LESSON 1

- **Sequences**
- **Digits**

Power Up

facts Power Up A[1]

count aloud Count by tens from 10 to 100. Count by hundreds from 100 to 1000.

mental math

a. **Addition:** 3 + 3

b. **Addition:** 30 + 30

c. **Addition:** 300 + 300

d. **Addition:** 40 + 50

e. **Addition:** 200 + 600

f. **Money:** 50¢ + 50¢

g. **Money:** 20¢ + 20¢ + 20¢

h. **Addition:** 500 + 500 + 500

problem solving Fill in the missing numbers:

17, 15, 13, ____, ____, ____, 5, 3, 1

Focus Strategy: Find a Pattern

Understand We are given a list of numbers. Some of the numbers are missing. We are asked to find the missing numbers.

Plan We will *find a pattern.* We see that the numbers "count down," or decrease, from left to right. We look for a "counting down" pattern to help us find the missing numbers.

Solve We notice that the numbers decrease by twos. The second number, 15, is two less than the first number. The third number, 13, is two less than 15.

[1] For instructions on how to use the Power Up activities, please consult the preface.

On the right, we see that the number 3 is two less than 5, and that the number 1 is two less than 3.

The pattern is "count down by twos." Two less than 13 is 11, two less than 11 is 9, and two less than 9 is 7. So the missing numbers are **11, 9,** and **7.**

Check We know our answer is reasonable because each number we found is two less than the previous number in the list, which fits the pattern we found.

New Concepts

Sequences

Counting is a math skill that we learn early in life. Counting by ones, we say the numbers

1, 2, 3, 4, 5, 6, . . .

Reading Math

The three dots mean that the sequence continues even though the numbers are not written.

These numbers are called **counting numbers.** We can also count by a number other than one. Below we show the first five numbers for counting by twos and the first five numbers for counting by fives.

2, 4, 6, 8, 10, . . .

5, 10, 15, 20, 25, . . .

An ordered list of numbers forms a **sequence.** Each member of the sequence is a **term.** We can study a sequence to discover its counting pattern, or rule. The rule can be used to find more terms in the sequence.

Connect What is another way to describe the rule of each sequence?

Example 1

What are the next three terms in this counting sequence?

3, 6, 9, 12, ____, ____, ____, . . .

The pattern is "count up by threes." To find the next three terms, we may count up by threes, or we may count up by ones and emphasize every third term (one, two, *three,* four, five, *six,* . . .). Either way, we find that the next three terms are **15, 18,** and **21.**

Example 2

Describe the rule for the counting sequence below. What is the next term in the sequence?

56, 49, 42, ____, . . .

This sequence counts down. We find that the rule for this sequence is **"count down by sevens."** Counting down by seven from 42 gives us **35.**

Represent Write a sequence using the rule "count down by sixes."

Digits

There are ten **digits** in our number system. They are 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The number 385 has three digits, and the last digit is 5. The number 148,567,896,094 has twelve digits, and the last digit is 4.

Example 3

The number 186,000 has how many digits?

The number 186,000 has **six digits.**

Example 4

What is the last digit of 26,348?

The number 26,348 has five digits. The last digit is **8.**

Lesson Practice

Generalize Describe the rule for each counting sequence. Then write the next three terms in the sequence.

a. 6, 8, 10, ____, ____, ____, . . .

b. 7, 14, 21, ____, ____, ____, . . .

c. 4, 8, 12, ____, ____, ____, . . .

d. 21, 18, 15, ____, ____, ____, . . .

e. 45, 40, 35, ____, ____, ____, . . .

f. 12, 18, 24, ____, ____, ____, . . .

How many digits are in each of these numbers?

g. 36,756 **h.** 8002 **i.** 1,287,495

What is the last digit of each of these numbers?

j. 17 **k.** 3586 **l.** 654,321

m. **Represent** Write a sequence using the rule "count down by nines."

Written Practice

Distributed and Integrated

Connect Write the next term in each counting sequence:

*1. 10, 15, 20, ____, . . .

*2. 56, 49, 42, ____, . . .

*3. 8, 16, 24, ____, . . .

*4. 18, 27, 36, 45, ____, . . .

*5. 24, 21, 18, ____, . . .

*6. 32, 28, 24, 20, ____, . . .

Connect Write the missing term in each counting sequence:

*7. 7, 14, ____, 28, 35, . . .

*8. 40, ____, 30, 25, 20, . . .

*9. 20, ____, 28, 32, 36, . . .

*10. 24, 32, ____, 48, . . .

*11. ____, 36, 30, 24, . . .

*12. 21, 28, ____, 42, . . .

