Chapter Resources
GRADE 4, CHAPTER 1

Contents

Family Letter for Unit 1

Chapter Pretest (3 pages)

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Chapter Test (2 pages)

Unit 1 Record Sheet
Dear Family,

During the next few weeks, our math class will be learning about place value of numbers through hundred millions and about money.

You can expect to see work that provides practice with comparing, ordering, and rounding numbers as well as counting and comparing collections of coins and bills.

As we learn how to round numbers, you may wish to use the following sample as a guide.

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**Vocabulary**

- **estimate**: A number close to an exact amount. An estimate tells about how much or about how many.
- **rounding**: To find about how many or about how much by expressing a number to the nearest ten, hundred, thousand, and so on.

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**Rounding to the Nearest Hundred**

To round a number such as 6,285 to the nearest hundred, first find the digit in the hundreds place (2). Next look at the digit in the place to the right of the hundreds place (8).

- If this digit is less than 5, do not change the digit in the hundreds place.
- If it is equal to or greater than 5, increase the digit in the hundreds place by 1.
- Then change all of the digits to the right of the hundreds place to zeros.

Since the digit to the right of the hundreds place is 8, and 8 is greater than 5, then 6,285 rounded to the nearest hundred is 6,300.

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Knowing about place value can help students understand greater numbers and use them to solve problems.

Sincerely,

Your Child’s Teacher

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Check out Education Place at eduplace.com/kids/mw/ for e•Glossary, e•Word Games, test prep practice, and more.
Are You Ready?

Write the value of the digit 3 in each number.

1. 237
2. 3,211

Write each number in standard form.

3. five hundred three
4. 7 tens 5 ones
5. 2,000 + 400 + 70

Write each number in word form.

6. 462
7. 3,950

Write the value of the underlined digit.

8. 437
9. 6,209

Use logical reasoning to solve the problem

10. How many tens are there in 100? Explain your answer.
Check What You Know

Tell how each number is being used. Write position, count, measure, or label.

1. population: 35,673
2. Allen, TX 75002
3. 6:35 A.M.
4. 23rd person in line

Write each number in standard form.

5. 16 million, 573 thousand
6. 400,000 + 90,000 + 3,000 + 800 + 7
7. nine hundred sixty-two thousand, four hundred twelve

Write each number in word form.

8. 613,509
9. 60,000 + 9,000 + 500

Write each number in short word form.

10. 73,105,026
11. 4,000,000 + 500,000 + 30,000 + 800 + 60 + 3

Write each number in expanded form.

12. 36 million, 421 thousand, 75
13. two million, thirty-two thousand, eleven
Write the place of the underlined digit. Then write its value.

14. 305,247 ________________________________

15. 4,892,500 ________________________________

16. 543,890,127 ________________________________

Write the value of the underlined digit.

17. 628,543,107 ________________________________

18. 750,740,730 ________________________________

Use logical reasoning to solve each problem.

19. Ashley, Marty, and Yoko each have a bike. The bikes are green, blue, and maroon. Ashley’s bike is not green. Marty’s bike color does not start with the same letter as his name. Yoko’s bike is blue. What color is each person’s bike?

________________________________________

________________________________________

________________________________________

20. Tina, Cody, Luis, and Robbie each have a different pet. The pets are a bird, a ferret, a dog, and a cat. Luis does not have a bird or a ferret. Robbie does not have a cat. Cody has a dog. Tina does not have ferret. What pet does each person have?

________________________________________

________________________________________

________________________________________
Uses of Numbers

Numbers are used for many different purposes.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>To show position</td>
<td>• Emily was the 1st female class president.</td>
</tr>
<tr>
<td>To count</td>
<td>• Our team scored 18 points.</td>
</tr>
<tr>
<td></td>
<td>• The hotel has 450 rooms.</td>
</tr>
<tr>
<td>To measure</td>
<td>• Ann competed in the 200-meter swim race.</td>
</tr>
<tr>
<td></td>
<td>• I need to be home by 8:30.</td>
</tr>
<tr>
<td>To label</td>
<td>• Room 14A is the library.</td>
</tr>
<tr>
<td></td>
<td>• The model number of the sweeper is HJ0013.</td>
</tr>
</tbody>
</table>

Tell how each number is being used.
Write position, count, measure, or label.

1. Our cat had 3 kittens.
   [ ]

2. Joe is 10 years old.
   [ ]

3. The flag is 3 feet high.
   [ ]

4. Meg finished 3rd in the relay race.
   [ ]

5. Mark lives in Apartment 12 F.
   [ ]

6. We live on the 2nd floor.
   [ ]

7. Jeff needs 8 hours of sleep each night.
   [ ]

8. Sue has 4 glasses of milk each day.
   [ ]

   [ ]
Uses of Numbers

Tell how each number is being used. Write position, count, measure, label.

1. Alex is 25 years old.  
2. The meeting is at 4:15.  
3. Mark placed fifth in the relay race.

4. Flight 236 was on time.  
5. Ann is almost 5 feet tall.  
6. Martin lives at 443 Summit Road.

7. Victor was the 1st to get the tickets.  
8. Ann got her 5th home run of the season.  
9. The apples weighed 4 pounds.

10. There are 26 students in my class.  
11. Mark wears number 34 on his uniform.  
12. Her little brother is 8 months old.

13. The school bus seats 45 passengers.  
14. Tim was born in 1995.  
15. Jim rides bus 367 to school.

16. Identify the type of number used in the statement below.
   There are 455 students in our school.
   A position C count
   B measure D label

17. Which of the numbers in the statement below is being used as a label? Explain how you decided.
   Jan bought 36 muffins for $12.89 and took them to the meeting at 349 Pine Street for 25 volunteers
The company *Numbers R Us* is looking for new employees. They have called you to help them out. *Numbers R Us* hires numbers for different jobs. As you know, numbers can show position, count, measure, and label. Numbers are everywhere! You need to find ones for each job.

Below is the chart of how many numbers the company needs for each job. Look through textbooks, encyclopedias, or magazines or surf the Web to find numbers for each job. Be sure to include where you found each number so that the people at *Numbers R Us* can find the numbers you have listed.

<table>
<thead>
<tr>
<th>Job: To Show Position</th>
<th>Job: To Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3 numbers needed)</td>
<td>(5 numbers needed)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job: To Measure</th>
<th>Job: To Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>(10 numbers needed)</td>
<td>(8 numbers needed)</td>
</tr>
</tbody>
</table>
Uses of Numbers
Read each passage below and circle the numbers in each. Then answer the questions that follow.

Space Exploration  The 1st satellite launched into space was Sputnik 1 on October 4, 1957. It was a small ball about 23 inches across and weighing 185 pounds. This began space exploration. On July 20, 1969, Apollo 11 landed on the moon. This mission and the 5 missions that followed allowed scientists to get samples of moon rocks and measurements of the moon for analysis. The next giant step in space travel may be Mars. A trip to Mars would take about 9 months each way.

1. Which numbers in the paragraph are used to measure? Are the numbers exact amounts or estimates? Explain your reasoning.

2. The number 1 is used twice in the paragraph above. How is it used in each case?
# Uses of Numbers

Tell how each number is being used. Write *position*, *count*, *measure*, or *label* for each.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer lives at 349 Ridge Meadow.</td>
<td>1. Michael wears a size 8 pair of tennis shoes.</td>
</tr>
<tr>
<td>The number 349 is used to <strong>label</strong> or identify Jennifer’s house.</td>
<td>2. Emily read 35 pages of her new book.</td>
</tr>
</tbody>
</table>

3. John’s team had 3 home runs in the game. 4. Jason’s phone number is 331-2525. 5. Jenny needs 12 feet of fencing for the pen.

6. Cab #321 picked us up at the airport. 7. Pete was the 6th person in line to get tickets. 8. The puppy weighed 8 pounds.

9. The 747 airplane is roomy and seats a lot of passengers. 10. Jeff got a score of 90% on his math test. 11. The winter storm was the 1st of the season.

12. The singing group’s name is **Wink 133**. 13. The plane arrived at Gate 8. 14. A large bag contains 50 mints.

## Problem Solving

15. Identify the number used to measure in the statement below.

There are 45 students in our school on the track team. At our 1st meet, Jana came in 2nd in the 200-meter dash.
Uses of Numbers

Look at the cartoons. Read the sentences.

I am using numbers to **show** position. I am the 3rd tourist in line.

I am using numbers to **count**. There are 80 windows in this building.

I am using numbers to **measure**. This fountain is 5 feet high.

We are using numbers to **label**. I am number 8!

You are using numbers to show **position**. I am the 3rd tourist in line.

I am using numbers to **count**. There are 80 windows in this building.

I am using numbers to **measure**. This fountain is 5 feet high.

We are using numbers to **label**. I am number 8!

1. My brother is 3 feet tall. **I am using numbers to** __________.

2. This is Classroom 11. **Welcome! I am using numbers to** __________.

3. Your seat is in the 8th row. **I am using numbers to** __________.

4. I need 24 pens for my class. **I am using numbers to** __________.
Place Value Through Hundred Thousands

Write the number in the place-value chart in four ways.

