

## G5 Playlist: Compare Decimals to Thousandths

Aligns with *CCSS.MATH.CONTENT.5.NBT.A.3.b*: Compare two decimals to thousandths based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.

### Related Standards

- 5.NBT.A.3.a: Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g.,  $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .
- 4.NBT.A.2: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.



## Objectives

In this module, you will learn and practice the following skills:

- Compare decimals to thousandths
- Properly use greater than ( $>$ ), equal to ( $=$ ), and less than ( $<$ ) symbols

Let's get started!

## Key Terms

- The **tenths** place is the digit just to the right of the decimal.
- The **hundredths** is just to the right of the tenths place and two places to the right of the decimal.
- The **thousandths** is just to the right of the hundredths place and three places to the right of the decimal.
- **Place value** is the value of where a digit is in a number.



## Welcome

You can compare decimals using **place value**. You are now going to learn how to compare decimals to **thousandths**.

Which symbol correctly compares these two decimals?

$$49.863 \square 49.795$$

To compare decimals, you need to understand the how to compare the values of the digits in each place.

## Watch!

For a quick overview of comparing decimals to thousandths, watch this video:

- <https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/v/comparing-decimals-4>

## Focus: Understanding Place Value in Decimals

Place value follows the same order in all numbers, including decimals. As you move to the right of the decimal, the value of the digit in each place decreases. Regardless of the digit that appears, a place value to the left has a greater value.

In the number 194.738, the “3” in the **hundredths** place, has a greater value than the “8” in the thousandths place because the “3” appears to the left and has a greater place value. Following the same rule, the “7” in the **tenths** place has a greater value than the “3”.

### Answers

The “>” symbol correctly compares the two decimals. Moving from left to right, the first difference you see is in the tenths place. The first decimal has a larger digit in the tenths place, so it is greater than the decimal on the right side.

Since place values decrease as you move to the right, the difference in the tenths place determines the greater decimal when comparing these two decimals.

## Watch!

For a quick overview of understanding place value in decimals, watch this video:

- <https://www.opened.com/video/reading-and-writing-decimals/5527824>

Now that you understand place value in decimals, can you explain why these two decimals are not correctly compared?

$$948.264 < 948.175$$

To find the answer, you need to understand how to compare decimals using place value.



**Explore**

You can use place value to determine if a decimal is greater than, less than, or equal to another decimal. You can use symbols ( $>$ ,  $<$ ,  $=$ ) to show how the two decimals compare.

Let's look at the decimals compared at the end of the last section.

$$948.264 < 948.175$$

Is 948.264 less than 948.175?

No, 948.264 is NOT less than 948.175 because the value of the digit in the tenths place in the first decimal is greater than the digit in the tenths place of the second decimal.

Moving from left to right, the digits are equal in both decimals until you get to the tenths place. Since "2" is greater than "1", you can tell that the decimal on the left is greater than, not less than, the decimal on the right.

Even though the digits in the hundredths and thousandths places are greater in the decimal on the right, their place values are less than the tenths place, so their values do not determine which decimal is greater than or less than the other.

**Watch!**

For more information about comparing decimals to thousandths, watch these videos:

- <https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/v/comparing-decimals-2-example>
- <https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/v/ordering-decimals-example>
- <https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/v/another-ordering-decimals-example>
- <https://www.youtube.com/watch?v=NdKcVVJM0vo>

**Practice!**

You can practice comparing decimals to thousandths by completing these activities:

- [https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/e/comparing\\_decimals\\_2](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/e/comparing_decimals_2)
- [https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/e/ordering\\_decimals](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-place-value-decimals-top/cc-5th-comparing-decimals/e/ordering_decimals)