Generalize Describe the rule for each counting sequence, and write the next three terms.

*13. 3, 6, 9, 12, ____, ____, ____, . . .

*14. 8, 16, 24, ____, ____, ____, . . .

*15. 6, 12, 18, ____, ____, ____, . . .

*16. 40, 35, 30, ____, ____, ____, . . .

*17. 18, 21, 24, ____, ____, ____, . . .

*18. 9, 18, 27, ____, ____, ____, . . .

19. What word names an ordered list of numbers?

How many digits are in each number?

20. 186,000

21. 73,842

22. 30,004,091

Classify What is the last digit of each number?

*23. 26,348

*24. 347

*25. 9,675,420

---

* Beginning in this lesson, we star the exercises that cover challenging or recently presented content. We encourage students to work first on the starred exercises with which they might want help, saving the easier exercises for last.

LESSON 2

• Even and Odd Numbers

Power Up

facts Power Up A

count aloud Count up and down by tens between 10 and 100. Count up and down by hundreds between 100 and 1000.

mental math

a. **Addition:** 6 + 6

b. **Addition:** 60 + 60

c. **Addition:** 600 + 600

d. **Time:** 60 seconds + 70 seconds

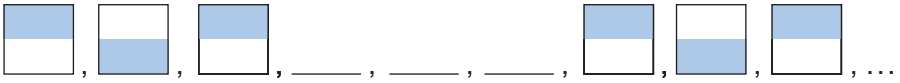
e. **Time:** 70 seconds + 80 seconds

f. **Addition:** 300 + 300 + 300

g. **Addition:** 90 + 90

h. **Money:** 50¢ + 50¢ + 50¢

problem solving Choose an appropriate problem-solving strategy to solve this problem. Draw the missing shapes in this sequence. Then describe the sequence in words.



New Concept

Whole numbers are the counting numbers and the number 0.

0, 1, 2, 3, 4, 5, 6, . . .

Counting by twos, we say the numbers

2, 4, 6, 8, 10, 12, 14, 16, 18, 20, . . .

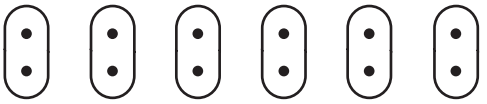
Thinking Skill

Connect

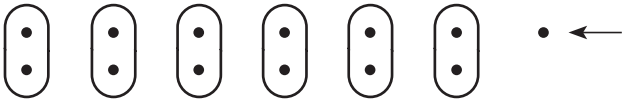
Why do even numbers continue without end?

This is a special sequence. The numbers on the previous page are **even numbers.** The number 0 is also an even number. The sequence of even numbers continues without end. The numbers 36 and 756 and 148,567,896,094 are all even. We can tell whether a whole number is even by looking at the last digit of the number. If the last digit is even, then the number is even. So even numbers end with 0, 2, 4, 6, or 8.

An even number of objects can be arranged in pairs. Twelve is an even number. Here we show 12 dots arranged in six pairs. Notice that every dot has a partner.



Next we show 13 dots arranged in pairs. We find that there is a dot that does not have a partner. So 13 is not even.



The whole numbers that are not even are **odd.** We can make a list of odd numbers by counting up by twos from the number 1. Odd numbers form this sequence:

1, 3, 5, 7, 9, 11, 13, 15, 17, . . .

If the last digit of a number is 1, 3, 5, 7, or 9, then the number is odd. All whole numbers are either odd or even.

Example 1

Which of these numbers is even?

3586 2345 2223

Even numbers are the numbers we say when counting by twos. We can see whether a number is odd or even by looking at the last digit of the number. If the last digit is even, then the number is even. The last digits of these three numbers are 6, 5, and 3, respectively. Since 6 is even and 5 and 3 are not, the only even number in the list is **3586.**

Example 2

Which of these numbers is not odd?

123,456 654,321 353,535

All whole numbers are either odd or even. A number that is not odd is even. The last digits of these numbers are 6, 1, and 5, respectively. Since 6 is even (not odd), the number that is not odd is **123,456.**

Half of an even number is a whole number. We know this because an even number of objects can be separated into two equal groups. However, half of an odd number is not a whole number. If an odd number of objects is divided into two equal groups, then one of the objects will be split in half.

These two word problems illustrate dividing an even number in half and dividing an odd number in half:

Sherry has 6 apples to share with Leticia. If Sherry shares the apples equally, each girl will have 3 apples.

Herman has 5 apples to share with Ivan. If Herman shares the apples equally, each boy will have $2\frac{1}{2}$ apples.

Thinking Skill

Discuss

If Herman were sharing trading cards, would the answer still be $2\frac{1}{2}$? Why or why not?