<table>
<thead>
<tr>
<th>Thousands</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>hundred thousands</td>
<td>ten thousands</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Short Word Form
439 thousand, 158

Word Form
four hundred thirty-nine thousand, one hundred fifty-eight

Standard Form
439,158

Expanded Form
400,000 + 30,000 + 9,000 + 100 + 50 + 8

Write each number in three other ways. You can use a place-value chart to help you.

1. 125,312

2. 200,000 + 50,000 + 9,000 + 200 + 30 + 7

3. 317 thousand, 209
Place Value Through Hundred Thousands

Write each number in short word form.
1. 200,000 + 30,000 + 400 + 50 + 1 ________________

Write each number in standard form.
2. six hundred thirteen thousand, five hundred twenty-one ________________

Write each number in expanded form.
3. 417,058 ________________

Write each number in word form.
4. 137 thousand, 215 ________________

Write the value of the underlined digit.
5. 528 6. 7,854 7. 236,064 8. 32,888

Algebra • Equations Find each missing number.
9. 5,000 + 200 + 60 + ■ = 5,267 10. 6,000 + 700 + ■ = 6,720

Rewrite the number 54,722 to show each change.
11. Increase the number by 10,000. 12. Decrease the number by 100.

Test Prep

13. What form is used to write the number in the statement below?
About 135 thousand people live in my hometown.
A standard C expanded
B short word D word

14. What is the value of the digit 5 in 356,017? Explain how you found your answer.
Peas in a Pod

Read the numbers on the left side of the page. The numbers are written in standard form, expanded form, short word form, and word form. In each pea pod, write the letters of four equal numbers. Not every letter will be used.

A. 8,687
B. 800,000 + 60,000 + 800 + 70
C. 80 thousand, 687
D. eight hundred sixty thousand, eight hundred seventy
E. 86 thousand, 870
F. 80,687
G. eight thousand, six hundred eighty-seven
H. 80 thousand, 870
I. 86,870
J. 860,870
K. 8,000 + 600 + 80 + 7
L. eighty thousand, six hundred eighty-seven
M. 8 thousand, 687
N. 860 thousand, 870
O. 80,000 + 600 + 80 + 7
Place Value Through Hundred Thousands

Use the table to answer each question.

1. What is the area of California? Write this number in word form.

2. Which state has an area that is about one hundred four thousand square miles?

3. Write the area of Alaska in expanded form and short word form.

4. Predict The area of Florida is about 100,000 square miles less than the area of California. What is the approximate area of Florida?

5. Reasoning Which state on the table has the greatest area? Can you tell by looking at the first digit of each number? Explain your reasoning.
Place Value Through Hundred Thousands

Write each number in three other ways.

328 thousand, 514
Word form: three hundred twenty-eight thousand, five hundred fourteen
Expanded form: \(300,000 + 20,000 + 8,000 + 500 + 10 + 4\)
Standard form: 328,514

1. 246,718
2. 300,000 + 40,000 + 2,000 + 100 + 50 + 9

Write the value of the underlined digit.

3. 76,9_82
4. 66,42_4
5. 925,73_3

Algebra • Equations Find each missing number.

6. \(7,000 + \_ + 40 + 5 = 7,845\)
7. \(\_ + 8,000 + 900 + 70 + 6 = 18,976\)
8. \(200,000 + 40,000 + 5,000 + 700 + \_ + 3 = 245,783\)

Problem Solving

9. What is the value of the digit in the hundred thousands place in the number 178,632?
Place Value Through Hundred Thousands

Read the definitions.

To **increase** means “to make larger.”
The balloon is **increasing** in size.

To **decrease** means “to make smaller.”
The snowman is **decreasing** in size.

**Greater** can mean “more” or “larger.” A quarter has **greater** value than a dime.

**Ten times greater** means “a value multiplied by 10.” A fifty-cent piece has a value **ten times greater** than a nickel.

Write **increasing** or **decreasing** below each picture.

1.

2.

3. Circle the stamp with the **greater** value.

4. Circle the piece of money that has a value **ten times greater than** a dime.
Problem-Solving Strategy: Use Logical Reasoning

**Read It** Look for information.

Jorge went to the museum 2 days before Louisa. Kevin went to the museum 4 days after Jorge. The children went to the museum Saturday, Monday, and Wednesday. What day did each person go to the museum?

**Picture It** Use a model to show when the children visited the museum.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorge</td>
<td>Louisa</td>
<td>Kevin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Each [ ] = 1 day

**Solve It** Use the model to solve the problem.

The model shows that Jorge went to the museum first, Louisa visited the museum second, and Kevin went to the museum last. Based on the information in the problem, you can reason that:

1. Jorge went on __________________________.
   Louisa went on __________________________.
   Kevin went on __________________________.

**Try These!** Use a model to solve each problem. Show your work.

2. Mr. Stokes’ class is in line for lunch.
   Ming is behind Ramon and in front of Julie. Ken is in front of Ramon. Sue is last in line. What place is Ming in line?

3. Jason, Tori, and Kelly are wearing T-shirts. One is blue, one is red, and one is green. Neither girl is wearing a green shirt. Tori wishes she had worn a blue shirt. Tori wishes she had worn a blue shirt. What color is each person wearing?
Problem-Solving Strategy: Use Logical Reasoning

Use logical reasoning to solve each problem. Show your work.

1. Curtis, Laura, Brian, and Richard are playing a game where they take turns. Laura did not go first or second. Brian went before Curtis. Richard went last. In what order do the players take their turns?

2. Barry, Willis, and Joann each own either a guitar, a drum set, or a keyboard. Barry does not own an instrument with keys. Joann owns a guitar. What instrument does each person own?

3. Melissa, Maura, Anna, and Leslie each have a different favorite ice cream flavor. The ice cream flavors are vanilla, strawberry, chocolate, and mint chocolate chip. Maura does not like chocolate or vanilla. Anna does not like strawberry. Melissa does not like vanilla. Leslie likes mint chocolate chip. What is each person’s favorite ice cream flavor?
**Problem-Solving Strategy:**  
**Use Logical Reasoning**

Danny and his three friends each have a different sport and team they like to watch. Read the clues below to find their favorite sports and the uniform color of their favorite teams. Write **yes** or **no** in the chart below.

1. Danny’s favorite team does NOT wear orange or blue.
2. Fred’s favorite sport begins with a “B.” The color of his favorite team’s uniforms is NOT orange or yellow.
3. The person who likes baseball has a favorite team that wears orange.
4. Cindy’s favorite team does NOT wear orange or yellow.
5. Danny and Fred do NOT like to watch hockey.
6. The person who likes basketball has a favorite team that does NOT wear blue.

<table>
<thead>
<tr>
<th>Name</th>
<th>Sport</th>
<th>Uniform Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danny</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fred</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maggie</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cindy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Use with text pages 10–12.
Problem-Solving Strategy: Use Logical Reasoning

Problem The picture shows Amanda and her three sisters, Lori, Becky, and Joni. Amanda does not have a star on her T-shirt. Becky does not have a flower or a flag on her T-shirt. Joni’s shirt has polka dots. Lori does not have a flag on her shirt. Label the girls in the picture.

1. Which person can you label using only the information in the problem? What shirt is she wearing?

2. When you write yes in a square in a row or column, what is true of the rest of the squares in that row or column?

3. Fill in the chart with yes or no. Then label the drawing above.

<table>
<thead>
<tr>
<th></th>
<th>Star</th>
<th>Flower</th>
<th>Flag</th>
<th>Polka Dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amanda</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lori</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Becky</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joni</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Write About It How can you check your answer?

Use with text pages 10–13.
Ben, Margaret, Tyler, and Jessie are playing a game where they take turns. Tyler did not go last. Jessie went immediately after Ben. Margaret went first. In what order did the players take their turns?

Belle, Sebastian, Roy, and May each chose soccer, football, basketball, or baseball as their favorite sport. No two of them chose the same sport. Sebastian does not like soccer or football. Roy does not like soccer. May does not like basketball. Belle chose baseball. What is each person’s favorite sport?

Use a chart. Fill in what you know. Then use Logical Reasoning to fill in the rest of the chart.

<table>
<thead>
<tr>
<th></th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blaine</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Jorge</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Una</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Casey</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

The four friends in order from first to fourth are Casey, Jorge, Una, Blaine.
Problem-Solving Strategy:  
Use Logical Reasoning

Read each problem. Fill in the blanks.

1. Liza and Kit each have a piece of fruit. No one has a fruit that begins with the first letter of her name.

   So, Liza has a _________________. Kit has a _________________.

2. Ben and Luke each have a blue or a red flower. Ben’s flower is not red.

   So, Ben’s flower is _________________. Luke’s flower is _________________.

3. Bela and Anton each own a van or a motorcycle. Bela does not own a vehicle with two wheels.

   So, Anton owns a _________________. Bela owns a _________________.

4. Marta and Cia are the only people standing in line. Marta is not last.

   So, _________________ is in front of _________________.

5. Lori and Pam are playing a game. One of them has scored 18 points. The other has scored 13 points. Pam does not have more points than Lori.

