



Alberta Math Education Curriculum Component: NUMBER Unit

Chapter 2: Numeration

General Outcome:

→ Develop number sense.

Students will able to:

- represent and describe numbers to billions in a variety of ways
- solve problems that involve large numbers and communicate solutions
- represent and describe decimals that have more than three decimal places
- compare and order whole numbers and decimal

Alberta Math Education Specific Concept (learning outcome): 1 and 2.

Classroom assessment is generally divided into three types: assessment *for* learning (Diagnostic Assessment: D), assessment *of* learning (Summative Assessment: S), assessment *as* learning (F).

→ For lesson **extra practice**, please visit:

<http://www.nelson.com/mathfocus/grade6/student/tryout.html>

Lesson Outline:

Lesson	Textbook Lesson Title	Learning Goals	Task **	Done
1	2.1- Representing Numbers in the Millions	Represent and describe numbers in the millions using a place value chart. → Materials: a place value chart	Scaffolding for Getting Started (D) <input type="checkbox"/> HW: Workbook (pg. 8) (F) → On line: Extra Practice	
2	2.3- Solving Problems That Involve Large Numbers	Solve problems and check solutions by estimating. → Materials: a calculator and a place value chart	<input type="checkbox"/> HW: Workbook (pg. 10) (F) → On line: Extra Practice	
3	2.4- Renaming Numbers	Use decimals to represent numbers greater than one million. → Materials: a place value chart	<input type="checkbox"/> HW: Workbook (pg. 11) (F) → On line: Extra Practice	
4	2.5- Communicating about Large Numbers	Explain your thinking when creating and solving a problem. → Materials: a calculator	<input type="checkbox"/> HW: Workbook (pg. 12) (F) → On line: Extra Practice	
5	Mid-Chapter Review	Preparation for the quiz: Quiz Date: __ / __ / __ (mm/dd/yyyy)	<input type="checkbox"/> Textbook: Pg 53 # 1-5 (DOSO on letter) (F)	
6	2.6- Representing Millionths	Use a place value chart to represent decimals less than thousandths. → Materials: a decimal place value chart	<input type="checkbox"/> HW: Workbook (pg. 13) (F) → On line: Extra Practice	
7	2.8- Using Decimals	Use a place value chart to represent and compare decimals less than one thousandth. → Materials: a decimal place value chart to millionths	<input type="checkbox"/> HW: Workbook (pg. 15) (F) → On line: Extra Practice	
8	Chapter Review	Preparation for the test: Test Date: __ / __ / __ (mm/dd/yyyy)	<input type="checkbox"/> Textbook: (F) → Pg. 63-64 (Q1 to Q8: DOSO on letter) → Workbook (pg. 16) <input type="checkbox"/> Handout: (S) → Chapter 2: Journal Questions → Chapter 2: Self-Assessment: Lesson Goals → Review of Essential Skills: Chapter 2	

Here are some of the *Key Words* that are being used in this chapter:

*product

*period

*standard form

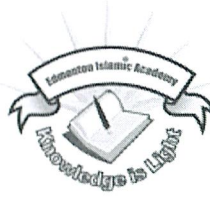
*billion

**** If the class work is not completed during class time, must be done for homework.**

I have read and went over this "Number -Unit 1 Plan (Chapter 2)" with my child. JazakAllahu khayran

Parent/Guardian name (print)-----
Parent/Guardian signature

--/--/---- (dd/mm/yyyy)



Address: 14525 127 ST, Edmonton, AB T6V 0B3 Phone: (780) 454-4573

RE: Chapter 2- Numeration Information Letter

As-salaamu Alaikum Wa Rahmatu Allahi Wa Barakaatuhu, ("Peace be unto you and so may the mercy of Allah and His blessings"),

Dear Respected Parents and Guardians of Grade 6:

Over the next two to three weeks, your child will be learning about numbers to billions and decimals with more than three decimal places. Your child will solve problems and communicate solutions to problems that involve these very large and very small numbers.

To reinforce the concepts your child is learning at school, you and your child can work on some at-home activities such as these:

- With your child, read through newspapers or magazines to find numbers in the millions. You might find these types of numbers in a science article or an article about populations. Practice reading the numbers and explaining what each digit represents with your child.
- Use a calculator to explore multiplying three-digit and four-digit whole numbers. Have your child read the number on the display. Determine the maximum number of digits that your calculator can show.
- Play a game in which you use dice or playing cards to randomly create six-digit whole numbers. Take turns creating numbers and then decide who has created the greater number.