Activity

Halves

The table below lists the counting numbers 1 through 10. Below each counting number we have recorded half of the number. Continue the list of counting numbers and their halves for the numbers 11 through 20.

Counting Number	1	2	3	4	5	6	7	8	9	10
Half of Number	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5

Discuss Is the top number double the bottom number? Explain?

Yes; sample: the product of the bottom number and 2 equals the top number.

Lesson Practice

Classify Describe each number as odd or even:

a. 0 **b.** 1234 **c.** 20,001

d. 999 **e.** 3000 **f.** 391,048

g. **Explain** All the students in the class separated into two groups. The same number of students were in each group. Was the number of students in the class an odd number or an even number? Explain why.

h. Tamayo has seven berries to share with Kasim. If Tamayo shares the berries equally, how many berries will each person have?

Written Practice

Distributed and Integrated

*[1] **1.** (2) **Generalize** If a whole number is not even, then what is it?

What is the last digit of each number?

2. (1) 47,286,560

3. (1) 296,317

Classify Describe each number as odd or even:

***4.** (2) 15

***5.** (2) 196

***6.** (2) 3567

7. (2) Which of these numbers is even?

3716 2345 2223

8. (2) Which of these numbers is odd?

45,678 56,789 67,890

9. (2) Which of these numbers is *not* odd?

333,456 654,321 353,535

10. (2) Which of these numbers is *not* even?

300 232 323

Conclude Write the next three terms in each counting sequence:

***11.** (1) 9, 12, 15, ____, ____, ____, . . .

***12.** (1) 16, 24, 32, ____, ____, ____, . . .

***13.** (1) 120, 110, 100, ____, ____, ____, . . .

***14.** (1) 28, 24, 20, ____, ____, ____, . . .

[1] The italicized numbers within parentheses underneath each problem number are called *lesson reference numbers.* These numbers refer to the lesson(s) in which the major concept of that particular problem is introduced. If additional assistance is needed, refer to the discussion, examples, or practice problems of that lesson.

*15. (1) 55, 50, 45, ____, ____, ____, . . .

*16. (1) 18, 27, 36, ____, ____, ____, . . .

*17. (1) 36, 33, 30, ____, ____, ____, . . .

*18. (1) 18, 24, 30, ____, ____, ____, . . .

*19. (1) 14, 21, 28, ____, ____, ____, . . .

*20. (1) 66, 60, 54, ____, ____, ____, . . .

*21. (1) 48, 44, 40, ____, ____, ____, . . .

*22. (1) 99, 90, 81, ____, ____, ____, . . .

*23. (1) 88, 80, 72, ____, ____, ____, . . .

*24. (1) 84, 77, 70, ____, ____, ____, . . .

*25. (2) **Multiple Choice** All the students in the class formed two lines. An equal number of students were in each line. Which of the following could *not* be the total number of students in the class?

A 30 **B** 31 **C** 32 **D** 28

26. (2) What number is half of 5?

*27. (2) **Multiple Choice** Which of these numbers is a whole number? Draw a picture to verify your answer.

A half of 11 **B** half of 12 **C** half of 13 **D** half of 15

Use this table to answer problems **28–30:**

Number of Tickets	1	2	3	4
Cost	$7	$14	$21	$28

28. (1) **Explain** Describe the relationship between the number of tickets and the cost.

*29. (1) **Generalize** Write a rule that describes how to find the cost of any number of tickets.

30. (1) **Predict** What is the cost of 10 tickets?

LESSON 3

• Using Money to Illustrate Place Value

Power Up

facts Power Up A

count aloud Count up and down by tens between 10 and 200. Count up and down by hundreds between 100 and 2000.

mental math

a. **Money:** 30¢ + 70¢

b. **Addition:** 20 + 300

c. **Addition:** 320 + 20

d. **Addition:** 340 + 200

e. **Addition:** 250 + 40

f. **Addition:** 250 + 400

g. **Time:** 120 seconds + 60 seconds

h. **Addition:** 600 + 120

problem solving How many two-digit counting numbers are there?

Focus Strategy: Use Logical Reasoning

Understand The counting numbers are the numbers we say when we count up by 1s (1, 2, 3, 4, and so on). We are asked to find the number of two-digit counting numbers.

Plan We could list all the counting numbers with two digits and then count the numbers in our list, but that would take too long. Instead, we will *use logical reasoning* to solve the problem. We will use information we know to find the information we are asked for in the problem.

Solve We know that the greatest two-digit counting number is 99. The next counting number, 100, contains three digits. Suppose we listed all the counting numbers from 1 to 99. That would be just like counting from 1 to 99, so we know there are 99 counting numbers from 1 to 99.

