

# 4th Grade Math: Comparing Decimals

## Lesson Objective:

By the end of this lesson, students will be able to:

- Understand how to compare decimals up to the hundredths place.
  - Use place value charts to compare decimals.
  - Use greater than ( $>$ ), less than ( $<$ ), and equal to ( $=$ ) symbols to compare decimals.
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## 1. Introduction to Comparing Decimals

### What Are Decimals?

- Decimals represent parts of a whole and are written using a decimal point. The digits after the decimal point represent values less than 1.

### Decimal Places:

- The first digit to the right of the decimal point is the **tenths place**.
- The second digit is the **hundredths place**.

For example, in the number 0.34:

- The 3 is in the tenths place.
- The 4 is in the hundredths place.

### Why Compare Decimals?

- We compare decimals to find out which numbers are larger, smaller, or if they are equal. This is useful in everyday situations like comparing prices, distances, or measurements.
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## 2. Place Value and Comparing Decimals

**Place Value Chart:** One way to compare decimals is by looking at each place value.

Whole Numbers	Decimal Point	Tenths	Hundredths
4	.	3	2

For example:

- Compare 0.34 and 0.42.
  - Start with the tenths place: 0.34 has a 3 in the tenths place, and 0.42 has a 4.
  - Since  $3 < 4$ , we know that  $0.34 < 0.42$ .

### Steps for Comparing Decimals:

1. **Line up the decimal points.**
2. **Compare the digits in the tenths place.** The larger digit in the tenths place will determine which number is greater.
3. **If the tenths are the same, compare the hundredths place.**
4. Use the symbols:
  - Greater than:  $>$
  - Less than:  $<$
  - Equal to:  $=$

## 3. Examples of Comparing Decimals

**Example 1:** Compare 0.56 and 0.53.

- Tenths: Both numbers have 5 in the tenths place, so we compare the hundredths place.
- Hundredths: 0.56 has a 6 and 0.53 has a 3.
- Since  $6 > 3$ , we know that  $0.56 > 0.53$ .

**Example 2:** Compare 0.79 and 0.8.

- Tenths: 0.79 has a 7, and 0.8 has an 8.
- Since  $7 < 8$ , we know that  $0.79 < 0.8$  (remember that 0.8 is the same as 0.80).

## 4. Real-World Applications of Comparing Decimals

**Example 1: Comparing Prices** If you have two prices, \$2.35 and \$2.29, which one is cheaper?

- Tenths: Both prices have a 2 in the tenths place.
- Hundredths: 35 is greater than 29, so  $\$2.35 > \$2.29$ . Therefore, \$2.29 is cheaper.

**Example 2: Comparing Distances** You and a friend run a race. You run 0.78 miles, and your friend runs 0.82 miles. Who ran farther?

- Compare 0.78 and 0.82.
- Tenths:  $7 < 8$ , so your friend ran farther with 0.82 miles.

## 5. Practice Problems

1. Compare the following decimals using  $<$ ,  $>$ , or  $=$ :

- $0.64$  \_\_\_  $0.59$
- $0.83$  \_\_\_  $0.80$
- $0.45$  \_\_\_  $0.45$

2. Order the decimals from least to greatest:

- $0.75, 0.67, 0.84, 0.72$

3. Write true or false:

- $0.92 > 0.93$
- $0.68 < 0.71$

## 6. Class Discussion

- **Where do we compare decimals in the real world?**
  - Examples: Money (dollars and cents), measuring ingredients, comparing lengths or distances.

## 7. Review and Wrap-Up

- **Key Points:**
  - Compare the tenths place first.
  - If the tenths are the same, compare the hundredths place.
  - Use the  $<$ ,  $>$ , or  $=$  symbols to show the relationship between two decimals.

**Exit Question:** Compare  $0.37$  and  $0.39$ . Which is greater and why?