You may want to visit the Nelson website at

<http://www.nelson.com/mathfocus/grade6/student/tryout.html>

for more suggestions to help your child learn mathematics and develop a positive attitude toward learning mathematics. As well, you can check the Nelson website for links to other websites that provide online tutorials, math problems, brainteasers, and challenges.

Sincerely,

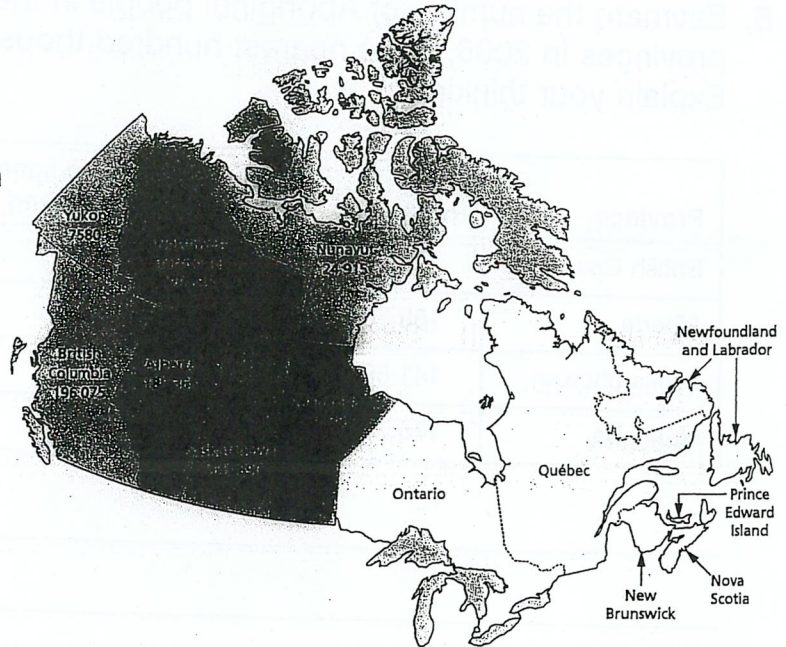
Mustafizur Rahman, **ATA, OPC, OCT**
Ed.D (candidate), **MEd, BEd, BSc**

Scaffolding for Getting Started Page 1

STUDENT BOOK PAGES 34-35

Estimating Populations

The Aboriginal population of Canada includes First Nations, Métis, and Inuit people. In 2006, the Aboriginal population was more than one million. The map shows the number of Aboriginal people living in the Western provinces and Northern territories.



? About how many Aboriginal people were living in the Western provinces and Northern territories in 2006?

A. What was the population of Aboriginal people in British Columbia?

What number in the place value chart is the population closest to?

Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones
1	0	0	0	0	0
1	9	6	0	7	5
2	0	0	0	0	0

How does the chart help you see that the population of Aboriginal people in British Columbia, 196 075, was about 200 000?

Scaffolding for Getting Started Page 2

STUDENT BOOK PAGES 34-35

- B.** Estimate the number of Aboriginal people in the four Western provinces in 2006 to the nearest hundred thousand. Explain your thinking.

Province	Population	Population to the nearest hundred thousand
British Columbia	196 075	200 000
Alberta	188 365	
Saskatchewan	141 890	
Manitoba	175 395	

- C.** About how many Aboriginal people in total were living in the four Western provinces and three Northern territories in 2006? Explain.

Territory	Population	Nearest number that is easy to calculate with
Yukon	7 580	10 000
Northwest Territories	20 635	
Nunavut	24 915	

Billions			Millions			Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones

Ones	Tenths	Hundredths	Thousandths	Ten-thousandths	Hundred-thousandths	Millionths

Name: _____ Date: _____

Mid-Chapter Review—Frequently Asked Questions

STUDENT BOOK PAGE 52

Q: How can you represent and describe numbers in the millions?

A: _____

Q: How can you tell if a calculation is reasonable?

A: _____

Chapter Review—Frequently Asked Questions

STUDENT BOOK PAGE 62

Q: How can you represent and describe numbers that are less than 0.001?

A: _____

Q: How can you compare decimals that are less than 1 thousandth?

A: _____



Unit: Number
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Journal Questions (Hint: Make sure to show all your work.):

1. Which number is the standard form for 14 million 35 thousand 270?
A. 014 035 270 B. 14 035 270 C. 14 35 270 D. 14 35000 270
2. Aya multiplied 219×598 with a calculator. Which estimate would help her make sure that her answer is reasonable?



