

WORDS TO KNOW

place value
expanded form

Lesson 7

UNDERSTAND FOUR-DIGIT NUMBERS

NY-3.NBT.4a, NY-3.NBT.4b

INTRODUCTION

Real-World Connection

Fatima and her family are on a whale-watching outing. They see two whales right away! The guide says one is a Hector's beaked whale that weighs about two thousand, twenty pounds and the other is a strap-toothed whale that weighs about three thousand, three hundred pounds. Fatima wants to jot down the weight of the two whales using numbers instead of words. How does she write those numbers in words? Let's practice the skills in the **Guided Instruction** and **Independent Practice** and, at the end of the lesson, see how Fatima writes the numbers!

What I Am Going to Learn

- How to read and write four-digit numbers in different ways
- How to represent four-digit numbers using thousands, hundreds, tens, and ones

What I May Already Know

- I know how to read and write three-digit numbers in different ways.
- I know that a two- and three-digit number represents amounts of hundreds, tens, and ones.

Vocabulary in Action

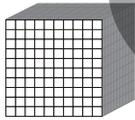
Place value is the value of each digit in a number. Understanding place value helps you read and write large numbers.

- A place-value chart shows the value of each digit in a number.

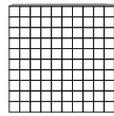
The places in a four-digit number are ones, tens, hundreds, and thousands.

Thousands	Hundreds	Tens	Ones

- A place-value model using base-ten blocks can be used to describe the parts of a four-digit number.



= 1,000, or thousands place



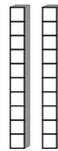
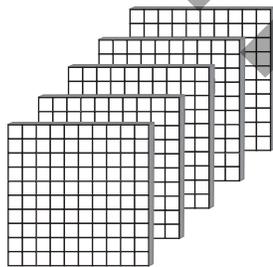
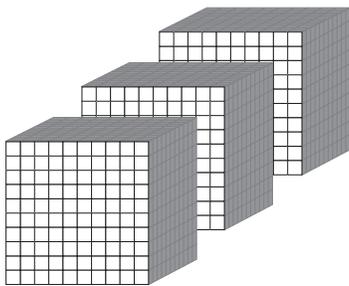
= 100, hundreds place



= 10, tens place

□ = 1, or ones place

If you were asked to show the number 3,526, you would use 3 thousands place cubes, 5 hundreds place flats, 2 tens place rods, and 6 ones place blocks.



TIPS AND HINTS

The thousands place cubes are like 10 of the hundreds cubes stacked up.

- Place value helps you write numbers in **expanded form**. Expanded form shows the value of each digit in a large number. It is written as a sum of its parts.

Think of the number 1,251. In expanded form, it looks like this.

$$1,000 + 200 + 50 + 1$$

When you write it in words, it looks like this.

One thousand, two hundred fifty-one

▶ THINK ABOUT IT

Think about the digit 2. It can have different values.

In the number 23, the 2 has a value of 2 tens or 20.

In number 237, the 2 has a value of 2 hundreds or 200.

In the number 2,370, the 2 has a value of 2 thousands or 2,000.

EXAMPLE

There are 6,193 seats at Wild Cats baseball park. What is the value of the 1 in 6,193?

Use the place-value chart below to help you understand the value of each digit.

Thousands	Hundreds	Tens	Ones
_____	_____	_____	_____

There is one digit in each box.

The value of 1 is in the hundreds place.

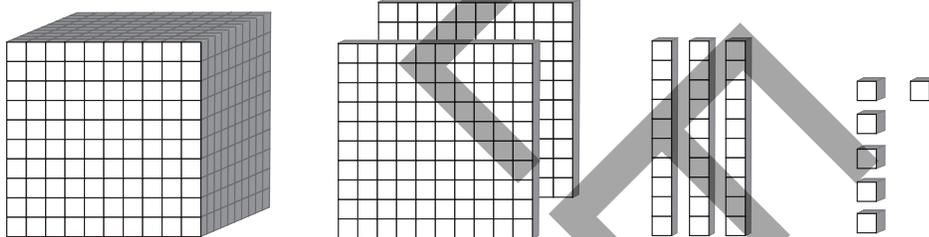
6,193 written in words is six thousand, one hundred ninety-three.