Remember that we are asked to find the number of **two-digit** counting numbers. How many of the numbers from 1 to 99 contain exactly two digits? We know there are 9 counting numbers that have only one digit (the numbers 1, 2, 3, …, 7, 8, 9). So there are 99 − 9, or 90 counting numbers that contain exactly two digits.

Check We found that there are 90 two-digit counting numbers. We know our answer is reasonable because there are 99 counting numbers from 1 to 99, and nine of those numbers (the numbers 1–9) contain only one digit. By using logical reasoning, we found the answer more quickly than if we had listed and counted all the two-digit counting numbers.

New Concept

Visit www.SaxonMath.com/Int5Activities for a calculator activity.

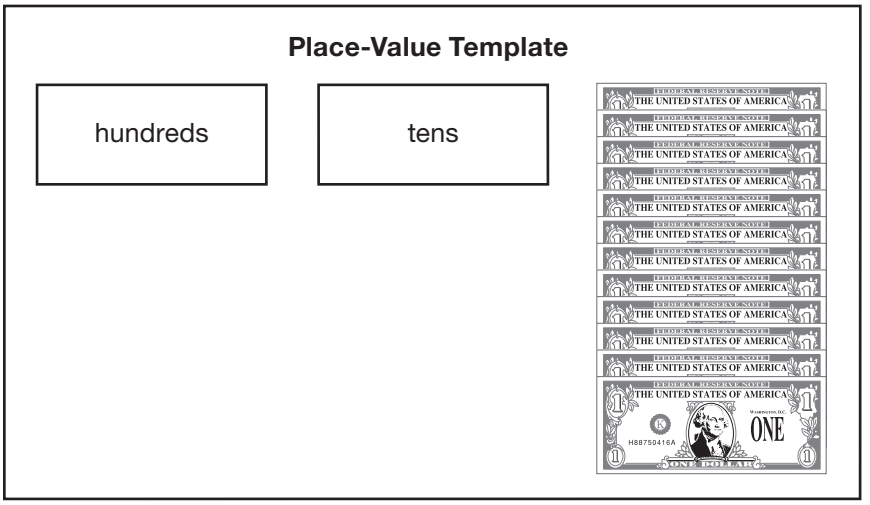
Each digit in a number has a **place value.** The value of a digit depends on its place, or position, in the number. We identify the value of the digits in a number when we write the number in **expanded form.** Expanded form is a way of writing a number that shows the value of each digit. We can use money to illustrate place value.

Place Value

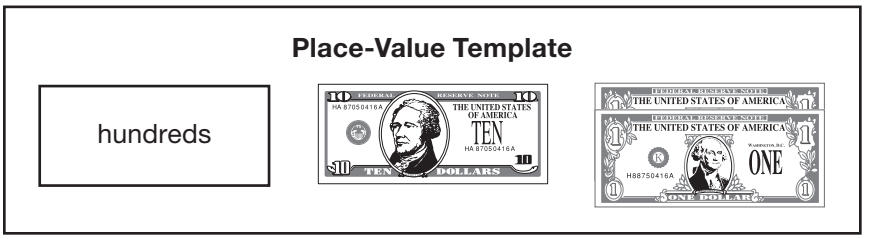
Materials needed:

- money manipulatives from **Lesson Activities 1, 2,** and **3**
- **Lesson Activity 8**
- locking plastic bag
- 3 paper clips

Model Place twelve $1 bills on the template in the ones position, as shown below.



We can use fewer bills to represent $12 by exchanging ten $1 bills for one $10 bill. Remove ten $1 bills from the template, and replace them with one $10 bill in the tens position. You will get this arrangement of bills:

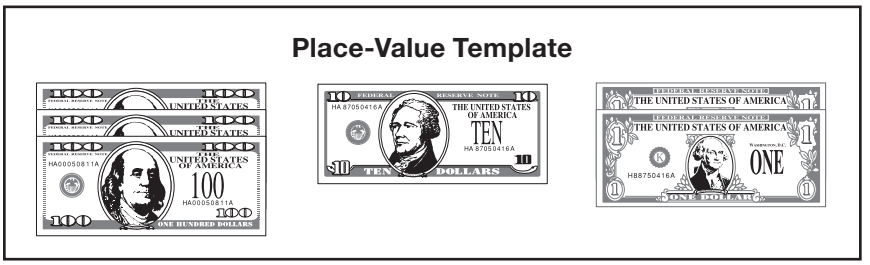


The bills on the template illustrate the expanded form of the number 12.

