



MODULE 1

Reading and Writing Real-Life Numbers

Harry Potter and the Deathly Hallows Part 1 made \$960,283,305 at the box office worldwide. The Twilight Saga Eclipse made \$698,491,347 at the box office worldwide. Which movie made more money at the box office?

PART 1

Using Numbers in Real-Life

We use numbers all the time. Think about today. Did you:

- Buy a cup of coffee?
- Look up the temperature for today?
- Telephone someone?

All of these tasks require **number sense**, which is knowing what a number is, and how to use it.

Part 1: Using Numbers in Real-Life

Practice Your Skills

Exercise 1-A

Everyday Numbers

Think about the numbers you use everyday. Fill out the survey. Write your answer in the answer box.

Decide how the numbers are used in the survey. In the box before the question, write the letter to show how the number is being used. The first one is done for you.

- A. Number that identifies a place or person
- B. Number that tells when
- C. Number that tells how many
- D. Numbers that tell how much
- E. Just a number

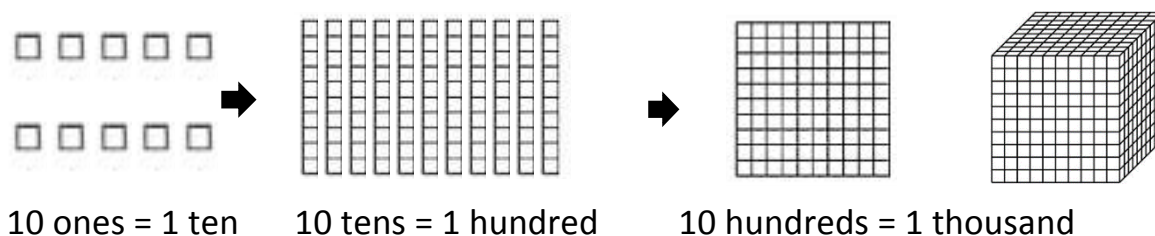
Letter	Question	Answer
B	1. What year is it?	
	2. What is your phone number?	
	3. What is your postal code?	
	4. What year were you born?	
	5. How many kilometres is it from your house to where you are right now?	
	5. How many litres of gas does your gas tank hold?	
	6. What time does your favourite television show come on?	
	7. What is the speed limit in front of your house?	
	8. What is the population of the city you live in?	
	9. What time do you usually go to bed at night?	
	10. How many hours do you usually sleep at night?	
	11. How much does a pack of gum cost?	
	12. What is your favourite number?	

PART 2

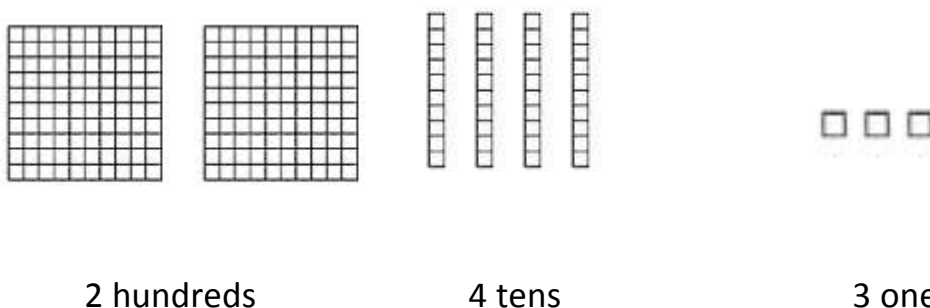
Understanding Place Value When Reading and Writing Numbers

We use the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 to write numbers. The value of each digit or numeral depends on its position or place.

You can use place value models to show numbers.



Example: Look at the place value models. What number is shown?



The standard form is 243

You read 243 as two hundred forty-three.

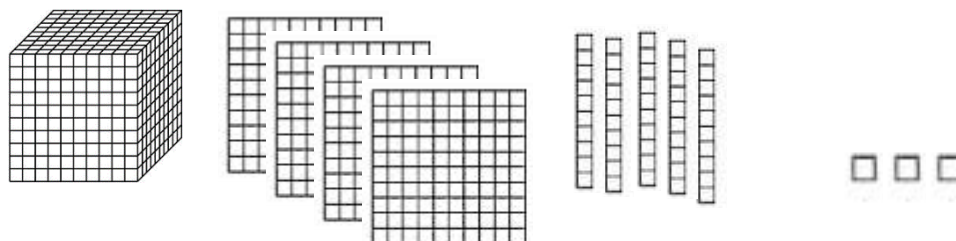
The value of the digit 2 is 200. The value of the 4 is 40. The value of the 3 is 3.

