

LESSON ORGANIZER

40–50 min

Curriculum Focus: Read and write whole numbers up to and greater than one million. (6N1)

Teacher Materials

- *Guinness World Records* (optional)
- place-value charts copied onto overhead transparency

Student Materials *Optional*

- place-value charts
- 3-column charts (PM 20)
- calculators
- Step-by-Step 1 (Master 2.15)
- Extra Practice 1 (Master 2.25)

Vocabulary: period, billion, trillion

Assessment: Master 2.2 Ongoing Observations:
Understanding Number

Key Math Learnings

1. Large numbers are organized into groups of three place values. Each group is called a period.
2. Within each period, the digits are read as hundreds, tens, and ones.
3. When we read large numbers, we say the period name after each period except the units period.
4. When we write a number with five or more digits, we leave a space between the periods.



Warm up Grade 6

Date: Sept. 12



a) List the following integers from least to greatest

-7, +8, 0, +5, -9, -1, +2

neg → +
 -9, -7, -1, 0, +2, +5, +8
owe the most \$

no sign means +

b) Place < , > or = into the _____

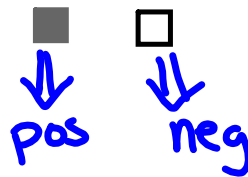
i) $-3 < +2$

ii) $0 > -5$

iii) $-4 > -7$

iv) $3 = +3$

c) Use tiles to represent +4



answer
↓
— 5.

Homework Solutions

Sheet Solutions

click the link

- 7a) $5 < 10$
 b) $-5 > -10$
 c) $+5 = 5$
 f) $10 > -11$

- least \rightarrow greatest
 9a) $+5, -5, +4, +2, -2$
 Ans: $-5, -2, +2, +4, +5$
 9c) $+41, -39, -41, -15, -25$
 $-41, -39, -25, -15, 41$

- Greatest \rightarrow Least
 10 a) $-7, +8, -9, +10, -11$
 $+10, +8, -7, -9, -11$

- b) $-18, +16, -11, -4, +6$
 $+16, +6, -4, -11, -18$

- c) $0, +1, +2, -1, -2$
 $+2, +1, 0, -1, -2$

- d) $+14, -25, -30, +3, -10$
 $+14, +3, -10, -25, -30$

- 11) Lethbridge -16°C
 La Ronge -27°C
 Hay River -29°C ← coldest (most -)
 Campbell River 0°C ← warmest
 Igloodit -29°C ← coldest (most -)
 Dawson City -26°C
 Prince George -6°C
 Ste. Rose du lac -17°C

- 12a) $-3, +2, -7, -5$ (who is $>$ than -6)
 Reorder from least \rightarrow greatest
 $-7, -5, -3, +2$
 -6 larger

- 12b) $+2, -11, +3, -2, -4$ (who is $<$ than -3)
 How do you know
 Reorder Least \rightarrow Greatest
 $-11, -4, -2, +2, +3$
 -3 less than

LESSON

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
	9	4	7	6	7	0	8	3

What do you notice about the place value chart?

Explore



Here are some of the world records reported in the *Guinness World Records 2008*.

two hundred seven thousands eight hundred sixty

- The largest bag of cookies was made in Veenendaal, Netherlands. It contained 207 860 cookies.
- The greatest attendance at an Olympic Games was 5 797 923, in Los Angeles in 1984.
- The most dominoes toppled by a group was 4 079 381, out of a possible 4 400 000. This took place at Domino Day 2006 in Leeuwarden, Netherlands.
- The longest gum-wrapper chain contains 1 192 492 wrappers. The maker of the chain has been working on it since 1965.



- Take turns reading the records aloud.
- Each of you chooses 2 numbers from the records. Show each number in as many ways as you can.

* pass out 3 column chart (You will add to it, in a bit)

Place Value charts


*help you read and write large numbers

*chart is grouped into 3 place values from left to right called periods

*Within each period, the digits are read using hundreds, tens and ones

(Same as last year)

Millions Period			Thousands Period			Units Period		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
	5	1	2	0	7	8	9	2



read this as

fifty one million two hundred seven thousands eight hundred ninety two

Fun fact

Net worth is used when talking about the value of a company or in personal finance for individual's net economic position.