Expanded form: 1 ten + 2 ones

10 + 2

Now place $312 on the place-value template, using the fewest bills necessary. Use the bills to write 312 in expanded form.



From the template we see the expanded form of 312.

3 hundreds + 1 ten + 2 ones

300 + 10 + 2

Thinking Skill

Discuss

Why can we exchange 10 ones for 1 ten?

Connect How many $10 bills can we exchange for a $100 bill? Explain your answer.

Model Use the bills and place-value template to work these problems:

1. Place twelve $10 bills on the place-value template. Then exchange ten of the bills for one $100 bill. Write the result in expanded form.
2. Place twelve $1 bills and twelve $10 bills on the template. Then exchange bills to show that amount of money using the least number of bills possible. Write the result in expanded form.

Lesson Practice

a. Which digit in 365 shows the number of tens?

b. **Represent** Use digits to write the number for "3 hundreds plus 5 tens."

c. **Model** How much money is one $100 bill plus ten $10 bills plus fifteen $1 bills? You may use your money manipulatives to find the answer.

Written Practice

Distributed and Integrated

1. (3) **Represent** Use digits to write the number for "5 hundreds plus 7 tens plus 8 ones."

2. (3) **Represent** Use digits to write the number for "2 hundreds plus 5 tens plus 0 ones."

3. (3) In 560, which digit shows the number of tens?

4. (3) In 365, which digit shows the number of ones?

5. (3) Ten $10 bills have the same value as one of what kind of bill?

6. (2) The greatest two-digit odd number is 99. What is the greatest two-digit even number?

*7. **Multiple Choice** Which of these numbers is *not* even?
(2)

A 1234 **B** 2345 **C** 3456 **D** 4560

*8. **Multiple Choice** Which of these numbers is *not* odd?
(2)

A 365 **B** 653 **C** 536 **D** 477

*9. **Multiple Choice** Two teams have an equal number of players. The total number of players on both teams could *not* be ____.
(2)

A 22 **B** 25 **C** 50 **D** 38

*10. **Multiple Choice** We can count to 12 by 2s or by 3s. We do not count to 12 when counting by ____.
(1)

A 1s **B** 4s **C** 5s **D** 6s

Conclude Write the next three terms in each counting sequence:

11. 9, 12, 15, ____, ____, ____, . . .
(1)

12. 54, 48, 42, ____, ____, ____, . . .
(1)

13. 8, 16, 24, ____, ____, ____, . . .
(1)

14. 80, 72, 64, ____, ____, ____, . . .
(1)

15. 16, 20, 24, ____, ____, ____, . . .
(1)

16. 40, 36, 32, ____, ____, ____, . . .
(1)

Generalize Describe the rule for each counting sequence, and find the next three terms.

17. 27, 36, 45, ____, ____, ____, . . .
(1)

18. 81, 72, 63, ____, ____, ____, . . .
(1)

19. 10, 20, 30, ____, ____, ____, . . .
(1)

20. 33, 30, 27, ____, ____, ____, . . .
(1)

21. What number equals four tens? *(3)*

22. What number equals five hundreds? *(3)*

23. **Model** How much money is two $100 bills plus twelve $10 bills plus fourteen $1 bills? You may use your money manipulatives to find the answer. *(3)*

24. The number 80 means "eight tens." The number 800 means eight what? *(3)*

***25.** **Predict** The fifth term in the counting sequence below is 20. What is the ninth term in this sequence? *(1)*

4, 8, 12, 16, . . .

26. How much money is half of $10? *(2)*

27. How much money is half of $5? *(2)*

***28.** **Explain** Is the greatest two-digit number an odd number or an even number? How do you know? *(2)*

Use this table to answer problems **29** and **30:**

Number of Tricycles	1	2	3	4
Number of Wheels	3	6	9	12

29. **Generalize** Write a rule that describes how to find the number of tricycles for any number of wheels. *(1)*

30. How many tricycles are represented by 27 wheels? *(1)*

LESSON 4

• Comparing Whole Numbers

PowerUp

facts Power Up A

count aloud Count up and down by tens between 0 and 200. Count up and down by hundreds between 0 and 2000.

mental math

a. **Money:** 300¢ + 300¢ + 20¢ + 20¢

b. **Money:** 250¢ + 50¢

c. **Addition:** 300 + 350

d. **Addition:** 320 + 320

e. **Addition:** 300 + 300 + 50 + 50

f. **Money:** 250¢ + 60¢

g. **Addition:** 340 + 600

h. **Addition:** 240 + 320

problem solving The two-digit counting numbers that contain the digits 1 and 2 are 12 and 21. There are six three-digit counting numbers that contain the digits 1, 2, and 3. One of these numbers is 213. What are the other five numbers?