The expanded form is:

$$200 + 40 + 3 = 243$$

Commas are used in numbers with 4 or more digits to make them easier to read. To place commas in large numbers, start from the right side and move 3 spaces to the left.

Example: Look at the place value models. What number is shown?



1 thousand

4 hundreds

5 tens

3 ones

Standard form: 1,453

It is read: one thousand, four hundred fifty-three

The word AND is not used when you read numbers.

The value of the digit 1 is 1000. The value of the 4 is 400. The value of the 5 is 50. The value of the 3 is 3.

The expanded form is:

$$1,000 + 400 + 50 + 3 = 1,453$$

Example: Write the word names for the following numbers.

a. 7

b. 20

c. 65

d. 1,024

a. seven

b. twenty

c. sixty-five

d. one thousand, twenty-four

In the number 1,024, a zero is used as a placeholder in the standard form of the number to show no hundreds. However, the zero is implied, but never written, in the word name.

Part 2: Understanding Place Value When Reading and Writing Numbers

Practice Your Skills

Exercise 2-A

Write the standard form for each number.

1. thirty-seven _____
2. fifty-two _____
3. seventy _____
4. two hundred eleven _____
5. six hundred ninety-three _____
6. three hundred two _____
7. eight hundred twenty-four _____
8. one thousand, two hundred thirty-nine _____
9. four thousand, nine hundred eight _____
10. seven thousand, fifty-five _____
11. $400 + 30$ _____
12. $500 + 30 + 1$ _____
13. $300 + 40 + 1$ _____
14. $1,000 + 200 + 30 + 4$ _____
15. $4,000 + 400 + 20 + 2$ _____

Exercise 2-B

Write the expanded form for each number.

16. 38 _____

17. 25 _____

18. 54 _____

19. 629 _____

20. 582 _____

21. 1,562 _____

22. 3,894 _____

Exercise 2-C

Write the word name for each number.

23. 94 _____

24. 12 _____

25. 101 _____

26. 399 _____

27. 4,893 _____

28. 1,105 _____

29. 5,011 _____

PART 3

Understanding Place Value to Billions

The LEGO movie made two hundred forty-three million, four hundred thousand dollars at the box office. How would you write this amount in standard form?

You can use a place value chart to help you read and write large numbers.

	millions			thousands			Ones		
billions	Hundred millions	Ten millions	millions	Hundred thousands	Ten thousands	thousands	hundreds	tens	ones
	2	4	3	4	0	0	0	0	0

Standard form: \$ 243,400,000

It is read two hundred forty-three million, four hundred thousand dollars.

The short word name is 243 million, 400 thousand.

Example: The movie, **Need for Speed**, made \$30,680,250 at the box office. What is the place and value of the 8 in the amount?

The 8 is in the ten thousands place.

The value of the 8 is \$80,000

It is read thirty million, six hundred eighty thousand, two hundred fifty.

The short word name is 30 million, 680 thousand, 250.

Part 3: Understanding Place Value to Billions

Practice Your Skills

Exercise 3-A

1. In the number 56,491, which digit is in the:

ones place? _____

tens place? _____

hundreds place? _____

thousands place? _____

ten thousands place? _____

2. In the number 3,549,366, which digit is in the:

ones place? _____

tens place? _____

hundreds place? _____

thousands place? _____

ten thousands place? _____

hundred thousands place? _____

millions place? _____

Exercise 3-B

Write the standard form for these short word names.

3. 306 thousand _____

4. 45 thousand _____

5. 741 thousand, 87 _____

6. 928 million, 406 thousand, 104 _____

7. 418 million, 100 thousand, 895 _____

8. 803 million, 986 thousand _____

9. 288 million, 206 _____

Exercise 3-C

In which place is the digit 7 in each number (e.g. tens, hundreds)?

10. 4,675 _____ 11. 5,731 _____

12. 7,618 _____ 13. 8,007 _____

14. 9,074 _____ 15. 3,714 _____

Tell the value of each underlined digit (e.g. 10, 100).

