

**Objectives**

- Develop an understanding of the repetition of the Ones, Tens, and Hundreds places in each period
- Read numbers with 9 or fewer digits
- Write numbers with 9 or fewer digits in standard form, expanded form, and word form
- Identify the value of the digits in a number with 9 or fewer digits

**Teacher Materials**

- Place Value Pocket Chart Kit
- Periods Comparison transparency (from Lesson 2)
- Fact family flashcards: 1-9-10, 2-8-10, 3-7-10, 4-6-10, 5-5-10, and facts with a sum or a difference of 0–9

**Student Materials** (for each student)

- Place Value Pocket Chart Kit

**Practice and Review****Compare 2- and 3-digit numbers**

1. Write for display the symbols  $>$ ,  $<$ , and  $=$ .
  - ▶ **What are the names for these math symbols?** *greater than, less than, equal*
2. Guide the students in completing these number sentences. Remind them to first compare the digits in the place with the greatest value.
 

$25 < 35$     $47 > 43$     $165 > 79$     $382 < 396$     $763 < 765$

**Fact families: 1-9-10, 2-8-10, 3-7-10, 4-6-10, 5-5-10**

1. Display the fact family flashcard 1-9-10.
  - ▶ **What do the numbers on the card represent?** *a fact family*
2. Cover the number at the top of the flashcard (10). Choose students to give the 2 addition equations using the numbers in the bottom corners of the flashcard.
 

$1 + 9 = 10$ ,  $9 + 1 = 10$
3. Cover the 1 and choose a student to give the subtraction equation.  $10 - 9 = 1$  Then cover only the 9 and choose another student to give the subtraction equation.
 

$10 - 1 = 9$
4. Repeat the procedure for the remaining fact families.

**Teach for Understanding****Develop an understanding of periods**

1. Display 1,000,000 in the Place Value Pocket Chart.
  - ▶ **What number is displayed?** *1 million*
2. Direct the students to imagine how large 1,000,000 is as you read aloud these facts.

If you count 1 number per second, it will take you about 11 days and nights to count to 1,000,000.

If you could make a pile of 1,000,000 sheets of notebook paper, it would be about 375 feet high. That is higher than the tallest redwood tree and about as high as a thirty-story building.

If you spent \$100 a day, it would take you more than 27 years to spend \$1,000,000.

3. Point out the three colored sections on the Place Value Pocket Chart.
  - ▶ **What is each group of three digits called?** *period*
  - ▶ **Which period does the green section represent?** *Ones period*
  - ▶ **Which period does the yellow section represent?** *Thousands period*
  - ▶ **Which period does the blue section represent?** *Millions period*
  - ▶ **What is similar in all three of these periods?** *They all have Ones, Tens, and Hundreds places.*
  - ▶ **What do you know about renaming to a place of greater value?** *You need ten in a place to make one in the next place of greater value.*
4. Display the Periods Comparison transparency. Remind students that the shapes of the ones, the shapes of the tens, and the shapes of the hundreds in each period are similar, but that the shapes increase in size as the value of the periods increases.

**Read numbers with 9 or fewer digits**

1. Display 507,368 in the Place Value Pocket Chart. Choose a student to point to each digit and the comma as he reads the number aloud. *five hundred seven thousand, three hundred sixty-eight*
  - ▶ **What do you notice about how this number is read?** *Elicit that the digits in each period are read as any 3-digit whole number (hundreds, tens, and ones) and that the period's name is said when you come to the comma at the end of that period.*
2. Write these numbers for display.
 

860,942   25,469,820   962,048   36,281

  - ▶ **Where are the commas placed in these numbers?** *between the Millions period, the Hundreds period, and the Ones period*
  - ▶ **What periods are represented in 860,942?** *Ones and Thousands*
  - ▶ **What periods are represented in 25,469,820?** *Ones, Thousands, and Millions*
  - ▶ **What periods are represented in 962,048?** *Ones and Thousands*

Remind the students that when they read large numbers, the comma at the end of each period serves as a reminder to say that period's name.
3. Choose students to read the numbers aloud. Remind them not to use the word *and* when reading whole numbers.

**Write numbers in standard form, expanded form, and word form**

1. Distribute the Place Value Pocket Chart Kits. Write *standard form*, *word form*, and *expanded form* for display. Discuss the meaning of each form.
2. Write *three thousand, six hundred two* for display below your Place Value Pocket Chart. Read the number aloud. Direct students to “write” in their pocket chart the standard form for the number. *3,602*
  - ▶ **What digit did you put in the One Thousands place?** *3*
  - ▶ **What is the value of 3 one thousands?** *3,000*
  - ▶ **What digit did you put in the Hundreds place?** *6*
  - ▶ **What is the value of 6 hundreds?** *600*
  - ▶ **What digit did you put in the Tens place?** *0*
  - ▶ **What is the value of 0 tens? How do you know?** *0 or nothing; there are no tens.*
  - ▶ **What digit did you put in the Ones place?** *2*
  - ▶ **What is the value of 2 ones?** *2*
3. Direct attention back to the word form written below the pocket chart. Instruct the students to point to each corresponding digit or comma in their pocket chart when they

Write the **standard form** and **expanded form**.

1. Standard form	<b>61,840,273</b>
2. Expanded form	<b><math>60,000,000 + 1,000,000 + 800,000 + 40,000 + 200 + 70 + 3</math></b>
Word form	sixty-one million, eight hundred forty thousand, two hundred seventy-three

Match the number to the **word form** or **expanded form**.