Focus Strategy: Make an Organized List

Understand We look for the information that is given. We are told that there are six three-digit counting numbers that contain the digits 1, 2, and 3. One of those numbers is 213. We are asked to find the other five three-digit counting numbers that contain the digits 1, 2, and 3.

Plan We want to use a problem-solving strategy that helps us quickly find the answer in a way that is understandable and organized. We will *make an organized list* to do this.

We can organize our list starting with the first digit of the counting numbers we are looking for. First we will list all the possibilities that begin with the digit 1, then all the possibilities that begin with the digit 2, and then all the possibilities that begin with the digit 3.

Solve If the first digit is 1, then there are two possible counting numbers that satisfy the conditions of the problem: 123 and 132. If the first digit is 2, the possibilities are 213 and 231. If the first digit is 3, the possibilities are 312 and 321. Our list might look like this:

123	213	312
132	231	321

The number 213 was given to us in the problem. We are asked for the other five three-digit counting numbers that contain the digits 1, 2, and 3. They are **123, 132, 231, 312,** and **321.**

Check We know that our answer is reasonable because each number contains the digits 1, 2, and 3. Making an organized list helped us make sure that we found all the numbers.

New Concept

When we count from 1 to 10, we count in order from least to greatest.

1, 2, 3, 4, 5, 6, 7, 8, 9, 10

↑ least ↑ greatest

Of these numbers, the least is 1 and the greatest is 10. Since these numbers are arranged in order, we can easily see that 5 is greater than 4 and that 5 is less than 6.

We can use mathematical symbols to compare numbers. **Comparison symbols** include the equal sign (=) and the greater than/less than symbol (> or <).

Math Language
An equal sign is used to show that two quantities are equal.

$5 = 5$ is read	"Five is **equal to** five."
$5 > 4$ is read	"Five is **greater than** four."
$5 < 6$ is read	"Five is **less than** six."

When using a greater than/less than symbol to compare two numbers, we place the symbol so that the smaller end points to the smaller number.

Example 1

Write the numbers 64, 46, and 54 in order from least to greatest.

From least to greatest means "from smallest to largest." We write the numbers in this order:

46, 54, 64

Example 2

Math Language

The comparison symbols $>$ and $<$ are also called inequality signs.

Complete each comparison by replacing the circle with the proper comparison symbol:

a. 7 ◯ 7 **b. 6 ◯ 4** **c. 6 ◯ 8**

When two numbers are equal, we show the comparison with an equal sign.

a. $7 = 7$

When two numbers are not equal, we place the greater than/less than symbol so that the smaller end points to the smaller number.

b. $6 > 4$ **c. $6 < 8$**

Example 3

Compare:

a. 373 ◯ 47 **b. 373 ◯ 382**

a. When comparing whole numbers, we know that numbers with more digits are greater than numbers with fewer digits.

$$373 > 47$$

b. When comparing whole numbers with the same number of digits, we consider the value place by place. The digits in the hundreds place are the same, but in the tens place, 8 is greater than 7. So we have the following:

$$373 < 382$$

Example 4

Use digits and a comparison symbol to write this comparison:

Six is less than ten.

We translate the words into digits. The comparison symbol for "is less than" is $<$.

$$6 < 10$$

Lesson Practice

a. Write the numbers 324, 243, and 423 in order from least to greatest.

Complete each comparison by replacing the circle with the correct comparison symbol:

b. 36 ◯ 632 **c.** 110 ◯ 101

d. 90 ◯ 90 **e.** 112 ◯ 121

Represent Write each comparison using digits and a comparison symbol:

f. Twenty is less than thirty.

g. Twelve is greater than eight.

Written Practice

Distributed and Integrated

Represent Write each comparison using digits and a comparison symbol:

1. Four is less than ten. *(4)*

2. Fifteen is greater than twelve. *(4)*

Complete each comparison by replacing the circle with the correct comparison symbol:

3. 97 ◯ 101 *(4)* **4.** 34 ◯ 43 *(4)*

5. **Represent** Use digits to write the number for "3 hundreds plus 6 tens plus 5 ones." *(3)*

6. Which digit in 675 shows the number of hundreds? *(3)*

7. Which digit in 983 shows the number of ones? *(3)*

8. One $100 bill equals ten of what kind of bill? *(3)*

Classify Describe each number as odd or even:

***9.** 36,275 *(2)* ***10.** 36,300 *(2)* ***11.** 5,396,428 *(2)*

12. **Connect** The greatest two-digit odd number is 99. What is the greatest three-digit odd number? *(2)*

13. (1) **Multiple Choice** We can count to 18 by 2s or by 3s. We do not count to 18 when counting by

A 1s **B** 4s **C** 6s **D** 9s

14. (4) Write the numbers 435, 354, and 543 in order from least to greatest.

