

* 1.1. Exploring large numbers

The world's all-time best-selling copyright book is Guinness World Records.

From October 1955 to June 2002,
94 767 083 copies were sold.

Suppose the number is written in this
place-value chart. Where will the digits
9 and 4 appear?



Hundred Millions	Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

These patterns in the place-value system may help you read and write large whole numbers.

From right to left, each group of 3 place values is called a period.

Within each period, the digits of a number are read as hundreds, tens, and ones.

- Each position represents ten times as many as the position to its right, for example, 2 hundreds = 20 tens and 4 ten thousands = 40 thousands.

This place-value chart shows the number of items in the world's largest collection of matchbook covers, 3 159 119.

Millions Period			Thousands Period			Units Period		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
		3	1	5	9	1	1	9
		↑	↑	↑	↑	↑	↑	↑
		3 000 000	100 000	50 000	9000	100	10	9

We read this number as:

three million one hundred fifty-nine thousand one hundred nineteen.

When we read large numbers, we say the period name after each period except the units period.



We leave a space between the periods when we write a number with 5 or more digits.

We can write this number in:

-  standard form: 3 159 119
-  expanded form: 3 000 000 + 100 000 + 50 000 + 9 000 + 100 + 10 + 9
-  number-word form: 3 million 159 thousand 119

The place-value chart can be extended to the left to show greater whole numbers.

One thousand million is one billion.
One thousand billion is one trillion.

This place-value chart shows the approximate number of cells in the human body.

Trillions			Billions			Millions			Thousands			Units		
H	T	O	H	T	O	H	T	O	H	T	O	H	T	O
	5	0	0	0	0	1	0	0	0	0	0	0	0	0

We write: 50 000 100 000 000

We say: fifty trillion one hundred million.