   So, Pam has ________________ points. Lori has ________________ points.
How Big Is One Million?

How long will it take you to save a million pennies if you save 10 pennies a day?

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Number of Pennies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>$1 \times 10 = 10$ pennies</td>
</tr>
<tr>
<td>10 days</td>
<td>$10 \times 10 = 100$ pennies</td>
</tr>
<tr>
<td>100 days</td>
<td>$100 \times 10 = 1,000$ pennies</td>
</tr>
<tr>
<td>1,000 days</td>
<td>$1,000 \times 10 = 10,000$ pennies</td>
</tr>
<tr>
<td>10,000 days</td>
<td>$10,000 \times 10 = 100,000$ pennies</td>
</tr>
<tr>
<td>100,000 days</td>
<td>$100,000 \times 10 = 1,000,000$ pennies</td>
</tr>
</tbody>
</table>

**Solution:** At 10 pennies a day it takes 100,000 days!

How long will it take you to save a million pennies if you save 100 pennies a day?

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Number of Pennies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>$1 \times 100 = 100$ pennies</td>
</tr>
<tr>
<td>10 days</td>
<td>$10 \times 100 = 1,000$ pennies</td>
</tr>
<tr>
<td>100 days</td>
<td>$100 \times 100 = 10,000$ pennies</td>
</tr>
<tr>
<td>1,000 days</td>
<td>$1,000 \times 100 = 100,000$ pennies</td>
</tr>
<tr>
<td>10,000 days</td>
<td>$10,000 \times 100 = 1,000,000$ pennies</td>
</tr>
</tbody>
</table>

**Solution:** At 100 pennies a day it takes 10,000 days!

Use the tables to answer each question.

1. How many hundreds are there in 10,000?

2. How many tens are there in 10,000?

3. How many hundreds are there in 100,000?

4. How many tens are there in 100,000?

5. How many ten thousands are there in 1,000,000?

6. How many hundred thousands are there in 1,000,000?
How Big Is One Million?

A large container of paper clips holds 1,000 paper clips. An office supply store has 1,000 containers of paper clips in stock. How many paper clips is that? Complete the table to show how many paper clips the store has in stock.

<table>
<thead>
<tr>
<th>Number of Paper Clip Containers</th>
<th>Number of Paper Clips per Container</th>
<th>Total Number of Paper Clips in Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>1,000</td>
</tr>
<tr>
<td>2.</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>1,000</td>
<td></td>
</tr>
</tbody>
</table>

6. How many paper clips does the store have in stock?

________________________________________________________________________

Test Prep

7. Which number shows one half of a million?
   A 50,000     C 500,000
   B 5,000      D 5,000,000

8. Would you use hundreds, thousands, or millions to count the number of miles from the earth to the sun? Explain your reasoning.

________________________________________________________________________
How Many for a Million?

Read each statement below and answer the questions.

Jared bikes 10 miles in an hour.

1. How many hours would he have to bike to go 100 miles? _____
2. How many hours would he have to bike to go 1,000 miles? _____
3. How many hours would he have to bike to go 100,000 miles? _____
4. How many hours would he have to bike to go 1,000,000 miles? _____

Patricia has $1 worth of pennies.

5. How many pennies does Patricia have? _____
6. How many pennies equal $100? _____
7. How many pennies equal $1,000? _____
8. How much money would Patricia have if she had 1 million pennies? _____

Darrell read 100 pages in 2 days.

9. How many days would it take Darrell to read 10,000 pages? _____
10. How many days would it take Darrell to read 1 million pages? _____

A stadium holds 250,000 people.

11. How many stadiums would be needed to hold 2 million people? _____

Try These!

• Use a stopwatch or have a friend time you as you write your first name 10 times on a piece of paper. Then, find out how long it would take you to write your name 100, 1,000, 10,000, 100,000, and 1 million times.

• Look through your textbooks or an encyclopedia, or browse the Web to find items listed in the millions. Try to find at least three different things with values of at least 1 million.
How Big is One Million?

Tell whether the value given is in hundreds, thousands, or millions. Explain your choice.

1. The population of Florida is about \( \text{16 } \text{people} \).

2. Pamela is reading a book that is \( \text{5 pages} \).

3. A local organization held a penny drive and raised \$20,000 \text{ dollars or 2 pennies}.

Tell if each is less than, equal to, or greater than \( 1 \text{ million} \).

4. The number of visitors in 1,000 days if \( 1,000 \text{ people visit the park each day} \).

5. The number of seconds in 1,000 hours. (hint: \( 3,600 \text{ seconds} = 1 \text{ hour} \))

6. **You Decide** Jessie has a book of 50 stamps. How many books of stamps would she need to have \( 5,000,000 \text{ stamps} \)? Explain.

Show your work.
How Big Is One Million?

Use the chart to answer the following questions.

<table>
<thead>
<tr>
<th>Multiplication</th>
<th>Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 × 1,000,000</td>
<td>1,000,000</td>
<td>1 times 1 million = 1 million</td>
</tr>
<tr>
<td>10 × 100,000</td>
<td>1,000,000</td>
<td>10 times 1 hundred thousand = 1 million</td>
</tr>
<tr>
<td>100 × 10,000</td>
<td>1,000,000</td>
<td>100 times 10 thousand = 1 million</td>
</tr>
<tr>
<td>1,000 × 1,000</td>
<td>1,000,000</td>
<td>1,000 times 1 thousand = 1 million</td>
</tr>
<tr>
<td>10,000 × 100</td>
<td>1,000,000</td>
<td>10,000 times 1 hundred = 1 million</td>
</tr>
<tr>
<td>100,000 × 10</td>
<td>1,000,000</td>
<td>100,000 times 10 = 1 million</td>
</tr>
<tr>
<td>1,000,000 × 1</td>
<td>1,000,000</td>
<td>1,000,000 times 1 = 1 million</td>
</tr>
</tbody>
</table>

How many tens are in 1,000,000?
Chart shows 100,000 times ten = 1 million.

There are 100,000 tens in 1,000,000.

1. How many ones are there in 1,000,000? _________________
2. How many hundreds are there in 1,000,000? _________________
3. How many hundred thousands are in 1,000,000? _________________
4. How many ten thousands are there in 1,000,000? _________________
5. How many thousands are there in 1,000,000? _________________

Use the chart to complete these problems.

6. 1,000 × _____________ = 1,000,000
7. 10 × _____________ = 1,000,000
8. 100 × _____________ = 1,000,000
9. 10,000 × _____________ = 1,000,000

Problem Solving

10. Jack has 1,000,000 pennies. If each roll holds 100 pennies, how many rolls will Jack need for all the pennies?

________________________________________
How Big Is One Million?

Read the comic strip. Think about the words in bold type.

1. P: Darren, this book is fun! It has 8 pages of jokes and 4 pages of puzzles.
   D: So, it has 12 pages altogether.

2. D: Paul, you have done 3 of the 4 pages of puzzles.
   P: Yes, there is 1 remaining puzzle page.

3. D: Have you seen this joke book? I read it cover to cover last night.
   P: Wow, you read every page!

4. P: I have an idea! Let’s combine our favorite jokes into a super joke book!
   D: Let’s do it! It will be fun to put our jokes together.

Draw lines to connect the words to their meanings.

1. cover to cover “as a total number”
2. altogether “put together”
3. remaining “every page”
4. combine “not used yet, or still there”

Use the words in the box to complete the sentences below.

<table>
<thead>
<tr>
<th>cover to cover</th>
<th>altogether</th>
<th>remaining</th>
<th>combine</th>
</tr>
</thead>
</table>
5. You can ________________ red paint and yellow paint to make orange paint.
6. If you have used 4 of 6 paper cups, you have 2 ________________.
7. If you have 2 red pens and 3 blue pens, you have 5 pens ________________.
8. When you have read all of a book, you have read it ________________.

Use with text pages 14–15.
### Place Value Through Hundred Millions

<table>
<thead>
<tr>
<th>Millions</th>
<th>Thousands</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>hundred millions</td>
<td>ten millions</td>
<td>millions</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>hundred thousands</td>
<td>ten thousands</td>
<td>thousands</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>hundreds</td>
<td>tens</td>
<td>ones</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Short Word Form
- 628 million, 534 thousand, 782

#### Word Form
- Six hundred twenty-eight million, five hundred thirty-four thousand, seven hundred eighty-two

#### Standard Form
- 628,534,782

#### Expanded Form
- \[600,000,000 + 20,000,000 + 8,000,000 + 500,000 + 30,000 + 4,000 + 700 + 80 + 2\]

### Write each number in three other ways.

1. 450,870,235

   - **Standard Form**: 450,870,235
   - **Word Form**: Four hundred fifty million, eight hundred seventy thousand, two hundred thirty-five
   - **Expanded Form**: \[400,000,000 + 50,000,000 + 8,000,000 + 700,000 + 70,000 + 2,000 + 30 + 5\]

2. 30,000,000 + 5,000,000 + 100,000 + 40,000 + 3,000 + 600 + 50

   - **Standard Form**: 30,000,000 + 5,000,000 + 100,000 + 40,000 + 3,000 + 600 + 50
   - **Word Form**: Thirty million, five million, one hundred thousand, forty thousand, three thousand, six hundred, fifty
   - **Expanded Form**: \[30,000,000 + 5,000,000 + 100,000 + 40,000 + 3,000 + 600 + 50\]

3. 615 million, 475 thousand

   - **Standard Form**: 615,000,000 + 475,000
   - **Word Form**: Six hundred fifteen million, four hundred seventy-five thousand
   - **Expanded Form**: \[600,000,000 + 10,000,000 + 500,000 + 475,000\]
Place Value Through Hundred Millions

Write the number below in short word form.