16. 32 _____ 17. 53 _____ 18. 389 _____

19. 721 _____ 20. 3,152 _____ 21. 92, 145 _____

22. 87, 145 _____ 23. 130,763 _____ 24. 489,364 _____

25. 507,309 _____ 26. 2,307,415 _____ 27. 5,211,312 _____

28. 345,073,140 _____ 29. 739,164,000 _____

Real-Life Math

Write the short word name for the number in each sentence.

30. There are 864 people in the movie theatre.

31. Over 18,760 people attended the concert at the Air Canada Centre.

32. The construction company earned \$48,165,016 last year.

PART 4

Comparing and Ordering Numbers

Members of Netflix in Ontario watched 4,317 movies online last week and 4,639 movies online this week. Which number is greater?

Example: Compare 4,317 and 4,639.

Step 1: Begin with the greatest place.
Compare the thousands.

Ask: Are the thousands the same?

thousands	hundreds	tens	ones
4	3	1	7
4	6	3	9

Step 2: Now compare the hundreds.

Ask: Are the hundreds the same?

thousands	hundreds	tens	ones
4	3	1	7
4	6	3	9

Think: 3 hundreds are less than 6 hundreds so 4,317 is less than 4,639.

When comparing numbers, you can use the symbols $<$, $>$, or $=$.

$<$ means “less than”

$>$ means “greater than”

$=$ means “equal to”

$$4,317 < 4,639$$

$$4,639 > 4,317$$

4,317 is less than 4,639

4,639 is greater than 4,317

Example: Order these numbers from greatest to least:

357

386

289

Compare. Which is the greatest number? 386

386

357

289

Part 4: Comparing and Ordering Numbers

Practice Your Skills

Exercise 4-A

Compare. Write $<$, $>$, or $=$.

1. 38 _____ 43

2. 62 _____ 32

3. 220 _____ 217

4. 893 _____ 910

5. 681 _____ 861

6. 507 _____ 570

7. 3,462 _____ 3,649

8. 3,001 _____ 3,001

9. 7,073 _____ 7,037

10. 6,385 _____ 4,427

11. 9,107 _____ 6,253

12. 53,460 _____ 53,604

13. 893,623 _____ 4,367,824

14. 412,826 _____ 412,826

15. 225,809 _____ 232,908

16. 328,987 _____ 238,876

17. 4,387,983 _____ 4,367,824

18. 33,897,483 _____ 39,898,402

19. 899,467,983 _____ 489,999,879

20. 422,801,908 _____ 422,108,907

Exercise 4-B

Write the numbers in order from greatest to least.

21. 899 427 876 _____

22. 8,009 8,024 8,402 _____

23. 4,873 4,820 8,204 _____

24. 56,893 54,839 56,712 _____

25. 893,407 938,704 892,609 _____

Real-Life Math

26. The online bookstore receives 59 new orders on Tuesday and 68 new orders on Wednesday. On which day did it receive more orders?

27. John and Edna are running for president of the provincial adult learner council. John receives 1,547 votes and Edna receives 1,774 votes. Who loses?

PART 5

Rounding Numbers

When you are rounding a number to the nearest 10, you are trying to find out which multiple of 10 the number is closest to. The rule is that if a number is exactly halfway between two multiples of 10, you always round up.

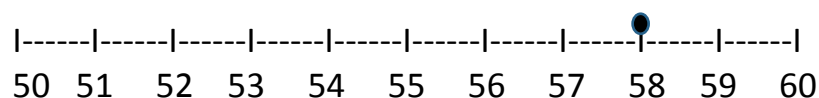
Look at the ones digit:

- If it is less than 5 then round the number down by changing the ones digit to zero.
- If it is 5 or more then round the number up by adding one to the tens digit and changing the ones digit to zero.
 - 38 rounds up to 40 because the ones digit is 8.
 - 64 rounds down to 60 because the ones digit is 4.
 - 135 rounds up to 140 because the ones digit is a 5.

Example:

There are exactly 58 action movie tapes in the DVD library. If you do not need to know the exact number of tapes, you can round 58 to the nearest ten.

You can use a number line to help you.



58 is between 50 and 60.

58 is closer to 60.

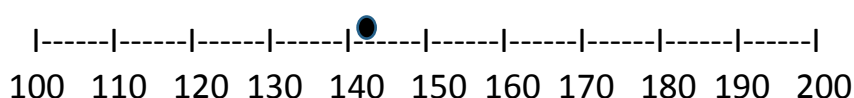
There are about 60 action movie tapes in the video library.