15. (1) **Predict** The fourth term in the counting sequence below is 24. What is the ninth term in this sequence?

6, 12, 18, . . .

***16.** (3) **Model** What is the value of five $100 bills, thirteen $10 bills, and ten $1 bills? You may use your money manipulatives to find the answer.

Conclude Write the next three terms in each counting sequence:

17. (1) 20, 24, 28, ____, ____, ____, . . .

18. (1) 106, 104, 102, ____, ____, ____, . . .

19. (1) 0, 6, 12, ____, ____, ____, . . .

20. (1) 0, 7, 14, ____, ____, ____, . . .

21. (1) 40, 32, 24, ____, ____, ____, . . .

22. (1) 45, 36, 27, ____, ____, ____, . . .

23. (3) What number equals 9 tens?

24. (3) What number equals 11 tens?

25. (1) **Predict** What is the seventh term in this counting sequence?

8, 16, 24, . . .

26. (1, 2) **Predict** Is the eleventh term of this counting sequence odd or even?

2, 4, 6, 8, . . .

27. What number is half of 9?
(2)

***28.** **Explain** In Room 12 there is one more boy than there are girls. Is the number of students in Room 12 odd or even? How do you know?
(2)

Use this table to answer problems **29** and **30:**

Number of Ladybugs	1	2	3	4
Number of Legs	6	12	18	24

29. **Generalize** Write a rule that describes how to find the number of ladybugs for any number of legs.
(1)

30. How many ladybugs are represented by 54 legs?
(1)

Early Finishers
Real-World Connection

The chart below shows a list of animals and the number of teeth each animal has.

a. Order the numbers from least to greatest.

b. Write a comparison of the number of teeth cats and ferrets have using digits and a comparison symbol.

c. Then write the same comparison using words.

Animal	**Number of Teeth**
Alligator	76
Cat	30
Dog	42
Elephant	26
Ferret	34
Horse	40

LESSON 5

• Naming Whole Numbers and Money

Power Up

facts Power Up A

count aloud Count up and down by tens between 0 and 200. Count up and down by hundreds between 0 and 2000.

mental math

a. **Addition:** 200 + 60 + 300

b. **Addition:** 20 + 600 + 30

c. **Money:** 350¢ + 420¢

d. **Measurement:** 250 cm + 250 cm

e. **Addition:** 400 + 320 + 40

f. **Addition:** 30 + 330 + 100

g. **Addition:** 640 + 250

h. **Addition:** 260 + 260

problem solving Choose an appropriate problem-solving strategy to solve this problem. Write all the three-digit numbers that each have the digits 2, 3, and 4. Arrange the numbers in order from least to greatest.

New Concept

In this lesson we can use place value to help name numbers. In order to name larger numbers, we should first be able to name numbers that have three digits. Let's consider the number 365. Below we use expanded form to break the number into its parts. Then we show the name of each part.

three hundreds + six tens + five ones

"three hundred" "sixty" "five"

We will use words to name a number that we see and use digits to write a number that is named. Look at these examples:

18	eighteen
80	eighty
81	eighty-one
108	one hundred eight
821	eight hundred twenty-one

Notice that we do not use the word *and* when naming whole numbers. For example, we write the number 108 as "one hundred eight," not "one hundred *and* eight." Also notice that we use a hyphen when writing the numbers from 21 to 99 that do not end in zero. For example, we write 21 as "twenty-one," not "twenty one."

Example 1

The land area of Cameron County, Texas, is nine hundred six square miles. The land area of Collingsworth County, Texas, is nine hundred nineteen square miles. Which county has the greater land area?

Since 919 square miles is greater than 906 square miles, **Collingsworth County** has the greater land area.

Dollars and cents are written with a dollar sign and a **decimal point.** To name an amount of money, we first name the number of dollars, say "and," and then name the number of cents. The decimal point separates the number of dollars from the number of cents. For example, $324.56 is written as "three hundred twenty-four dollars and fifty-six cents."

Example 2

The cost of fuel to heat a home for five months is shown below. Order the months from most expensive to least expensive.

Month	Cost
November	$141
December	$315
January	$373
February	$264
March	$149

By comparing the dollar amounts, we can arrange these five months in order from most expensive to least expensive.