1. $200,000,000 + 30,000,000 + 400,000 + 50,000 + 1,000$

Write the number below in standard form.

2. $100,000,000 + 80,000,000 + 5,000,000 + 300,000 + 20,000 + 8,000$

Write the number below in expanded form.

3. 463 million, 342 thousand, 705

Write the number below in word form.

4. 715,413,068

Write the place of the 2 in each number. Then write its value.

5. 21,547
6. 54,285
7. 67,902

Test Prep

8. Tell what form of the number is being used in the statement below.
   Over 10,000,000 tacos sold.
   A standard  C expanded
   B short word  D word

9. Write the value of the underlined digit in the number below.
   $648,396,178$
   Explain how you found your answer.
Millions Puzzle

Use the list of numbers and the clues below to fill in the puzzle. Use each number exactly once.

158,207,618  359,652  82,150,325
350,523  14,530,976  1,635,625
141,820  821,408,320  1,043,685

Across
1. A number with a 2 in the hundred thousands place.
2. A number with a 4 in the millions place.
3. A number with a 3 in the ones place.
4. A number greater than 800,000 but less than 1 million 500 thousand.

Down
1. A number greater than 300,000 with a 5 in the tens place.
2. A number greater than eight hundred twenty million.
3. A number with a 3 in the ten thousands place.
4. A number with a 5 in the ten thousands place.
5. A number less than 100 million with an 8 in the hundreds place.
Place Value Through Hundred Millions

The table below shows the estimated number of each type of pet found in the United States. Use the table to answer the following questions.

<table>
<thead>
<tr>
<th>Pets in the United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pet</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Cat</td>
</tr>
<tr>
<td>Dog</td>
</tr>
<tr>
<td>Freshwater Fish</td>
</tr>
</tbody>
</table>

1. How many cats are in the United States? Write this number in two ways.

2. Which pet populations are greater than ten million?

3. Suppose there are over two hundred twenty-one million cats in the world. Write this number in expanded form.

4. Write About It Look at the numbers in the table. In which number does the digit 1 have the greatest value? Explain your answer.
Place Value Through Hundred Millions

Here are four ways to write the same number.

<table>
<thead>
<tr>
<th>Standard form: 328,541,670</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word form: three hundred twenty-eight million, five hundred forty-one thousand, six hundred seventy</td>
</tr>
<tr>
<td>Short word form: 328 million, 541 thousand, 670</td>
</tr>
<tr>
<td>Expanded form: 300,000,000 + 20,000,000 + 8,000,000 + 500,000 + 40,000 + 1,000 + 600 + 70</td>
</tr>
</tbody>
</table>

Write each number in word form and short word form.

1. 612,483,125

Write the number in standard form and expanded form.

3. 411 million, 725 thousand, 600

Problem Solving

4. Write two 8-digit numbers that have a 4 in the millions place, a 6 in the ten thousands place, and a 9 in the ones place.
Place Value Through Hundred Millions

**Standard form** is the usual way in which numbers are written. The number in the box is written in standard form: \(5,280\)

**Expanded form** is a way of writing a number to show the values of its digits. The number in the oval is written in expanded form:
\[
5,000 + 200 + 80
\]

**Short word form** is a way of writing a number with words and digits. The number on the dotted line is written in short word form:
5 thousand, 280

**Word form** is writing a number in words. The number in the cloud is written in word form:
five thousand, two hundred eighty

Connect the numbers to the forms they are in.

1. one thousand, seven hundred sixty  
   standard form
2. 1,760  
   expanded form
3. 1 thousand, 760  
   short word form
4. \(1000 + 700 + 60\)  
   word form

Complete these items.

5. Write a digit in each box: \[
\begin{array}{cccc}
\hline
\hline
\hline 
\end{array}
\]

6. Write the digits above as a number that is in standard form.  
   ________________

7. Write the number above in expanded form.  
   ________________

8. Write the number above in short word form.  
   ________________

9. Write the number above in word form.  
   ________________
Tell how each number is being used. Write position, count, measure, or label.

1. taxi number 288  
2. 48 people

3. 19 feet tall  
4. 12th place

Write each number in standard form.

5. 42 million, 713 thousand

6. 800,000 + 30,000 + 7,000 + 500 + 2

7. four hundred fifty-one thousand, eight hundred eleven

Write each number in word form.

8. 318,407

9. 80,000 + 2,000 + 900

Write each number in short word form.

10. 56,703,094

11. 7,000,000 + 300,000 + 80,000 + 900 + 20 + 5

Write each number in expanded form.

12. 42 million, 642 thousand, 32

13. seven million, eighty-six thousand, twelve
Write the place of the underlined digit. Then write its value.

14. 850,467 ________________________________

15. 24,923,200 ________________________________

16. 253,845,237 ________________________________

Write the value of the underlined digit.

17. 293,436,703 ________________________________

18. 503,780,295 ________________________________

Use logical reasoning to solve each problem.

19. Megan, Ryan, and Jesse each own either a bike, a scooter, or a van. Each person owns a different vehicle. Megan does not own a vehicle with exactly 2 wheels. Jesse owns the scooter. What vehicle does each person own?

________________________________________

________________________________________

________________________________________

20. Andy, Brent, Chen, and Dana each saw a different number of movies last month. Each of them saw 3, 4, 5, or 6 movies. Chen saw 4 movies. Dana did not see 6 movies. Brent did not see more than 4 movies. How many movies did each person see?

________________________________________

________________________________________

________________________________________
# Unit 1 Assessment

<table>
<thead>
<tr>
<th>Student</th>
<th>Chapter 1</th>
<th>Chapter 2</th>
<th>Unit 1 Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Chapter Test</td>
<td>Pre-test</td>
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<tr>
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</tr>
</tbody>
</table>
Chapter Resources
GRADE 4, CHAPTER 1

Contents

Family Letter for Unit 1

Chapter Pretest (3 pages)

Resources for Lessons 1.1 – 1.5 (6 pages/lesson)
  • Reteach 1.1 – 1.5
  • Practice 1.1 – 1.5
  • Enrichment 1.1 – 1.5
  • Problem Solving 1.1 – 1.5
  • Homework 1.1 – 1.5
  • English Learners 1.1 – 1.5

Chapter Test (2 pages)

Unit 1 Record Sheet
Dear Family,

During the next few weeks, our math class will be learning about place value of numbers through hundred millions and about money.

You can expect to see work that provides practice with comparing, ordering, and rounding numbers as well as counting and comparing collections of coins and bills.

As we learn how to round numbers, you may wish to use the following sample as a guide.

Knowing about place value can help students understand greater numbers and use them to solve problems.

Sincerely,

Your Child’s Teacher

---

**Vocabulary**

**estimate** A number close to an exact amount. An estimate tells about how much or about how many.

**rounding** To find about how many or about how much by expressing a number to the nearest ten, hundred, thousand, and so on.

---

**Rounding to the Nearest Hundred**

To round a number such as 6,285 to the nearest hundred, first find the digit in the hundreds place (2).

Next look at the digit in the place to the right of the hundreds place (8).

- If this digit is less than 5, do not change the digit in the hundreds place.
- If it is equal to or greater than 5, increase the digit in the hundreds place by 1.
- Then change all of the digits to the right of the hundreds place to zeros.

Since the digit to the right of the hundreds place is 8, and 8 is greater than 5, then 6,285 rounded to the nearest hundred is 6,300.

---

Technology

Check out Education Place at [eduplace.com/kids/mw/](http://eduplace.com/kids/mw/) for Glossary, Word Games, test prep practice, and more.
Are You Ready?

Write the value of the digit 3 in each number.

1. 237
   \[30\]

2. 3,211
   \[3,000\]

Write each number in standard form.

3. five hundred three
   \[503\]

4. 7 tens 5 ones
   \[75\]

5. 2,000 + 400 + 70
   \[2,470\]

Write each number in word form.

6. 462
   \[four\ hundred\ sixty-two\]

7. 3,950
   \[three\ thousand,\ nine\ hundred\ fifty\]

Write the value of the underlined digit.

8. 437
   \[thirty\]

9. 6,209
   \[six\ thousand\]

Use logical reasoning to solve the problem.

10. How many tens are there in 100? Explain your answer.

   \[10; 10 \times 10 = 100\]
Check What You Know

Tell how each number is being used. Write position, count, measure, or label.

1. population: 35,673
   count

2. Allen, TX 75002
   label

3. 6:35 A.M.
   measure

4. 23rd person in line
   position

Write each number in standard form.