When you are rounding a number to the nearest 100, you are trying to find out which multiple of 100 your number is closest to.

Look at the tens digit:

- If it is less than 5 round the number down by changing the tens digit and ones digit to zero.
- If it is 5 or more then round the number up by adding one to the hundreds digit and changing the tens digit to zero.

Example: Round 142 to the nearest hundred.



142 is between 100 and 200.

140 is closer to 100.

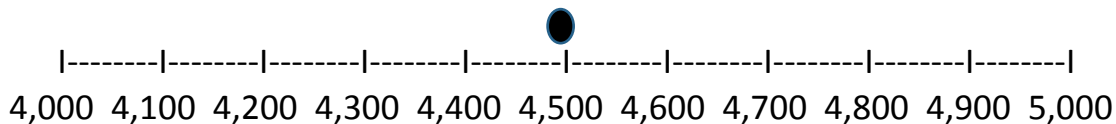
142 rounded to the nearest hundred is 100.

When you are rounding to the nearest 1000, you are trying to find out which multiple of 1000 your number is closest to.

Look at the hundreds digit:

- If it is less than 5 then round the number down by changing the hundreds, tens and ones digits to zero;
- If it is 5 or more then round the number up by adding one to the thousands digit and changing the hundreds, tens and ones digits to zero.

Example: Round 4,500 to the nearest thousand.



4,500 is halfway between 4,000 and 5,000.

Rule: When a number is halfway between two numbers, round up.

4,500 rounded to the nearest thousand is 5,000

Part 5: Rounding Numbers
Practice Your Skills

Exercise 5-A
Round to the nearest ten.

- | | | | |
|-------------|--------------|--------------|--------------|
| 1. 32 _____ | 2. 48 _____ | 3. 61 _____ | 4. 89 _____ |
| 5. 25 _____ | 6. 19 _____ | 7. 8 _____ | 8. 43 _____ |
| 9. 59 _____ | 10. 38 _____ | 11. 12 _____ | 12. 73 _____ |

Exercise 5-B
Round to the nearest hundred.

- | | | | |
|---------------|---------------|---------------|---------------|
| 13. 374 _____ | 14. 289 _____ | 15. 602 _____ | 16. 592 _____ |
| 17. 479 _____ | 18. 153 _____ | 19. 408 _____ | 20. 664 _____ |
| 21. 122 _____ | 22. 313 _____ | 23. 861 _____ | 24. 905 _____ |

Exercise 5-C
Round to the nearest thousand.

- | | | | |
|-----------------|-----------------|-----------------|-----------------|
| 25. 2,893 _____ | 26. 1,075 _____ | 27. 3,809 _____ | 28. 6,489 _____ |
| 29. 4,072 _____ | 30. 8,940 _____ | 31. 5,562 _____ | 32. 7,190 _____ |
| 33. 6,145 _____ | 34. 2,307 _____ | 35. 1,887 _____ | 36. 8,094 _____ |

Real-Life Math

Name three situations when an exact number may not be needed. For example, the attendance at a high school sports event.

37. _____

38. _____

39. _____

PART 6

Problem Solving

On Sunday, 48,274 people attended the soccer game. There were 49,072 seats. Were there enough seats for all the people?

Follow the four-step plan to help you solve problems.

THE FOUR-STEP PLAN

1. Understand the problem.
2. Make a plan to solve the problem.
3. Solve.
4. Check your answer to see if it is reasonable.

Here's how you would use the four-step plan to solve the problem above.

1. What information is given? What do you need to find?	48,274 people attended the game; 49,072 seats Were there enough seats?
2. How can you solve the problem?	Compare the number of people to the number of seats.
3. Solve.	$48,274 < 49,072$
4. Check. Does your answer make sense?	Since $48,274 < 49,072$ there were enough seats.

Part 6: Problem Solving
Practice Your Skills

Real-Life Math

Exercise 6-A

Read the problem. Tell what information is given and what you need to find.

1. Anya rode her exercise bicycle 76 kilometres last week. She rode 62 kilometres this week. Did she ride more kilometres last week or this week?

What is given? _____

What do you need to find out?

How can you solve the problem?

