

# Understand Place Value

Name: \_\_\_\_\_

**Prerequisite: How do you know the place value of each digit in a number?**



**Study the example that shows how a place-value chart shows the value of each digit in a number. Then solve problems 1–8.**

## Example

The place-value chart shows the number 435.

Hundreds	Tens	Ones
4	3	5

Word form: *four hundred thirty-five*

The 4 in the hundreds place has a value of 400.

The 3 in the tens place has a value of 30.

The 5 in the ones place has a value of 5.

So, another way to write 435 is  $400 + 30 + 5$ .

- 1** Show the number 762 in the following place-value chart.

Hundreds	Tens	Ones

- 2** What is the value of 7 in 762? \_\_\_\_\_
- 3** What is the value of the digit in the tens place in 762? \_\_\_\_\_
- 4** Use place value to show another way to write 762.

$$762 = \underline{\quad} + \underline{\quad} + \underline{\quad}$$

## Vocabulary

**word form** how a number is written with words or said aloud.

**value** the amount a digit is worth.

## Solve.

- 5** Use the place-value chart below to help you think about the value of each digit in the number.

Hundreds	Tens	Ones
5	2	2

- a. Write the number. \_\_\_\_\_
- b. Write the number in word form.  
Five \_\_\_\_\_ twenty-\_\_\_\_\_
- c. Write the number another way.  
\_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_

- 6** Look at the place-value chart in problem 5.

- a. The digit in the ones place is \_\_\_\_\_.  
The value of the digit in the ones place is \_\_\_\_\_.
- b. The digit in the tens place is \_\_\_\_\_.  
The value of the digit in the tens place is \_\_\_\_\_.
- c.  $20 = \underline{\hspace{1cm}} \times 2$

- 7** a. What is the value of 3 in 123? \_\_\_\_\_  
b. What is the value of 3 in 231? \_\_\_\_\_  
c. What is the value of 3 in 312? \_\_\_\_\_  
d.  $30 = \underline{\hspace{1cm}} \times 3$      $300 = 10 \times \underline{\hspace{1cm}}$

- 8** Use the digits 4, 5, and 6 to write a number in which 4 has a value of 400. Explain your thinking.

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## Use Place Value

**Study how the example uses a place-value chart to show the value of the digits in a number. Then solve problems 1–8.**

### Example

Look at the place-value chart below. What is the value of the 3?

Then, use place value to explain the value of 3 if it were in the ten thousands place.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	0	3	5	5	4

Standard form: 203,554

Expanded form:  $200,000 + 3,000 + 500 + 50 + 4$

Word form: *two hundred three thousand, five hundred fifty-four*

The 3 is in the thousands place, so it has a value of 3,000.

If 3 were in the ten thousands place, its value would be 30,000.

- 1** Write 70,681 in the following place-value chart.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones

- 2** Write 70,681 in expanded form and word form.

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- 3** What would be the value of 8 if it were in the thousands place? \_\_\_\_\_

- 4** What is the value of the 6 in 70,681? Explain how you know.

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### Vocabulary

**value** the amount a digit is worth.

## Solve.

- 5 What number is one thousand less than 921,438?  
Explain how you know.

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- 6 What number is one hundred thousand more than 75,000? Explain how you know.

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- 7 Show some different ways you can make 7,502.

\_\_\_\_\_ hundreds + \_\_\_\_\_ tens + \_\_\_\_\_ ones  
\_\_\_\_\_ tens + \_\_\_\_\_ ones  
\_\_\_\_\_ ones

- 8 What are three different ways to make the number 15,638 with only hundreds, tens, and ones?

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- 9 Solve the following base ten riddle:

I have 30 ones, 82 thousands, 4 hundred thousands,  
60 tens, and 100 hundreds. What number am I?

*Solution:* \_\_\_\_\_

## Reason and Write

**Study the example. Underline two parts that you think make it a particularly good answer and a helpful example.**

**Example**

Emma looked at the numbers 4,075 and 1,806. Her thinking is shown below.

*The number 1,806 has more hundreds than 4,075 because 1,806 has 8 in the hundreds place, and 4,075 has 0 in the hundreds place. 8 hundreds is more than 0 hundreds.*

Tell why Emma's thinking is incorrect. Then explain why there are more hundreds in 4,075 than in 1,806.

**Show your work.** Use a place-value chart, words, and numbers to explain your answer.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		4	0	7	5
		1	8	0	6

**Emma looked only at the digits 0 and 8 in the hundreds place. She needed to also look at the digits in the thousands place.**

**4,075 has 4 thousands, or 40 hundreds, not 0 hundreds.**

**1,806 has 1 thousand, or 10 hundreds, plus 8 hundreds for a total of 18 hundreds, not 8 hundreds.**

**40 hundreds is more than 18 hundreds. There are more hundreds in 4,075 than in 1,806.**

Where does the example ...

- use a chart to show the place value of digits?
- use words and numbers to explain?
- give details?



**Solve the problem. Use what you learned from the model.**

Tyler looked at the numbers 10,020 and 20,010. His thinking is shown below.

*The number 10,020 has more tens than 20,010 because 10,020 has 2 in the tens place, and 20,010 has 1 in the tens place. 2 tens is more than 1 ten.*

Tell why Tyler's thinking is incorrect. Then explain why there are more tens in 20,010 than in 10,020.

**Show your work.** Use a place-value chart, words, and numbers to explain your answer.

Did you ...

- use a chart to show the place value of digits?
- use words and numbers to explain?
- give details?