5. 16 million, 573 thousand
   16,573,000

6. 400,000 + 90,000 + 3,000 + 800 + 7
   493,807

7. nine hundred sixty-two thousand, four hundred twelve
   962,412

Write each number in word form.

8. 613,509 six hundred thirteen thousand, five hundred nine

9. 60,000 + 9,000 + 500 sixty-nine thousand, five hundred

Write each number in short word form.

10. 73,105,026 73 million, 105 thousand, 26

11. 4,000,000 + 500,000 + 30,000 + 800 + 60 + 3
    4 million, 530 thousand, 863

Write each number in expanded form.

12. 36 million, 421 thousand, 75
    30,000,000 + 6,000,000 + 400,000 + 20,000
        + 1,000 + 70 + 5

13. two million, thirty-two thousand, eleven
    2,000,000 + 30,000 + 2,000 + 10 + 1
Write the place of the underlined digit. Then write its value.

14. \(305,247\) **ten thousands; 0**

15. \(4,892,500\) **hundred thousands; 800,000**

16. \(543,890,127\) **ten millions; 40,000,000**

Write the value of the underlined digit.

17. \(628,543,107\) **40,000**

18. \(750,740,730\) **0**

Use logical reasoning to solve each problem.

19. Ashley, Marty, and Yoko each have a bike. The bikes are green, blue, and maroon. Ashley’s bike is not green. Marty’s bike color does not start with the same letter as his name. Yoko’s bike is blue. What color is each person’s bike?

   **Ashley’s bike is maroon;**
   **Marty’s bike is green;**
   **Yoko’s bike is blue.**

20. Tina, Cody, Luis, and Robbie each have a different pet. The pets are a bird, a ferret, a dog, and a cat. Luis does not have a bird or a ferret. Robbie does not have a cat. Cody has a dog. Tina does not have ferret. What pet does each person have?

   **Tina has the bird;**
   **Cody has the dog;**
   **Luis has the cat;**
   **Robbie has the ferret.**
Uses of Numbers

Numbers are used for many different purposes.

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>To show position</td>
<td>Emily was the 1st female class president.</td>
</tr>
<tr>
<td>To count</td>
<td>Our team scored 18 points.</td>
</tr>
<tr>
<td></td>
<td>The hotel has 450 rooms.</td>
</tr>
<tr>
<td>To measure</td>
<td>Ann competed in the 200-meter swim race.</td>
</tr>
<tr>
<td></td>
<td>I need to be home by 8:30.</td>
</tr>
<tr>
<td>To label</td>
<td>Room 14A is the library.</td>
</tr>
<tr>
<td></td>
<td>The model number of the sweeper is HJ0013.</td>
</tr>
</tbody>
</table>

Tell how each number is being used. Write position, count, measure, or label.

1. Our cat had 3 kittens.  count
2. Joe is 10 years old.    count
3. The flag is 3 feet high. measure
4. Meg finished 3rd in the relay race. position
5. Mark lives in Apartment 12 F. label
6. We live on the 2nd floor. position
7. Jeff needs 8 hours of sleep each night. measure or count
8. Sue has 4 glasses of milk each day. count
9. Carlos built an F-15 model plane. label
Uses of Numbers

Tell how each number is being used. Write *position*, *count*, *measure*, *label*.

1. Alex is 25 years old. **count**
2. The meeting is at 4:15. **measure**
3. Mark placed fifth in the relay race. **position**
4. Flight 236 was on time. **label**
5. Ann is almost 5 feet tall. **measure**
6. Martin lives at 443 Summit Road. **label**
7. Victor was the 1st to get the tickets. **position**
8. Ann got her 5th home run of the season. **position**
9. The apples weighed 4 pounds. **measure**
10. There are 26 students in my class. **count**
11. Mark wears number 34 on his uniform. **label**
12. Her little brother is 8 months old. **count**
13. The school bus seats 45 passengers. **count**
14. Tim was born in 1995. **count**
15. Jim rides bus 367 to school. **label**
16. Identify the type of number used in the statement below.
   There are 455 students in our school.
   - A position  
   - B measure  
   - C count  
   - D label
17. Which of the numbers in the statement below is being used as a label? Explain how you decided.
   Jan bought 36 muffins for $12.89 and took them to the meeting at 349 Pine Street for 25 volunteers.
   **349:** *Explanations may vary.*
**Number Hiring Agent**

The company *Numbers R Us* is looking for new employees. They have called you to help them out. *Numbers R Us* hires numbers for different jobs. As you know, numbers can show position, count, measure, and label. Numbers are everywhere! You need to find ones for each job.

Below is the chart of how many numbers the company needs for each job. Look through textbooks, encyclopedias, or magazines or surf the Web to find numbers for each job. Be sure to include where you found each number so that the people at *Numbers R Us* can find the numbers you have listed. *Answers will vary.*

<table>
<thead>
<tr>
<th>Job: To Show Position</th>
<th>Job: To Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>(3 numbers needed)</td>
<td>(5 numbers needed)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Job: To Measure</th>
<th>Job: To Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>(10 numbers needed)</td>
<td>(8 numbers needed)</td>
</tr>
</tbody>
</table>
Uses of Numbers

Read each passage below and circle the numbers in each. Then answer the questions that follow.

Space Exploration  The 1st satellite launched into space was Sputnik 1 on October 4, 1957. It was a small ball about 23 inches across and weighing 185 pounds. This began space exploration. On July 20, 1969, Apollo 11 landed on the moon. This mission and the 5 missions that followed allowed scientists to get samples of moon rocks and measurements of the moon for analysis. The next giant step in space travel may be Mars. A trip to Mars would take about 9 months each way.

1. Which numbers in the paragraph are used to measure? Are the numbers exact amounts or estimates? Explain your reasoning.

4, 1957, 23, 185, 20, 1969, 9; Oct 4, 1957 and July 20, 1969 are exact amounts; they name a date. “About 23 inches” is an estimate. The measure 185 pounds is exact. 9 months is an estimate because of the word “about”.

2. The number 1 is used twice in the paragraph above. How is it used in each case?

It is used as an ordinal number to show position; 1st satellite. It is also used as a number to label; Sputnik 1.
Uses of Numbers

Tell how each number is being used. Write position, count, measure, or label for each.

1. Michael wears a size 8 pair of tennis shoes. **measure**
2. Emily read 35 pages of her new book. **count**
3. John’s team had 3 home runs in the game. **count**
4. Jason’s phone number is 331-2525. **label**
5. Jenny needs 12 feet of fencing for the pen. **measure**
6. Cab #321 picked us up at the airport. **label**
7. Pete was the 6th person in line to get tickets. **position**
8. The puppy weighed 8 pounds. **measure**
9. The 747 airplane is roomy and seats a lot of passengers. **label**
10. Jeff got a score of 90% on his math test. **measure**
11. The winter storm was the 1st of the season. **position**
12. The singing group’s name is Wink 133. **label**
13. The plane arrived at Gate 8. **label**
14. A large bag contains 50 mints. **count**

Problem Solving

15. Identify the number used to measure in the statement below.

There are 45 students in our school on the track team. At our 1st meet, Jana came in 2nd in the 200-meter dash.

**200**
Uses of Numbers

Look at the cartoons. Read the sentences.

I am using numbers to **show position**. I am the 3rd tourist in line.

I am using numbers to **count**. There are 80 windows in this building.

I am using numbers to **measure**. This fountain is 5 feet high.

We are using numbers to **label**. I am number 8!

Fill each blank with a word from the box.

<table>
<thead>
<tr>
<th>show position</th>
<th>count</th>
<th>measure</th>
<th>label</th>
</tr>
</thead>
</table>

1. My brother is 3 feet tall. I am using numbers to **measure**.

2. This is Classroom 11. Welcome! I am using numbers to **label**.

3. Your seat is in the 8th row. I am using numbers to **show position**.

4. I need 24 pens for my class. I am using numbers to **count**.
### Place Value Through Hundred Thousands

Write the number in the place-value chart in four ways.

<table>
<thead>
<tr>
<th>Thousands</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>hundred thousands</td>
<td>ten thousands</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Short Word Form**
- 439 thousand, 158

**Word Form**
- four hundred thirty-nine thousand, one hundred fifty-eight

**Standard Form**
- 439,158

**Expanded Form**
- $400,000 + 30,000 + 9,000 + 100 + 50 + 8$

Write each number in three other ways. You can use a place-value chart to help you.