6,193 written in expanded form is $6,000 + 100 + 90 + 3$.

EXAMPLE

Carmen's family drove from Staten Island to Myrtle Beach. Then they drove back to Staten Island.

They travelled 1,236 miles. How can you write the number in expanded form?



Write the number in expanded form sum of its parts.

$$1,000 + 200 + 30 + 6$$

Write the number in word form.

One thousand, two hundred thirty-six.

GUIDED INSTRUCTION

1. Mr. Harper has some paper in his office. He has a box of 1,000 sheets, another box of 500 sheets, a stack of 30 sheets, and 2 sheets on his desk. How many sheets of paper does Mr. Harper have?

Step One Write this number in expanded form.

+ + +

Step Two Write the number in the place-value chart.

Thousands	Hundreds	Tens	Ones
_____	_____	_____	_____

Step Three Solve.

Mr. Harper has sheets of paper.

Now, write this number word form.

2. Pramod is travelling 7,786 miles from New York City to Mumbai, India to visit his family. Which shows this number written as words?

- (A) Seven hundred eighty-six
- (B) Seven thousand seven hundred eighty
- (C) Seven thousand, seven hundred eighty-six
- (D) Seven hundred sixty-eight

3. Maria used a place-value chart to write a number. Which shows the same number?

- (A) $800 + 30 + 6$
- (B) $800 + 300 + 6$
- (C) $8,000 + 30 + 6$
- (D) $8,000 + 300 + 6$

Thousands	Hundreds	Tens	Ones
8	3	0	6

TIPS AND HINTS

When you are writing numbers larger than one thousand, using a comma to separate the thousands from the hundreds makes it easier to quickly read a number.

THINK ABOUT IT

When you write a number in words, you should write it the same way you would say the number when looking at the number itself.

Learning Together

With a partner, play a matching game. You will need markers and index cards. Work together to write 4-digit numbers on 10 index cards. Then write the same numbers in word form or expanded form on different cards. Now put the 20 cards face down in rows. Take turns. Turn over two cards to find a match—a number and the word form or expanded form of the same number. If two cards match, keep the cards. If not, turn the cards face down. Keep playing until all the cards have been taken. Trade cards with another pair and play again.



How Am I Doing?

What questions do you have?

Name a city that, in miles, is a four-digit number away from where you live.

Use the clues to find this 4-digit number. The thousands digit and the ones digit are the same. The hundreds digit and the tens digit are the same. The tens digit is 8 more than the ones digit. What is the number?

Circle the sign that shows how you are doing with the skill.



I am stuck.



I almost have it.



I understand the skill.

INDEPENDENT PRACTICE 1

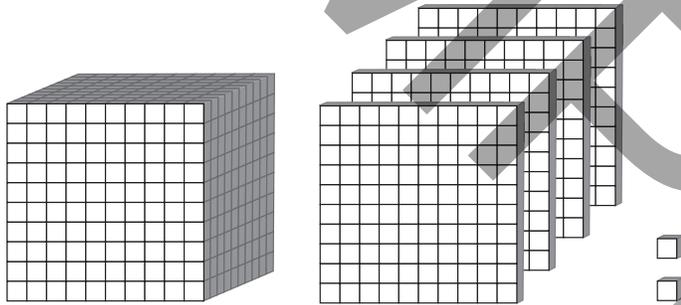
1

Arturo lives in New York City and his grandfather lives in Austin, TX. Arturo travels 1,572 miles to visit his grandfather. Which shows 1,572?

- A $1,000 + 700 + 50 + 2$
 B $1,000 + 500 + 50 + 20 + 2$
 C $1,000 + 500 + 7 + 2$
 D $1,000 + 500 + 40 + 20 + 2$

2

Flora made a model below to show how many students go to her school.



Which could be the number of students in her school?

- A 1,042
 B 1,402
 C 1,442
 D 2,402

TIPS AND HINTS

In your head, picture a place-value chart with the four digits of 1,572 in order across the chart.