2. The movie Grease made \$96,300,000 at the box office. The Godfather made \$86,275,000. Which movie made more money?

What is given? _____

What do you need to find out?

How can you solve the problem?

3. You are hosting a party and 383 guests have shown up. There are 325 chairs. Do you need more chairs?

What is given? _____

What do you need to find out?

How can you solve the problem?

PART 7

Money

Money amounts can be written in two ways. You can use a cent sign or a dollar sign and a decimal point.

				
nickel	dime	quarter	dollar or “loonie”	two dollars or “toonie”
5¢ or \$0.05	10¢ or \$0.10	25¢ or \$0.25	100¢ or \$1.00	200¢ or \$2.00

Example: Jane buys a box of candy at the department store. She gives the clerk 1 toonie, 2 loonies, 3 quarters, 1 dime, and 1 nickel. What is the price of the candy?

Start with the money amount that has the greatest value.

$$\$2.00 + \$1.00 + \$1.00 + \$0.25 + \$0.25 + \$0.25 + \$0.10 + \$0.05$$

Then count on.

$$\$2.00 \rightarrow \$3.00 \rightarrow \$4.00 \rightarrow \$4.25 \rightarrow \$4.50 \rightarrow \$4.75 \rightarrow \$4.85 \rightarrow \$4.90$$

The price of the box of candy is four dollar ninety cents or \$4.90.

Part 7: Money
Practice Your Skills

Exercise 7-A

Write the value using a dollar sign and a decimal point.

1. 1 dime, 1 nickel _____
2. 1 quarter, 1 nickel _____
3. 65¢ _____
4. 180¢ _____
5. 1 loonie, 2 dimes _____
6. 1 dollar, 1 nickel _____
7. 5 dollars, 2 quarters _____
8. 900¢ _____
9. 2 loonies, one toonie _____
10. 2 quarters _____
11. 6 nickels _____
12. 10 dollars, 5 toonies _____
13. 25¢ _____
14. 2 quarters, one dime _____
15. 3 dollars, 2 quarters, 1 nickel _____
16. 10 dollars 1 nickel _____

17. 5 dollars, 6 dimes 4 nickels _____

18. 5 loonies, 1 toonies, 2 quarters _____

19. 9 dollars, 5 dimes _____

20. 2 dollars, 8 dimes, 1 nickel _____

Exercise 7-B

Real-Life Math

21. Sandra and Mark spend 675¢ for a drink at the movies. Write this value using a dollar sign and a decimal point. _____

22. Jim buys a compact disc. He gives the clerk 3 toonies, 3 quarters, and 2 dimes. What is the price of the compact disc? _____

Real-Life Math

Module #1 Task-Based Activity: Interpret a table to compare populations of Canadian cities.

Population of Canadian Cities – 2011	
Toronto, Ontario	2,615, 060
Calgary, Alberta	1,096,833
Vancouver, British Columbia	603,502
Montreal, Quebec	1,649,519
Halifax, Nova Scotia	390,096

Use the table to answer the questions.

1. Which city has the largest population? _____

2. Which cities have fewer than one million people?

3. Which city has more than two million people?

4. Which city has fewer than one half million people?

5. Write the name of each city. Then round each population to the nearest hundred and the nearest thousand.

City	Population	Nearest Hundred	Nearest Thousand

Module 1: Reading and Writing Real-Life Numbers Review

Write the numbers in standard form.

1. thirteen _____

2. sixty-five _____

3. ninety _____

4. one thousand six hundred fifty-two _____

Write the word name.

5. 84 _____

6. 104 _____

7. 6,893 _____

8. 14,029 _____

What is the value of each underlined digit.

9. 893 _____

10. 5,894 _____

11. 83,107 _____

12. 607,894 _____

13. 9,847,389 _____

14. 6,812,419 _____

Compare. Write $<$, $>$, or $=$.

15. 6,489 ____ 6,849

16. 389,463 ____ 468,912

17. 8,507,382 ____ 8,705,238

18. 142,104,324 ____ 142,104,324

Round to the greatest place.

19. 123 ____

20. 607 ____

21. 887 ____

22. 8,425 ____

23. 3,809 ____

24. 6,507 ____

Write the value using a dollar sign and a decimal point.

25. 1 quarter 3 dimes ____

26. 135 ¢ ____

27. 3 toonies ____

28. 5 dollars 1 dime ____