1. **125,312**
   - 125 thousand, 312; 100,000 + 20,000 + 5,000 + 300 + 10 + 2; one hundred twenty-five thousand, three hundred twelve

2. **200,000 + 50,000 + 9,000 + 200 + 30 + 7**
   - 259,237; 259 thousand, 237; two hundred fifty-nine thousand, two hundred thirty-seven

3. **317 thousand, 209**
   - 317,209; 300,000 + 10,000 + 7,000 + 200 + 9; three hundred seventeen thousand, two hundred nine
Place Value Through Hundred Thousands

Write each number in short word form.
1. 200,000 + 30,000 + 400 + 50 + 1 = 230 thousand, 451

Write each number in standard form.
2. six hundred thirteen thousand, five hundred twenty-one = 613,521

Write each number in expanded form.
3. 417,058 = 400,000 + 10,000 + 7,000 + 50 + 8

Write each number in word form.
4. 137 thousand, 215 = one hundred thirty-seven thousand, two hundred fifteen

Write the value of the underlined digit.
5. 528 = 20
6. 7,854 = 7,000
7. 236,064 = 30,000
8. 32,888 = 800

Algebra • Equations Find each missing number.
9. 5,000 + 200 + 60 + ■ = 5,267
10. 6,000 + 700 + ■ = 6,720

Rewrite the number 54,722 to show each change.
11. Increase the number by 10,000.
    64,722
12. Decrease the number by 100.
    54,622

Test Prep

13. What form is used to write the number in the statement below?
    About 135 thousand people live in my hometown.
    A standard  B short word  C expanded  D word

14. What is the value of the digit 5 in 356,017? Explain how you found your answer.
    50 thousand or 50,000; Explanations may vary.
Peas in a Pod

Read the numbers on the left side of the page. The numbers are written in standard form, expanded form, short word form, and word form. In each pea pod, write the letters of four equal numbers.

Not every letter will be used.

A. 8,687
B. 800,000 + 60,000 + 800 + 70
C. 80 thousand, 687
D. eight hundred sixty thousand, eight hundred seventy
E. 86 thousand, 870
F. 80,687
G. eight thousand, six hundred eighty-seven
H. 80 thousand, 870
I. 86,870
J. 860,870
K. 8,000 + 600 + 80 + 7
L. eighty thousand, six hundred eighty-seven
M. 8 thousand, 687
N. 860 thousand, 870
O. 80,000 + 600 + 80 + 7
Place Value Through Hundred Thousands

Use the table to answer each question.

1. What is the area of California? Write this number in word form.
   
   **One hundred fifty eight thousand six hundred forty eight square miles.**

2. Which state has an area that is about one hundred four thousand square miles?
   
   **Colorado**

3. Write the area of Alaska in expanded form and short word form.  
   
   \[
   500,000 + 80,000 + 7,000 + 800 + 70 + 8; \text{587 thousand, 878}
   \]

4. **Predict** The area of Florida is about 100,000 square miles less than the area of California. What is the approximate area of Florida?
   
   **58,600 square miles**

5. **Reasoning** Which state on the table has the greatest area? Can you tell by looking at the first digit of each number? Explain your reasoning.
   
   **Alaska; possible answer: You can look at the first digit because all first digits are in the hundred thousands place and 5 is the greatest first digit.**
Place Value Through Hundred Thousands

Write each number in three other ways.

328 thousand, 514
Word form: three hundred twenty-eight thousand, five hundred fourteen
Expanded form: 300,000 + 20,000 + 8,000 + 500 + 10 + 4
Standard form: 328,514

1. 246,718
2. 300,000 + 40,000 + 2,000 + 100 + 50 + 9
   246 thousand, 718;
   200,000 + 40,000 +
   6,000 + 700 + 10 + 8;
   two hundred forty-six thousand, seven hundred eighteen

Write the value of the underlined digit.
3. 76,982 900
4. 66,424 6,000
5. 925,733 30

Algebra • Equations Find each missing number.
6. 7,000 + □ + 40 + 5 = 7,845 800
7. □ + 8,000 + 900 + 70 + 6 = 18,976 10,000
8. 200,000 + 40,000 + 5,000 + 700 + □ + 3 = 245,783 80

Problem Solving

9. What is the value of the digit in the hundred thousands place in the number 178,632?
   100,000
Place Value Through Hundred Thousands

Read the definitions.

To **increase** means “to make larger.”
The balloon is **increasing** in size.

To **decrease** means “to make smaller.”
The snowman is **decreasing** in size.

**Greater** can mean “more” or “larger.” A quarter has **greater** value than a dime.

**Ten times greater** means “a value multiplied by 10.” A fifty-cent piece has a value **ten times greater** than a nickel.

Write **increasing** or **decreasing** below each picture.

1. **decreasing**

3. Circle the stamp with the **greater** value.

4. Circle the piece of money that has a value **ten times greater than** a dime.
Problem-Solving Strategy:
Use Logical Reasoning

Read It Look for information.
Jorge went to the museum 2 days before Louisa. Kevin went to the museum 4 days after Jorge. The children went to the museum Saturday, Monday, and Wednesday. What day did each person go to the museum?

Picture It Use a model to show when the children visited the museum.

<table>
<thead>
<tr>
<th>Jorge</th>
<th>Louisa</th>
<th>Kevin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Each 1 day</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Solve It Use the model to solve the problem.
The model shows that Jorge went to the museum first, Louisa visited the museum second, and Kevin went to the museum last. Based on the information in the problem, you can reason that:

1. Jorge went on Saturday.
2. Louisa went on Monday.
3. Kevin went on Wednesday.

Try These! Use a model to solve each problem.

2. Mr. Stokes’ class is in line for lunch.
Ming is behind Ramon and in front of Julie. Ken is in front of Ramon. Sue is last in line. What place is Ming in line?

**Ming is 3rd in line.**

3. Jason, Tori, and Kelly are wearing T-shirts. One is blue, one is red, and one is green. Neither girl is wearing a green shirt. Tori wishes she had worn a blue shirt. What color is each person wearing?

**Jason-green, Tori-red, Kelly-blue**
Problem-Solving Strategy: Use Logical Reasoning

Use logical reasoning to solve each problem. Show your work.

1. Curtis, Laura, Brian, and Richard are playing a game where they take turns. Laura did not go first or second. Brian went before Curtis. Richard went last. In what order do the players take their turns?

   **Brian, Curtis, Laura, Richard**

2. Barry, Willis, and Joann each own either a guitar, a drum set, or a keyboard. Barry does not own an instrument with keys. Joann owns a guitar. What instrument does each person own?

   **Barry = drum set; Willis = keyboard; Joann = guitar**

3. Melissa, Maura, Anna, and Leslie each have a different favorite ice cream flavor. The ice cream flavors are vanilla, strawberry, chocolate, and mint chocolate chip. Maura does not like chocolate or vanilla. Anna does not like strawberry. Melissa does not like vanilla. Leslie likes mint chocolate chip. What is each person’s favorite ice cream flavor?

   **Melissa = chocolate; Maura = strawberry; Anna = vanilla; Leslie = mint chocolate chip**
Problem-Solving Strategy: Use Logical Reasoning

Danny and his three friends each have a different sport and team they like to watch. Read the clues below to find their favorite sports and the uniform color of their favorite teams. Write yes or no in the chart below.

1. Danny’s favorite team does NOT wear orange or blue.
2. Fred’s favorite sport begins with a “B.” The color of his favorite team’s uniforms is NOT orange or yellow.
3. The person who likes baseball has a favorite team that wears orange.
4. Cindy’s favorite team does NOT wear orange or yellow.
5. Danny and Fred do NOT like to watch hockey.
6. The person who likes basketball has a favorite team that does NOT wear blue.

<table>
<thead>
<tr>
<th></th>
<th>Football</th>
<th>Baseball</th>
<th>Hockey</th>
<th>Basketball</th>
<th>Yellow</th>
<th>Blue</th>
<th>Red</th>
<th>Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danny</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Fred</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Maggie</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Cindy</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yellow</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Blue</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name | Sport  | Uniform Color
-----|--------|-----------------|
Danny| football | yellow
Fred | basketball | red
Maggie| baseball | orange
Cindy| hockey | blue

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Problem-Solving Strategy:
Use Logical Reasoning

Problem The picture shows Amanda and her three sisters, Lori, Becky, and Joni. Amanda does not have a star on her T-shirt. Becky does not have a flower or a flag on her T-shirt. Joni’s shirt has polka dots. Lori does not have a flag on her shirt. Label the girls in the picture.

1. Which person can you label using only the information in the problem? What shirt is she wearing?
   
   Joni; polka dots

2. When you write yes in a square in a row or column, what is true of the rest of the squares in that row or column? 
   You can write no in all the other squares in that row or column.

3. Fill in the chart with yes or no. Then label the drawing above.

<table>
<thead>
<tr>
<th></th>
<th>Star</th>
<th>Flower</th>
<th>Flag</th>
<th>Polka Dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amanda</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Lori</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Becky</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Joni</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
</tbody>
</table>

4. Write About It How can you check your answer? Read the problem and make sure the facts match my solution.
Problem-Solving Strategy:
Use Logical Reasoning

Use logical reasoning to solve each problem.

Blaine, Jorge, Una, and Casey are standing in line. Una is not first. Blaine is fourth. Jorge is directly behind Casey. List the four friends in order from first to fourth.

Use a chart. Fill in what you know. Then use Logical Reasoning to fill in the rest of the chart.

<table>
<thead>
<tr>
<th></th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blaine</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Jorge</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Una</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Casey</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

The four friends in order from first to fourth are Casey, Jorge, Una, Blaine.

1. Ben, Margaret, Tyler, and Jessie are playing a game where they take turns. Tyler did not go last. Jessie went immediately after Ben. Margaret went first. In what order did the players take their turns?

