

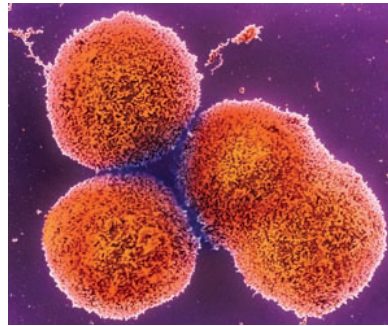
- The place-value chart can be extended to the left to show greater whole numbers. This place-value chart shows the approximate number of cells in the human body.

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

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



Practice

- Write each number in standard form.
 - $20\,000\,000 + 4\,000\,000 + 300\,000 + 40\,000 + 2000 + 500 + 80 + 4$
 - 6 million 276 thousand 89
 - two billion four hundred sixty million sixty-nine thousand eighteen
- How many times as great as one thousand is one million?
Use a calculator to check your answer.
- Write each number in expanded form.
 - 75 308 403
 - 64 308 470 204
 - 99 300 327
- Write the value of each underlined digit.
 - 627 384
 - 54 286 473
 - 41 962 014
 - 25 041 304 000
- Write the number that is:
 - 10 000 more than 881 462
 - 100 000 less than 2 183 486
 - 1 000 000 more than 746 000
 - one million less than 624 327 207

Tell how you know.
- China is the most populated country in the world. In 2007, it had an estimated population of one billion three hundred twenty-one million eight hundred fifty-one thousand eight hundred eighty-eight.
Write this number in standard form and in expanded form.

7. The largest known prehistoric insect is a species of dragonfly.
It lived about 280 000 000 years ago.
Write this number in words.



8. North America's largest shopping centre is in Edmonton, Alberta.
It covers an area of 492 386 m² and cost about \$1 200 000 000 to build.
Write these numbers in a place-value chart.



9. A student read 3 000 146 as “three thousand one hundred forty-six.”
How would you explain the student's error?
10. I am a number between 7 000 000 and 8 000 000.
All my digits are odd.
All the digits in my thousands period are the same.
All the digits in my units period are the same.
The sum of all my digits is 31.
What number am I?
Give as many answers as you can.
What strategies did you use to find the mystery number?
11. In November, 2005, six-year-old Brianna Hunt found a fossilized squid near her home on the Blood Reserve, outside Lethbridge, Alberta.
The fossil is believed to be about 73 million years old.
Write this number in standard form.



12. The table shows estimates of the populations of some cities in 2015.
Order the cities from least to greatest expected population.

City	Expected Population in 2015
Dhaka (Bangladesh)	22 766 000
Mumbai (India)	22 577 000
Tokyo (Japan)	27 190 000



13. Explain the meaning of each 6 in the number 763 465 284 132.
14. Describe three examples where large numbers are used outside the classroom.
15. How do the patterns in the place-value system help you to read and write large numbers?

Math Link

Number Sense

A googol is a number represented by 1 followed by 100 zeros.
The word *googol* was created in 1920 by an American mathematician, Edward Kasner, on the basis of his 9-year-old nephew's word for a very large number.



Reflect

What patterns are there in a place-value chart?
How can you use these patterns to read a number such as 5 487 302?

At Home

Search the Internet, or look through magazines.
Find examples where large numbers are used.
How are the numbers written?