THINK ABOUT IT

How are thousands, hundreds, and tens blocks alike and different?

3

Joseph's lucky number has a 5 in the thousands place and a 1 in the tens place. Which could be his lucky number?

- A 1,574
- B 2,517
- C 5,013
- D 5,108

4

Nina's older sister was born in 2002. Nina adds 50 to this year to find out when her sister will be 50 years old. In what year will Nina's sister be 50 years old? Write the year in expanded form.

Explain your answer.

TIPS AND HINTS

Create a quick place-value chart by writing Th, H, Te, and O at the top of the first answer and drawing column lines from the first answer through the last answer.

TIPS AND HINTS

Write the numbers vertically with the ones lined up so you make sure to keep all numbers in the proper place value.



INDEPENDENT PRACTICE 2

- 1 Yolanda used a place-value chart to write a number.

Thousands	Hundreds	Tens	Ones
3	5	1	2

Which is another way to write this number?

- A $300 + 50 + 10 + 2$
- B $2,000 + 1,000 + 500 + 10 + 2$
- C $3,000 + 400 + 100 + 2$
- D $3,000 + 500 + 20 + 1$
- 2 A coffee shop sold one thousand three cups of tea during May. What is this number in expanded form?
- A $1,000 + 30$
- B $1,000 + 3$
- C $100 + 3$
- D $1,000 + 30 + 3$
- 3 Which of the following means 4 thousands, 3 hundreds, and 2 ones?
- A 432
- B 4,032
- C 4,302
- D 40,302

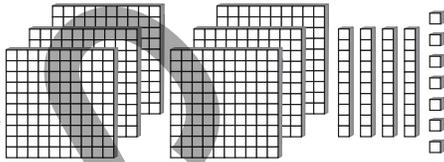
4

Which does **not** show the same as 6 thousands, 4 tens, and 7 ones?

A $6,047$

B $4,000 + 2,000 + 40 + 7$

C



D $6,000 + 30 + 10 + 7$

5

Emma ran 5,000 feet. Jose ran 907 feet. Emma writes the total number of feet the two ran in a place-value chart. Which shows the number Emma writes?

A $5,000 + 90 + 7$

B $5,000 + 900 + 7$

C $5,000 + 900 + 70$

D $9,000 + 500 + 7$

6

Li-mei tried to write the number 4,802 in expanded form.

$$4,000 + 80 + 2$$

Which change would make Li-mei's answer correct?

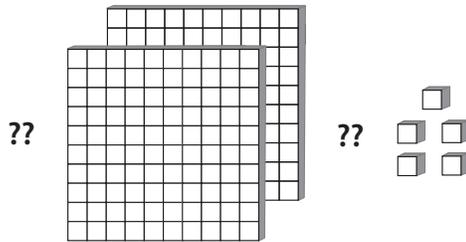
A Change 4,000 to 400.

B Change 80 to 8,000.

C Change 80 to 800.

D Change 2 to 20.

7 The model below shows how many people went to a concert. The thousands and tens are missing.



Which could be the number of people?

A 4,325

C 8,245

B 6,592

D 9,260

8 In science class, Ana puts 1,000 milliliters (mL) of water in a bottle. Next, she adds 200 mL of water. Then she adds 50 mL of water. How many milliliters of water will be in the bottle if she adds 100 more milliliters? Draw a model in the space provided.

Show your work.

Answer _____ milliliters

9 Marcelo and his friends collect pennies. Marcelo has four thousand pennies. Viriato has one thousand, nine hundred pennies. Sabina has six pennies. What is the total number of pennies the friends have? Use the place-value chart to help.

Thousands	Hundreds	Tens	Ones

Explain how you found the answer.

EXIT TICKET

NY-3.NBT.4a, NY-3.NBT.4b

Now that you have mastered writing four-digit numbers, let's solve the problem in the Real-World Connection.

Fatima and her family are on a whale-watching outing. They see two whales right away! The guide says one is a Hector's beaked whale that weighs about two-thousand twenty pounds and the other is a strap-toothed whale that weighs about three thousand three hundred pounds. How can Fatima write these weights using numbers instead of words?