January, December, February, March, November

Lesson Practice

a. Use words to name $563.45.

b. Use words to name 101.

c. Use words to name 111.

d. Use digits to write two hundred forty-five.

e. Use digits to write four hundred twenty.

f. Use digits to write five hundred three dollars and fifty cents.

g. In 1825 the Erie Canal consisted of eighty-three locks. A reconstruction completed in 1862 changed the number of locks to seventy-two. During which year, 1825 or 1862, did the Erie Canal contain the greater number of locks?

h. This table shows the total sales at a school bookstore during one week:

Day	Total Sales
Monday	$40
Tuesday	$26
Wednesday	$18
Thursday	$25
Friday	$11

Order the total sales amounts from least to greatest.

Written Practice

Distributed and Integrated

* **1.** (5) **Represent** Use digits to write three hundred seventy-four dollars and twenty cents.

* **2.** (5) **Represent** Use words to name $623.15.

3. (5) **Represent** Use digits to write two hundred five.

4. (5) Use words to name 109.

5. (4, 5) **Represent** Write this comparison using digits and a comparison symbol:

One hundred fifty is greater than one hundred fifteen.

6. (4) Compare: 346 ◯ 436

7. (3) **Represent** Use digits to write the number for "5 hundreds plus 7 tens plus 9 ones."

***8.** (4) **Analyze** Arrange these four numbers in order from least to greatest:

462 624 246 426

9. (3) Which digit in 567 shows the number of tens?

10. (1) When counting up by tens, what number comes after 90?

Classify Describe each number as odd or even:

***11.** (2) 363,636 **12.** (2) 36,363 **13.** (2) 2000

***14.** (2) The greatest three-digit odd number is 999. What is the greatest three-digit even number?

15. (1) **Multiple Choice** We can count to 20 by 2s or by 10s. We do not count to 20 when counting by

A 1s **B** 3s **C** 4s **D** 5s

16. (2) **Multiple Choice** There are equal numbers of boys and girls in the room. Which of the following could *not* be the number of students in the room?

A 12 **B** 29 **C** 30 **D** 44

***17.** (3) **Model** What is the value of six $100 bills, nine $10 bills, and twelve $1 bills? You may use your money manipulatives to help find the answer.

Conclude Write the next four terms in each counting sequence:

18. (1) 0, 9, 18, ____, ____, ____, ____, . . .

19. (1) 25, 30, 35, ____, ____, ____, ____, . . .

20. 6, 12, 18, ____, ____, ____, ____, . . .
(1)

Generalize State the rule for each counting sequence, and find the next four terms.

21. 100, 90, 80, ____, ____, ____, ____, . . .
(1)

22. 90, 81, 72, ____, ____, ____, ____, . . .
(1)

23. 88, 80, 72, ____, ____, ____, ____, . . .
(1)

24. 7, 14, 21, ____, ____, ____, ____, . . .
(1)

25. **Predict** What is the ninth term in this counting sequence?
(1)

3, 6, 9, . . .

***26.** **Predict** Is the tenth term in this counting sequence odd or even?
(1, 2)

1, 3, 5, 7, 9, . . .

27. Is the greatest three-digit whole number odd or even?
(2)

28. **Explain** Sean and Jerry evenly shared the cost of a $7 pizza. How much did each person pay? Explain how you know.
(2)

Use this table to answer problems **29** and **30:**

Number of Dollars	1	2	3	4
Number of Quarters	4	8	12	16

29. **Generalize** Write a rule that describes how to find the number of quarters for any number of dollars.
(1)

30. What number of quarters represents $10?
(1)

LESSON 6

• Adding Whole Numbers

Power Up

facts Power Up A

count aloud Count up and down by 20s between 0 and 200. Count up and down by 200s between 0 and 2000.

mental math

a. **Addition:** 400 + 50 + 300 + 40

b. **Addition:** 320 + 300

c. **Addition:** 320 + 30

d. **Addition:** 320 + 330

e. **Addition:** 60 + 200 + 20 + 400

f. **Addition:** 400 + 540

g. **Money:** $40 + $250

h. **Measurement:** 450 yards + 450 yards

problem solving Choose an appropriate problem-solving strategy to solve this problem. Dave purchased milk from the vending machine for 60¢. He used 6 coins. As Dave inserted the coins into the machine, the display counted up as follows: 5¢, 30¢, 35¢, 45¢, 55¢, 60¢. What coins did Dave use to purchase the milk?

New Concept

Numbers that are added are called **addends.** The answer to an addition problem is the **sum.** We may add numbers in any order to find their sum. For example, 5 + 6 gives us the same sum as 6 + 5. This property of addition is called the **Commutative Property of Addition.** When adding more than two numbers, this property allows us to add in any order we choose. On the next page we show three ways to add 6, 3, and 4. We point out the two numbers we added first.