3. D 409,512,665      A. five hundred ten thousand, one hundred seventy-nine  
 4. A 510,179      B. 1,000,000 + 400,000 + 90,000 + 5,000 + 600 + 10 + 2  
 5. B 1,495,612      C. fifty-one thousand, one hundred ninety-seven  
 6. C 51,197      D. 400,000,000 + 9,000,000 + 500,000 + 10,000 + 2,000 + 600 + 60 + 5

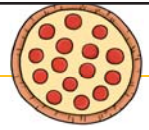
Write the number in **standard form**.

7.  $500,000,000 + 40,000,000 + 600,000 + 30,000 + 2,000 + 900 + 20 + 5 =$   
**540,632,925**
8. three hundred seventy-five thousand, eighty-two =  
**375,082**
9. six million, two hundred forty-seven thousand, three hundred eighteen =  
**6,247,318**
10.  $100,000 + 9,000 + 900 + 30 + 1 =$   
**109,931**

Write an explanation. **Answers will vary.**

11. Why are the zeros important in the Ten Thousands and Hundreds places of 603,028?

**A zero must be used when a place within any period has no value because a zero keeps all other digits in the correct place value.**

Read the statement. Complete the table using the **red** number.The largest pizza ever made weighed **26,883** pounds.

1. Standard form	<b>26,883</b>
2. Expanded form	<b><math>20,000 + 6,000 + 800 + 80 + 3</math></b>
3. Word form	<b>twenty-six thousand, eight hundred eighty-three</b>

The largest fruit pie ever made weighed **37,721** pounds.

4. Standard form	<b>37,721</b>
5. Expanded form	<b><math>30,000 + 7,000 + 700 + 20 + 1</math></b>
6. Word form	<b>thirty-seven thousand, seven hundred twenty-one</b>

Write the number in **standard form**.

7. sixty-seven thousand, five hundred sixteen = 67,516  
 8.  $600,000 + 20,000 + 5,000 + 900 + 60 + 2 =$  625,962  
 9.  $60,000,000 + 2,000,000 + 500,000 + 90,000 + 2,000 + 400 + 80 + 1 =$  62,592,481

Circle the digit in the place listed.  
Write the value of the circled digit.

10. One Millions place	92 <u>5</u> ,682,183	<b>5,000,000</b>
11. Ten Thousands place	231,5 <u>9</u> 6,470	<b>90,000</b>
12. Hundred Millions place	<u>6</u> 47,391,208	<b>600,000,000</b>

Put commas in the correct places.  
Read the numbers.

13. 6 0,5 7 8,2 6 1  
 14. 1,8 4 0,9 1 2  
 15. 3 2,5 9 4

Complete **Daily Review** on page 25.

hear the digit or period name as you read the number aloud.

- ▶ **Did you point to every digit?** *no*
- ▶ **Which digit did you not point to? Why?** *0; zero was not read, and it's not written in the word form.*
- ▶ **Why do you think that zero isn't included in the word form?** *Elicit that a zero indicates that the place has no value, so it does not need to be read or written.*
- ▶ **Why do you think the digit 0 is included in the standard form?** *Elicit that the zero shows that the Tens place has no value.*

4. Write \$3,602.00 and \$362.00 for display.

A restaurant owner went to deposit the money from one day of sales into his bank account. He gave the bank teller \$3,602, but the bank teller recorded the deposit as \$362.

- ▶ **Will the bank records show the correct amount of money in the restaurant owner's account? Why?** *No; answers will vary, but elicit that the bank records will show a much smaller amount in the account because the teller mistakenly did not write the 0 in \$3,602.*
5. Write 601,375,102 for display.
- ▶ **What are 3 ways to write a number?** *standard form, expanded form, and word form*
  - ▶ **In which form is this number written?** *standard form*  
Write *standard form* beside the number.
  - ▶ **Why are zeros important in the Ten Millions place and the Tens place of 601,375,102?** *Answers will vary, but elicit that they accurately show the value of the number.*  
Remind the students that the value of a digit depends on its place-value position in the number. In standard form,

a zero must be written in a place that has no value in order to accurately show the value of the entire number. Explain that taking out the zeros would change the place value position of the other digits, changing the value of the entire number.

6. Guide the students in writing the word form for 601,375,102 on paper. Remind them to insert a hyphen when writing numbers *twenty-one* through *ninety-nine* and to write the period name when they come to a comma. Direct them to label the number *word form*. **six hundred one million, three hundred seventy-five thousand, one hundred two**
- ▶ **How do you write numbers in expanded form?** *Elicit by writing the value of each digit followed by a plus (+) sign.*
7. Choose students to tell the value of each digit in 601,375,102 as you guide them in writing the number in expanded form.  **$600,000,000 + 1,000,000 + 300,000 + 70,000 + 5,000 + 100 + 2$**   
 [Note: While it is not necessary to write + 0 when writing numbers with zeros in expanded form (e.g.,  $5,000 + 100 + 2 = 5,102$ ), you may want to allow students to use + 0 as a placeholder if needed. If you choose to allow the + 0, only one zero is needed (i.e., + 0 instead of + 000).]
8. Guide the students in writing these numbers in standard form and expanded form on paper.  
 685,454,796      934,813,140      220,417

**Worktext pages 7–8, 25 (c)**