written as a fraction, if so how?
- The teacher will define whole numbers, fractions, decimals, and the remainder. The teacher will tell students that whole numbers are the numbers in the set beginning with (0, 1, 2, 3, . .). A fraction is a number that names part of a whole. A decimal is a number with one or more digits to the right of a decimal point. A remainder is the number that is left after dividing.
- The teacher will show the students three ways to express a remainder given the problem:

- As a whole number:

$$\begin{array}{r}
 6 \\
 4 \overline{)27} \\
 \underline{-24} \\
 3
 \end{array}
 \quad \text{Answer is 6 R 3.}$$

- As a fraction:

$$\begin{array}{r}
 6 \\
 4 \overline{)27} \\
 \underline{-24} \\
 3
 \end{array}
 \quad \text{Answer is } 6\frac{3}{4}.$$

- As a decimal:

$$\begin{array}{r}
 6.75 \\
 4 \overline{)27.00} \\
 \underline{-24} \\
 30 \\
 \underline{-28} \\
 20 \\
 \underline{-20} \\
 0
 \end{array}
 \quad \text{Answer is 6.75}$$

- The teacher will continue the lesson through activities for the class. The students will be placed in groups of fours. Each group receives one spinner and a bag of 100 counters.

Materials: counters, bag, and spinner: (labeled: fraction, whole number, decimal)

1. One student spins the spinner, takes a handful of counters from the bag, divides the counters equally among group members, and expresses the remainder if there is one in the form specified by the spinner.
 2. The activity continues until each student has had a turn
 3. The teacher will ask the students to write the answers to these problems as a whole number with a remainder, as a fraction, and as a decimal. The students will write problems on dry eraser board after they complete it on their paper.
- Teacher says: We are going to do problem solving representing remainders.
Teacher explains: When dividing whole numbers, you must think about which way to express the remainder.

1. $8 \overline{)25}$

2. $5 \overline{)33}$

3. $3 \overline{)365}$

4. $6 \overline{)41}$

5. $2 \overline{)142}$

6. $7 \overline{)710}$

3. Materials and Resources

Textbook: Silver Burdett Ginn Mathematics:
The Path to Math Success: Copyright 2001

Counters

Bag

Spinner (labeled: fraction, whole number, decimal)

Dry eraser board

Markers

Paper

Pencil

4. Assessment

-Teacher will observe students working problems

-Teacher will call students to go to the board

-Teacher will give student a worksheet to complete and receive a grade. See Attachment