   **Margaret, Tyler, Ben, Jessie**

2. Belle, Sebastian, Roy, and May each chose soccer, football, basketball, or baseball as their favorite sport. No two of them chose the same sport. Sebastian does not like soccer or football. Roy does not like soccer. May does not like basketball. Belle chose baseball. What is each person’s favorite sport?

   **Belle = baseball,**
   **Sebastian = basketball,**
   **Roy = football,**
   **May = Soccer**
Problem-Solving Strategy:
Use Logical Reasoning

Read each problem. Fill in the blanks.

1. Liza and Kit each have a piece of fruit. No one has a fruit that begins with the first letter of her name.
   So, Liza has a **banana**. Kit has a **lemon**.

2. Ben and Luke each have a blue or a red flower. Ben’s flower is not red.
   So, Ben’s flower is **blue**. Luke’s flower is **red**.

3. Bela and Anton each own a van or a motorcycle. Bela does not own a vehicle with two wheels.
   So, Anton owns a **motorcycle**. Bela owns a **van**.

4. Marta and Cia are the only people standing in line. Marta is not last.
   So, **Marta** is in front of **Cia**.

5. Lori and Pam are playing a game. One of them has scored 18 points. The other has scored 13 points. Pam does not have more points than Lori.
   So, Pam has **13** points. Lori has **18** points.
How Big Is One Million?

How long will it take you to save a million pennies if you save 10 pennies a day?

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Number of Pennies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>$1 \times 10 = 10$ pennies</td>
</tr>
<tr>
<td>10 days</td>
<td>$10 \times 10 = 100$ pennies</td>
</tr>
<tr>
<td>100 days</td>
<td>$100 \times 10 = 1,000$ pennies</td>
</tr>
<tr>
<td>1,000 days</td>
<td>$1,000 \times 10 = 10,000$ pennies</td>
</tr>
<tr>
<td>10,000 days</td>
<td>$10,000 \times 10 = 100,000$ pennies</td>
</tr>
<tr>
<td>100,000 days</td>
<td>$100,000 \times 10 = 1,000,000$ pennies</td>
</tr>
</tbody>
</table>

Solution: At 10 pennies a day it takes 100,000 days!

How long will it take you to save a million pennies if you save 100 pennies a day?

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Number of Pennies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day</td>
<td>$1 \times 100 = 100$ pennies</td>
</tr>
<tr>
<td>10 days</td>
<td>$10 \times 100 = 1,000$ pennies</td>
</tr>
<tr>
<td>100 days</td>
<td>$100 \times 100 = 10,000$ pennies</td>
</tr>
<tr>
<td>1,000 days</td>
<td>$1,000 \times 100 = 100,000$ pennies</td>
</tr>
<tr>
<td>10,000 days</td>
<td>$10,000 \times 100 = 1,000,000$ pennies</td>
</tr>
</tbody>
</table>

Solution: At 100 pennies a day it takes 10,000 days!

Use the tables to answer each question.

1. How many hundreds are there in 10,000? **100 hundreds**

2. How many tens are there in 10,000? **1,000 tens**

3. How many hundreds are there in 100,000? **1,000 hundreds**

4. How many tens are there in 100,000? **10,000 tens**

5. How many ten thousands are there in 1,000,000? **100 ten thousands**

6. How many hundred thousands are there in 1,000,000? **10 hundred thousands**
How Big Is One Million?

A large container of paper clips holds 1,000 paper clips. An office supply store has 1,000 containers of paper clips in stock. How many paper clips is that? Complete the table to show how many paper clips the store has in stock.

<table>
<thead>
<tr>
<th>Number of Paper Clip Containers</th>
<th>Number of Paper Clips per Container</th>
<th>Total Number of Paper Clips in Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>10,000</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>50,000</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>100,000</td>
</tr>
<tr>
<td>5</td>
<td>1,000</td>
<td>1,000,000</td>
</tr>
</tbody>
</table>

6. How many paper clips does the store have in stock?  
1 million or 1,000,000

Test Prep

7. Which number shows one half of a million?  
   A 50,000  
   B 5,000  
   C 500,000  
   D 5,000,000  

8. Would you use hundreds, thousands, or millions to count the number of miles from the earth to the sun? Explain your reasoning.
   millions; Explanations may vary.
How Many for a Million?

Read each statement below and answer the questions.

Jared bikes 10 miles in an hour.
1. How many hours would he have to bike to go 100 miles? \(10\) hours
2. How many hours would he have to bike to go 1,000 miles? \(100\) hours
3. How many hours would he have to bike to go 100,000 miles? \(10,000\) hours
4. How many hours would he have to bike to go 1,000,000 miles? \(100,000\) hours

Patricia has $1 worth of pennies.
5. How many pennies does Patricia have? \(100\) pennies
6. How many pennies equal $100? \(10,000\) pennies
7. How many pennies equal $1,000? \(100,000\) pennies
8. How much money would Patricia have if she had 1 million pennies? \$10,000

Darrell read 100 pages in 2 days.
9. How many days would it take Darrell to read 10,000 pages? \(200\) days
10. How many days would it take Darrell to read 1 million pages? \(20,000\) days

A stadium holds 250,000 people.
11. How many stadiums would be needed to hold 2 million people? \(8\) stadiums

Try These!

- Use a stopwatch or have a friend time you as you write your first name 10 times on a piece of paper. Then, find out how long it would take you to write your name 100, 1,000, 10,000, 100,000, and 1 million times.

- Look through your textbooks or an encyclopedia, or browse the Web to find items listed in the millions. Try to find at least three different things with values of at least 1 million.

Check students’ work.
How Big is One Million?

Tell whether the value given is in hundreds, thousands, or millions. Explain your choice. For 1–3, explanations may vary. Show your work.

1. The population of Florida is about 16 __________ million people.

2. Pamela is reading a book that is 5 __________ hundred pages.

3. A local organization held a penny drive and raised $20,000 dollars or 2 __________ million pennies.

Tell if each is less than, equal to, or greater than 1 million.

4. The number of visitors in 1,000 days if 1,000 people visit the park each day.
   __________ equal

5. The number of seconds in 1,000 hours. (hint: 3,600 seconds = 1 hour)
   __________ greater than

6. You Decide Jessie has a book of 50 stamps. How many books of stamps would she need to have 5,000,000 stamps? Explain.

   100,000 books; 10 books = 500 stamps, 100 books = 5,000 stamps, 1,000 books = 50,000 stamps, 10,000 books = 500,000 stamps, 100,000 books = 5,000,000 stamps
How Big Is One Million?

Use the chart to answer the following questions.

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1 \times 1,000,000)</td>
<td>1 times 1 million = 1 million</td>
</tr>
<tr>
<td>(10 \times 100,000)</td>
<td>10 times 1 hundred thousand = 1 million</td>
</tr>
<tr>
<td>(100 \times 10,000)</td>
<td>100 times 10 thousand = 1 million</td>
</tr>
<tr>
<td>(1,000 \times 1,000)</td>
<td>1,000 times 1 thousand = 1 million</td>
</tr>
<tr>
<td>(10,000 \times 100)</td>
<td>10,000 times 1 hundred = 1 million</td>
</tr>
<tr>
<td>(100,000 \times 10)</td>
<td>100,000 times ten = 1 million</td>
</tr>
<tr>
<td>(1,000,000 \times 1)</td>
<td>1,000,000 times 1 = 1 million</td>
</tr>
</tbody>
</table>

How many tens are in 1,000,000?
Chart shows 100,000 times ten = 1 million.

There are 100,000 tens in 1,000,000.

1. How many ones are there in 1,000,000? 1,000,000 ones
2. How many hundreds are there in 1,000,000? 10,000 hundreds
3. How many hundred thousands are in 1,000,000? 10 hundred thousand
4. How many ten thousands are there in 1,000,000? 100 ten thousands
5. How many thousands are there in 1,000,000? 1,000 thousands

Use the chart to complete these problems.

6. \(1,000 \times \underline{1,000}\) = 1,000,000
7. \(10 \times \underline{100,000}\) = 1,000,000
8. \(100 \times \underline{10,000}\) = 1,000,000
9. \(10,000 \times \underline{100}\) = 1,000,000

Problem Solving

10. Jack has 1,000,000 pennies. If each roll holds 100 pennies, how many rolls will Jack need for all the pennies?

10,000 rolls
How Big Is One Million?

Read the comic strip. Think about the words in bold type.

1.

P: Darren, this book is fun! It has 8 pages of jokes and 4 pages of puzzles.
D: So, it has 12 pages altogether.

2.

D: Paul, you have done 3 of the 4 pages of puzzles.
P: Yes, there is 1 remaining puzzle page.

3.

D: Have you seen this joke book? I read it cover to cover last night.
P: Wow, you read every page!

4.

P: I have an idea! Let’s combine our favorite jokes into a super joke book!
D: Let’s do it! It will be fun to put our jokes together.

Draw lines to connect the words to their meanings.

1. cover to cover — “as a total number”
2. altogether — “put together”
3. remaining — “every page”
4. combine — “not used yet, or still there”

Use the words in the box to complete the sentences below.