Net worth of Celebrities



Justin Bieber · Net worth

\$265 million USD
(2017) 265 000 000

350 450 000



Taylor Swift

\$320 million USD (2018)



Miley Cyrus

\$160 million USD (2017)



Selena Gomez

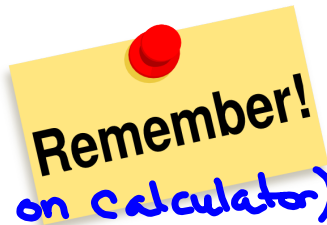
\$60 million USD (2017)



Ariana Grande

\$50 million USD (2018)

From last year



You wrote numbers in

Standard form: 623 175 (# seen on calculator)

Expanded form: 600 000 + 20 000 + 3 000 + 100 + 70 + 5

Number-word form: 6 hundred 23 thousand 175 period names

Written: six hundred twenty three thousand one hundred seventy five

Try doing the expanded and number-word form for 42 054 321



expanded form:


40 000 000 + 2 000 000 + 50 000 + 4000 + 300
+ 20 + 1

Number word

42 million 54 thousand 321

word form

Forty-two million Fifty-four thousand
three hundred twenty-one



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

We can write this number in:

- standard form: 3 159 119
- expanded form: $3\,000\,000 + 100\,000 + 50\,000 + 9000 + 100 + 10 + 9$
- number-word form: 3 million 159 thousand 119

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

Remember we are talking about numbers....

So as numbers get bigger, we have to extend the place value chart to the left.

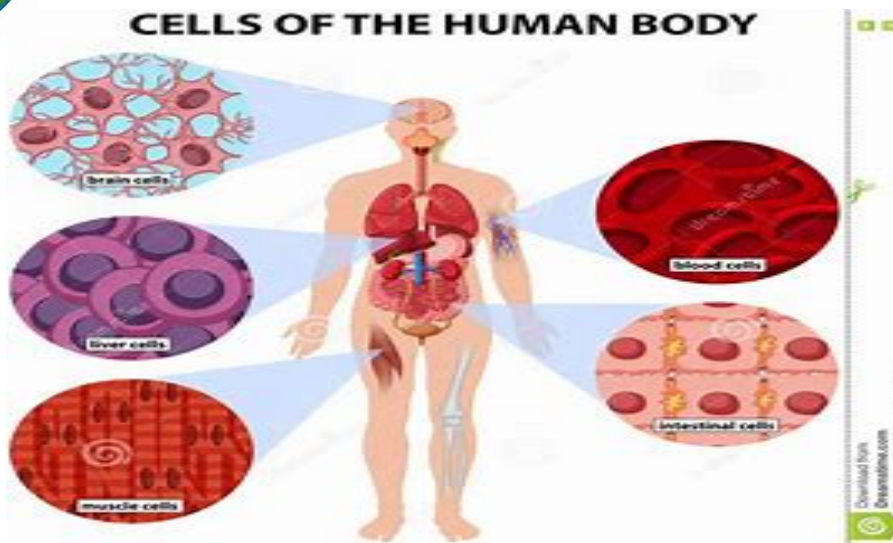
Copy the chart or add to the existing chart

Trillions			Billions			Millions			Thousands			Units		
H	T	O	H	T	O	H	T	O	H	T	O	H	T	O

Population of Africa 1 288 675 321
NOT THE MOST POPULATED EITHER
World Population (approximate) 7 000 000 000



Trillions can be used to represent the number of cells in our body



Let's try together

#1) Write the following in standard form

a) $60\,000\,000\,000 + 50\,000\,000 + 1\,000\,000 + 2\,000 + 700 + 50 + 4$

60 051 002 754

b) 26 million 347 thousands 3

26 347 003
 ↑ million ↑ thousand

c) nine billion three hundred forty-two million sixty-three thousand twenty

9 342 063 020

d) 1.6 billion

1 600 060 000

Let's try together

#2) Write the following in expanded form

a) 526 647 023

$$500\,000\,000 + 20\,000\,000 + 600\,000 + 40\,000 + 7000 + 20 + 3$$

b) 45 506 420 000

$$40\,000\,000\,000 + 5\,000\,000\,000 + 500\,000\,000 + 6\,000\,000 + 400\,000 + 20\,000$$

#3) a) Write the number that is 1 000 000 more than 863 000 (Show work or explain how you know)

$$\begin{array}{r} 1\,000\,000 \\ + 863\,000 \\ \hline 1\,863\,000 \end{array}$$

#3) b) Write the number that is 10 000 less than 63 625 301 (Show work or explain how you know)

$$\begin{array}{r} 63\,625\,301 \\ - 10\,000 \\ \hline 63\,615\,301 \end{array}$$

Integer questions for practice Solutions.notebook