

Grade 4 - Place Value to One Million - Lesson

Common Core 4.NBT.A.1, 4.NBT.A.2 · maths-pdf.fr/en/

Place value tells how much a digit is worth based on where it sits in a number. Each digit is worth ten times the digit to its right. In 305,718, the 5 is in the thousands place, so it means 5,000. You can write numbers up to 1,000,000 three ways and compare them with $<$, $>$, or $=$.

Grade 4 · Common Core State Standards: **4.NBT.A.1, 4.NBT.A.2**

Key facts

- A digit in any place is worth 10 times the same digit one place to its right.
- Places from the right: ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions.
- Expanded form adds the value of each digit: $4,203 = 4,000 + 200 + 3$.
- Compare numbers from the left, place by place, and use the symbols $<$, $>$, or $=$.
- 1,000,000 is ten times as much as 100,000.

What is place value?

Every digit has a job, and its job depends on where it sits in the number. The same digit can be worth a little or a lot.

Place value

The **place value** of a digit is the worth that comes from its position. Digits are grouped in periods of three: ones, thousands, and millions.

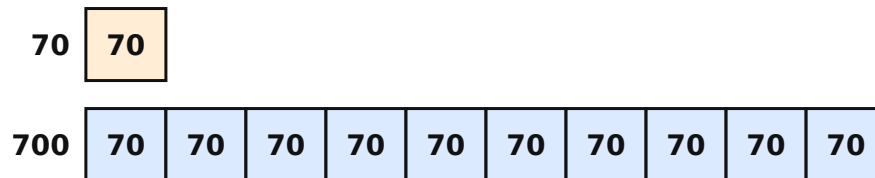
Thousands			Ones		
hundreds	tens	ones	hundreds	tens	ones
3	0	5	7	1	8

The digit 5 sits in the thousands place of 305,718, so it is worth 5,000.

In 305,718 the digit 5 is in the thousands place. It stands for 5,000, not for 5.

Why is a digit worth ten times the digit to its right?

Moving one place to the left makes a digit ten times as large. Ten tens make one hundred, and ten hundreds make one thousand.



Ten bars of 70 make one bar of 700. The 7 in 700 is worth ten times the 7 in 70.

So $700 = 10 \times 70$, and $7,000 = 10 \times 700$.

How do you write a number in three ways?

Form	Example
Standard form	305,718
Word form	three hundred five thousand, seven hundred eighteen
Expanded form	$300,000 + 5,000 + 700 + 10 + 8$

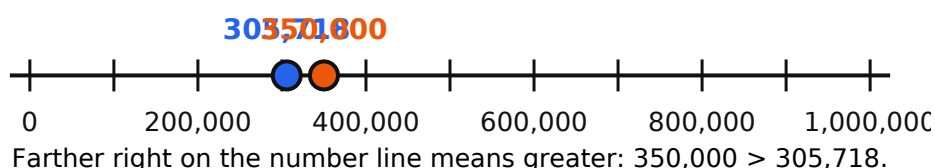


Expanded form of 305,718 adds the value of each digit.

Zeros matter. In 40,005 the thousands, hundreds, and tens places hold 0, so they add nothing to expanded form: $40,000 + 5$. Always keep the 0s in standard form, because they hold the other digits in the correct places. Say each period out loud, such as "forty thousand, five," to write the word form.

How do you compare two numbers?

Use the symbols $<$, $>$, and $=$. The open side of the symbol faces the greater number.



A number with more digits is always greater when it has no leading zeros. So a six-digit number beats any five-digit number. When two numbers have the same number of digits, use the steps below.

1. Line up the digits by place value.
2. Start at the left and find the first place where the digits differ.
3. The number with the greater digit in that place is greater.

Example: Compare 48,305 and 48,350. The digits match in the ten thousands, thousands, and hundreds places. In the tens place, 0 is less than 5, so $48,305 < 48,350$.

Questions about place value to one million

What is the value of a digit?

The value of a digit is the digit times its place. In 6,482 the 4 is in the hundreds place, so its value is 400.

How many times greater is a digit one place to the left?

It is 10 times greater. For example, the 3 in 30 is worth ten times the 3 in 3, and the 3 in 300 is worth ten times the 3 in 30.

How do you write a number in word form?

Say the number in each period and add the period name. The number 52,014 is written fifty-two thousand, fourteen. Use hyphens for 21 through 99.

What does expanded form mean?

Expanded form shows a number as a sum of the value of each digit. The number 8,060 in expanded form is $8,000 + 60$.

Which symbol do you use to compare numbers?

Use $>$ when the first number is greater, $<$ when it is less, and $=$ when the numbers are the same. The symbol opens toward the greater number.