Unit 4, Lesson 5

Compare and Order Decimals in Different Notations

Let's put decimals in order.

Warm-up

Number Talk: Sums of Fractions

Find the value of each expression mentally.

- $\frac{5}{10} + \frac{50}{100}$

- $\frac{5}{10} + \frac{55}{100}$

- $\frac{6}{10} + \frac{50}{100}$

- $\frac{6}{10} + \frac{65}{100}$

Activity 1

Order Once, Order Twice

Your teacher will give you a set of cards with numbers written as fractions and in decimal notation.

1. Work with your group to order the numbers from least to greatest. Record the numbers in order.

2. Find a group whose cards are different from yours. Combine your cards with their cards. Order the combined set from least to greatest. Record the numbers in order.

3. Use the numbers from your sorted set and >, <, or = symbols to create true comparison statements:

   a. _____ < _____

   b. _____ > _____

   c. _____ < _____

   d. _____ > _____

Activity 2

Long Jumps

American athlete Carl Lewis won 10 Olympic medals and 10 World Championships in track and field— 100-meter dash, 200-meter dash, and long jump.

Here are some long jump records from his career.

year	distance (meters)
1979	8.13
1980	8.35
1982	8.7
1983	8.79
1984	8.24
1987	8.6
1991	8.87



1. On this list, which distance is his shortest jump? Which is his longest jump?

2. Here are the top distances, in meters, of 3 other American long jumpers.

   - Bob Beamon: $8\frac{9}{10}$
   - Jarrion Lawson: $8\frac{58}{100}$
   - Mike Powell: $8\frac{95}{100}$

   Compare their records to Carl Lewis's longest jump. Order the distances from greatest to least.

Section A Summary

We learned to express tenths and hundredths in **decimal notation**, locate them on a number line, and compare them.

We learned $\frac{1}{10}$ written in decimal notation is 0.1, and that this number is read "1 tenth." We also learned $\frac{1}{100}$ written in **decimal notation** is 0.01 and is read "1 hundredth."

The table shows some more examples of tenths and hundredths in decimal notation.

- Because $\frac{5}{10}$ and $\frac{50}{100}$ are equivalent, 0.5 and 0.50 are also equivalent.
- Likewise, $\frac{17}{10}$ and $\frac{170}{100}$ are equivalent, so 1.7 and 1.70 are also equivalent.

fraction	decimal notation
$\frac{4}{100}$	0.04
$\frac{23}{100}$	0.23
$\frac{5}{10}$	0.5
$\frac{50}{100}$	0.50
$\frac{17}{10}$	1.7
$\frac{170}{100}$	1.70

Numbers in decimal notation can be located on a number line to help compare them.

Example:

The decimal 0.24 is equivalent to $\frac{24}{100}$, which is between $\frac{20}{100}$ and $\frac{30}{100}$ (or between $\frac{2}{10}$ and $\frac{3}{10}$) on the number line. We can see 0.24 is greater than 0.08 and less than 0.61.