- A. 300×600 B. 200×500 C. 300×300 D. 200×600

One year, 906 808 guests went to the Pacific National Exhibition. Which number is closest to 906 808?

- A. 0.9 million B. 9.0 million C. 0.96 million D. 9.06 thousand

4. Which number is another way to write 25 hundred-thousandths?
A. 25 000 B. 25.000 C. 0.000 25 D. 0.000 025

5. Which numbers are in order from least to greatest?

- A. 0.000 45, 0.000 214, 0.000 4
B. 0.000 34, 0.000 012, 0.000 023
C. 0.001 001, 0.000 009, 0.000 999
D. 0.000 080, 0.000 119, 0.000 2

Chapter 2 Self-Assessment: Lesson Goals

Place a check mark in the box that best describes your work.

Lesson Goals	Yes, on my own	Yes, with help	Sometimes/ Not sure	Not yet
I can represent and describe numbers in the millions using a place value chart.				
I can describe billions in various ways.				
I can solve problems and check solutions by estimating.				
I can use decimals to represent numbers greater than one million.				
I can explain my thinking when creating and solving a problem.				
I can use a place value chart to represent decimals less than thousandths.				
I can estimate millionths using a place value chart.				
I can use a place value chart to represent and compare decimals less than one thousandth.				
<p>Choose one of your answers from above. Give your evidence.</p> <p>My evidence for _____ is</p> <p>_____</p> <p>_____</p> <p>_____</p>				

Chapter 2: Numeration

Whole numbers can be represented using models, pictures, numbers, and words.

For example, 413 252 can be represented in the following ways:

Standard form: 413 252

Expanded form: $400\ 000 + 10\ 000 + 3\ 000 + 200 + 50 + 2$

4 hundred thousands + 10 thousands + 3 thousands
+ 2 hundreds + 5 tens + 2 ones

Words: four hundred thirteen thousand two hundred fifty-two

Picture:

Thousands			Ones		
Hundreds	Tens	Ones	Hundreds	Tens	Ones
● ● ● ●	●	● ● ●	● ●	● ● ● ● ● ●	● ●

1. Write each number in standard form.

a) $2000 + 500 + 2$ _____

b) $40\ 000 + 5000 + 300$ _____

c) one hundred twenty-four thousand eight hundred eighteen _____

d) six hundred fifty-two thousand six hundred sixty-one _____

e) $4\ \text{ten thousands} + 3\ \text{hundreds} + 7\ \text{tens} + 5\ \text{ones}$ _____

f) $5\ \text{hundred thousands} + 6\ \text{thousands} + 4\ \text{hundreds} + 3\ \text{tens} + 2\ \text{ones}$ _____

2. In the number 162 354, does the 2 or the 3 have a greater value?
Explain your thinking.

3. What is the value of each shaded digit?

a) 164 **2**78 _____

d) **7**89 005 _____

b) **4**5 895 _____

e) **6**7 932 _____

c) 791 **5**46 _____

f) **1**76 583 _____

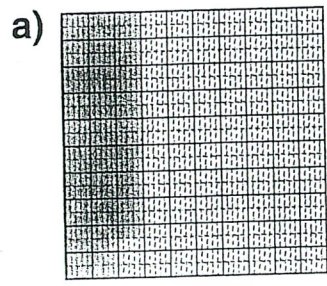
Decimal numbers can be modelled using grids, base ten blocks, counters, and place value charts. For example, the place value chart below represents 0.364. This number can also be represented as 364 thousandths.

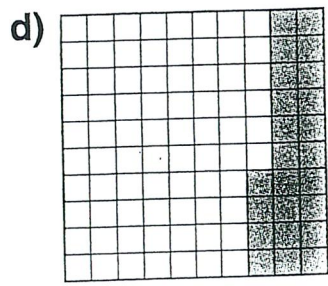
Ones	Tenths	Hundredths	Thousandths
	● ● ●	● ● ● ● ● ●	● ● ● ●

Standard form: 0.364

Expanded form: 3 tenths + 6 hundredths + 4 thousandths

4. Write each number in standard form.





b) 85 hundredths

e) 52 hundredths

c) three hundred five thousandths

f) two hundred seven thousandths

5. In the number 0.345, does 4 or 5 have the greater value? Explain your thinking.

6. What is the value of each shaded digit?

a) 0.285 _____

d) 1.789 _____

b) 0.004 _____

e) 0.006 _____

c) 0.791 _____

f) 5.628 _____