<table>
<thead>
<tr>
<th>cover to cover</th>
<th>altogether</th>
<th>remaining</th>
<th>combine</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. You can __________________ red paint and yellow paint to make orange paint.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. If you have used 4 of 6 paper cups, you have 2 __________________.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. If you have 2 red pens and 3 blue pens, you have 5 pens __________________.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. When you have read all of a book, you have read it __________________.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Use with text pages 14–15.
# Place Value Through Hundred Millions

<table>
<thead>
<tr>
<th>Millions</th>
<th>Thousands</th>
<th>Ones</th>
</tr>
</thead>
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<td>hundred millions</td>
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<td>hundred thousands</td>
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<td>7</td>
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<td>2</td>
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</table>

**Short Word Form**

628 million, 534 thousand, 782

**Word Form**

Six hundred twenty-eight million, five hundred thirty-four thousand, seven hundred eighty-two

**Standard Form**

628,534,782

**Expanded Form**

600,000,000 + 20,000,000 + 8,000,000 + 500,000 + 30,000 + 4,000 + 700 + 80 + 2

Write each number in three other ways.

1. 450,870,235
   - 450 million, 870 thousand, 235; 400,000,000 + 50,000,000 + 800,000 + 70,000 + 200 + 30 + 5; four hundred fifty million, eight hundred seventy thousand, two hundred thirty-five

2. 30,000,000 + 5,000,000 + 100,000 + 40,000 + 3,000 + 600 + 50
   - 35,143,650; 35 million, 143 thousand, 650; thirty-five million, one hundred forty-three thousand, six hundred fifty

3. 615 million, 475 thousand
   - 615,475,000; 600,000,000 + 10,000,000 + 5,000,000 + 400,000 + 70,000 + 5,000; six hundred fifteen million, four hundred seventy-five thousand
Place Value Through Hundred Millions

Write the number below in short word form.
1. 200,000,000 + 30,000,000 + 400,000 + 50,000 + 1,000
   230 million, 451 thousand

Write the number below in standard form.
2. 100,000,000 + 80,000,000 + 5,000,000 + 300,000 + 20,000 + 8,000
   185,328,000

Write the number below in expanded form.
3. 463 million, 342 thousand, 705
   400,000,000 + 60,000,000 + 3,000,000 + 300,000 + 40,000 + 2,000 + 700 + 5

Write the number below in word form.
4. 715,413,068
   seven hundred fifteen million, four hundred thirteen thousand, sixty-eight

Write the place of the 2 in each number. Then write its value.
5. 21,547
   ten thousands place; 20,000
6. 54,285
   hundreds place; 200
7. 67,902
   ones place; 2

Test Prep

8. Tell what form of the number is being used in the statement below.
   Over 10,000,000 tacos sold.
   A standard  C expanded
   B short word  D word

9. Write the value of the underlined digit in the number below.
   648,396,178
   40 million or 40,000,000;
   explanations may vary

Use with text pages 16–18.
Millions Puzzle

Use the list of numbers and the clues below to fill in the puzzle. Use each number exactly once.

158,207,618  359,652  82,150,325
350,523  14,530,976  1,635,625
141,820  821,408,320  1,043,685

Across
1. A number with a 2 in the hundred thousands place.
2. A number with a 4 in the millions place.
3. A number with a 3 in the ones place.
4. A number greater than 800,000 but less than 1 million 500 thousand.

Down
1. A number greater than 300,000 with a 5 in the tens place.
2. A number greater than eight hundred twenty million.
3. A number with a 3 in the ten thousands place.
4. A number with a 5 in the ten thousands place.
5. A number less than 100 million with an 8 in the hundreds place.
Place Value Through Hundred Millions

The table below shows the estimated number of each type of pet found in the United States. Use the table to answer the following questions.

<table>
<thead>
<tr>
<th>Pets in the United States</th>
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</thead>
<tbody>
<tr>
<td>Pet</td>
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<tr>
<td>---------------</td>
</tr>
<tr>
<td>Cat</td>
</tr>
<tr>
<td>Dog</td>
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<tr>
<td>Freshwater Fish</td>
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1. How many cats are in the United States? Write this number in two ways.

 Possible answers: 77,700,000; seventy-seven million, seven hundred thousand; 70,000,000 + 7,000,000 + 700,000

2. Which pet populations are greater than ten million?

cat, dog, freshwater fish, small animal pet

3. Suppose there are over two hundred twenty-one million cats in the world. Write this number in expanded form.

 200,000,000 + 20,000,000 + 1,000,000

4. Write About It Look at the numbers in the table. In which number does the digit 1 have the greatest value? Explain your answer.

 Possible answer: The numbers for freshwater fish and small animal pet have a 1. The 1 in freshwater fish has a value of 100 million, and the 1 in the small animal pet has a value of 10 million. The freshwater fish has a larger value.
Place Value Through Hundred Millions

Here are four ways to write the same number.

Standard form: 328,541,670
Word form: three hundred twenty-eight million, five hundred forty-one thousand, six hundred seventy
Short word form: 328 million, 541 thousand, 670
Expanded form: 300,000,000 + 20,000,000 + 8,000,000 + 500,000 + 40,000 + 1,000 + 600 + 70

Write each number in word form and short word form.

1. 612,483,125 six hundred twelve million, four hundred eighty-three thousand, one hundred twenty five; 612 million, 483 thousand, 125

2. 100,000,000 + 5,000,000 + 600,000 + 2,000 + 900 + 50 one hundred five million, six hundred two thousand, nine hundred fifty; 105 million, 602 thousand, 950

Write the number in standard form and expanded form.

3. 411 million, 725 thousand, 600

411,725,600; 400,000,000 + 10,000,000 + 1,000,000 + 700,000 + 20,000 + 5,000 + 600

Problem Solving

4. Write two 8-digit numbers that have a 4 in the millions place, a 6 in the ten thousands place, and a 9 in the ones place.

Answers may vary.
Place Value Through Hundred Millions

**Standard form** is the usual way in which numbers are written. The number in the box is written in standard form: 5,280.

**Expanded form** is a way of writing a number to show the values of its digits. The number in the oval is written in expanded form: 5,000 + 200 + 80.

**Short word form** is a way of writing a number with words and digits. The number on the dotted line is written in short word form: five thousand, 280.

**Word form** is writing a number in words. The number in the cloud is written in word form: five thousand, two hundred eighty.

Connect the numbers to the forms they are in.

1. one thousand, seven hundred sixty
   - standard form
2. 1,760
   - expanded form
3. 1 thousand, 760
   - short word form
4. 1000 + 700 + 60
   - word form

Complete these items.

5. Write a digit in each box: [ ] [ ] [ ] [ ] [ ] [ ] 5–9: Answers will vary.
6. Write the digits above as a number that is in standard form. ________________
7. Write the number above in expanded form. ________________
8. Write the number above in short word form.
   ________________
9. Write the number above in word form.
   ________________
Tell how each number is being used. Write *position*, *count*, *measure*, or *label*.

1. taxi number 288

   **label**

2. 48 people

   **count**

3. 19 feet tall

   **measure**

4. 12th place

   **position**

Write each number in standard form.

5. 42 million, 713 thousand

   42,713,000

6. 800,000 + 30,000 + 7,000 + 500 + 2

   837,502

7. four hundred fifty-one thousand, eight hundred eleven

   451,811

Write each number in word form.

8. 318,407

   three hundred eighteen thousand, four hundred seven

9. 80,000 + 2,000 + 900

   eighty-two thousand, nine hundred

Write each number in short word form.

10. 56,703,094

    56 million, 703 thousand, 94

11. 7,000,000 + 300,000 + 80,000 + 900 + 20 + 5

    7 million, 380 thousand, 925

Write each number in expanded form.

12. 42 million, 642 thousand, 32

    40,000,000 + 2,000,000 + 600,000 + 40,000 + 2,000 + 30 + 2

13. seven million, eighty-six thousand, twelve

    7,000,000 + 80,000 + 6,000 + 10 + 2
Write the place of the underlined digit. Then write its value.

14. 850,467  thousands; 0

15. 24,923,200  millions; 4,000,000

16. 253,845,237  hundred thousands; 800,000

Write the value of the underlined digit.

17. 293,436,703  400,000

18. 503,780,295  0

Use logical reasoning to solve each problem.

19. Megan, Ryan, and Jesse each own either a bike, a scooter, or a van. Each person owns a different vehicle. Megan does not own a vehicle with exactly 2 wheels. Jesse owns the scooter. What vehicle does each person own?

Megan owns the van;
Ryan owns the bike;
Jesse owns the scooter.

20. Andy, Brent, Chen, and Dana each saw a different number of movies last month. Each of them saw 3, 4, 5, or 6 movies. Chen saw 4 movies. Dana did not see 6 movies. Brent did not see more than 4 movies. How many movies did each person see?

Andy saw 6 movies; Brent saw 3 movies;
Chen saw 4 movies; Dana saw 5 movies.
<table>
<thead>
<tr>
<th>Student</th>
<th>Chapter 1</th>
<th>Chapter 2</th>
<th>Unit 1 Test</th>
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<tbody>
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<td></td>
<td>Pre-test</td>
<td>Chapter Test</td>
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