Grade 6 Mathematics: Number

Free sample lesson

Ontario curriculum: Mathematics (2020), Strand B: Number (B1 Number Sense, B2 Operations), Grade 6. 16 days.

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This is Lesson 1 of 12 from the full unit, exactly as it appears in the Teacher Guide, followed by the student worksheet. The full unit is at unitplans.ca.

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Lesson 1: Whole numbers to one million

1 day · about 60 minutes · B1.1

Learning goal

- We are learning to read, write and show whole numbers up to 1 000 000 and to say where we see numbers this large.

Success criteria

- I can say the value of each digit in a six-digit number.
- I can write a number in standard, expanded and word form.
- I can place and compare numbers up to 1 000 000.

Materials

- Place value chart to 1 000 000
- Number cards 0–9
- Blank number lines (0 to 1 000 000)

Minds On (10 min)

1. Show the numbers 98 765 and 101 234 on the board. Ask: "Which number is greater, and how can you tell without counting every digit?"
2. Collect two or three strategies (number of digits first, then the leftmost digit).

Action (35 min)

1. Build a six-digit number with digit cards on a place value chart. Name each digit's value aloud (hundred thousands, ten thousands, thousands, hundreds, tens, ones).
2. Model standard, expanded and word form for one number. Show a number line from 0 to 1 000 000 with marks every 100 000 and place numbers on it.
3. Students complete the worksheet in pairs.

Consolidation (15 min)

1. Discuss question 7: where do we see numbers this big (populations, prices of houses, distances, website visits)?
2. Exit: "What is the value of the digit 8 in 482 593, and how do you know?"

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Questions to ask

- What does the zero in 305 070 do for the number?
- How many hundred thousands make one million?
- Why do we leave a space instead of a comma?

Watch for

- Students may write 300 000 50 070 for 350 070 by writing each part as it is heard. Use a place value chart and read each group of three digits.
- Students may think a number with more non-zero digits is greater. Compare the number of digits first.

Differentiation

Support	Extend
Use a place value chart with the three-digit groups coloured differently. Limit worksheet numbers to five digits at first.	How many different six-digit numbers can be made with the digits 1 to 6 used once? Describe how you could list them.

Answer key: Whole numbers to 1 000 000

1. What is the value of the digit 8 in 482 593?

   > **Answer:** 80 000
   > The 8 is in the ten thousands place, so its value is 8 × 10 000 = 80 000.

2. Write 305 070 in expanded form.

   > **Answer:** 300 000 + 5000 + 70
   > Write each non-zero digit with its place value.

3. What number is 6 × 100 000 + 2 × 10 000 + 7 × 100 + 4 × 10 + 9 × 1?

   > **Answer:** 620 749

4. Write 205 340 in words.

   > **Answer:** two hundred five thousand three hundred forty

5. How much greater is 101 234 than 98 765?

   > **Answer:** 2469
   > 101 234 − 98 765 = 2469

6. Which is closer to 1 000 000: 989 500 or 1 010 000? Show how you know.

> **Answer:** 1 010 000 is closer. It is 10 000 away; the other is 10 500 away.

7. Name two places in everyday life where numbers close to one million are used.

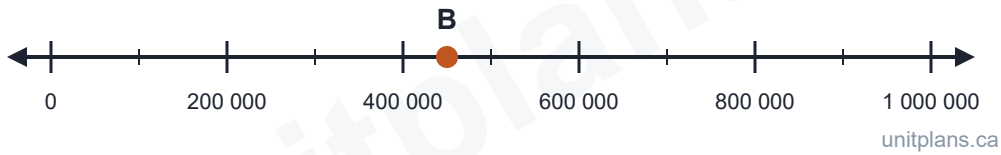
> **Answer:** Answers vary, for example the population of a city, the price of a house, the number of views of a video, or a distance in metres.

8. Point A shows a number on this number line. Each small mark is 100 000. What number is A?



> **Answer:** 700 000

9. Point B is halfway between two small marks (each small mark is 100 000). What number is B?



> **Answer:** 450 000
> It is halfway between 400 000 and 500 000.

Student worksheet: Whole numbers to 1 000 000

Success criteria

- I can say the value of each digit in a six-digit number.
- I can write a number in standard, expanded and word form.
- I can place and compare numbers up to 1 000 000.

Write numbers with a space between groups of three digits. Show your thinking.

1. What is the value of the digit 8 in 482 593?

2. Write 305 070 in expanded form.

3. What number is 6 × 100 000 + 2 × 10 000 + 7 × 100 + 4 × 10 + 9 × 1?

4. Write 205 340 in words.

5. How much greater is 101 234 than 98 765?

6. Which is closer to 1 000 000: 989 500 or 1 010 000? Show how you know.

7. Name two places in everyday life where numbers close to one million are used.

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8. Point A shows a number on this number line. Each small mark is 100 000. What number is A?



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9. Point B is halfway between two small marks (each small mark is 100 000). What number is B?



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