LOG ENTRY—Today I met Manuel López. He runs the local salvage operation and is one of the finest when it comes to recovering wrecks. He's our best hope for finding the Mendoza Medallion.

"I'm Captain Bailey," I said, shaking his hand. "I'm a retired Navy man, but now I work for the La Costa Museum in southern Florida."

He stared at me with those glittering dark eyes. He probably thought I was just another guy with treasure fever. I made up my mind to prove him wrong.

Even though his first few answers were gruff, he agreed to show me around. What a ship! He keeps his salvage rig aboard a mammoth cruiser that makes my sloop look like a baby's bathtub.

He stopped abruptly in front of a huge map spread out on a table. "Loot, that's what you would call it, señor. Loot to share, if you are willing to risk your life to find it."

As López pointed out landmarks on his map, I thought about my assignment from the museum director. No, I didn't want loot. My job was to find a priceless silver necklace—the Mendoza Medallion. I was sure we could arrange the details of the sale if the medallion turned up, no matter what López thought of me. But I was hoping against hope that he'd let me come along on the diving expedition too, so that I could have a chance to prove myself.

"The only thing I want from the loot you describe is a certain silver medallion on a silver chain," I said.

He shrugged. "Perhaps it is there. Perhaps not. Why does it matter so much to you, this medallion?"

"The museum I work for is interested in Spanish treasures," I said. "From all reports, this medallion is very fine, very old. It was already ancient—a family heirloom—when it started on its trip across the ocean."

López shot me a questioning glance, and I knew he was waiting for proof.

"Here, I've done all the research." I pulled out a stack of papers. "The archives give details and dates, even a map." I showed him page after page of my notes. "It sounds like the wreck you're going after. And the cargo list—"

"Enough!" He ran a hand through his spiky black hair, and the corners of his mouth turned up a reluctant grin. "I believe you, señor." He held up a hand and sniffed the air. "Do you smell supper? Will you join me?"

He led the way, talkative now that he was in a better mood. "Who do you say wants this treasure? A museum? Do they pay well for this?"

"Well enough. I know you'll be satisfied." Did I dare ask to come along? I'd always dreamed of going on an expedition for sunken treasure, but I'd never been this close to one before. Besides, if the medallion showed up while I was there, I could make sure it was properly cared for.

I listened to López talk while we ate an excellent meal. He told me the history of the treasure ship he planned to explore. I already knew the details, but he was a fascinating storyteller.

"It was more than two hundred years ago, señor—you are right about the date. The fleet set sail for Spain under blue skies, but the ships never arrived. It was hurricane season, and one day the skies whipped up a terrible storm. Waves smashed into the ships, masts snapped off, anchors pulled free. Near here." He turned in his chair and jabbed a finger at a map. "If the passengers had not been so selfish, they could have saved themselves by throwing their heavy trunks of gold and silver overboard to lighten the ship's cargo. But the story is not finished. If we are careful on our hunt, we will find what they lost." His eyes gleamed. "We just have to dive in the right."

This was my chance. I took a deep breath and asked, "Could you use an extra hand?"

He stared at me for a minute and then threw back his head and laughed. "You? Well, why not? I knew there was something I liked about you, señor."

Captain Bailey videos can be found at TeacherToolsOnline.com.
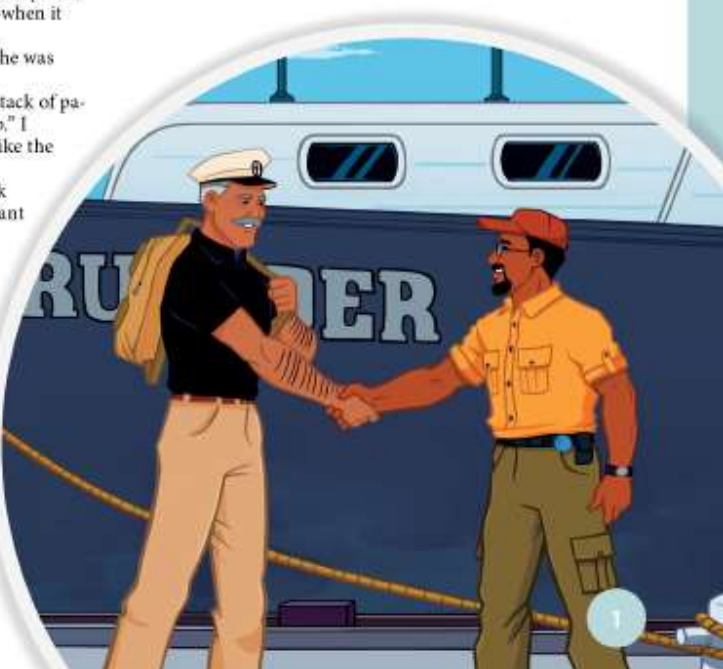
Place Value & Money

Lesson	Objectives
1 Place Value	• Identify the number of periods in up to a 6-digit number • Identify the value of the digits in a 4-digit number
2 Place Value Periods	• Identify the values of the digits in a number with 9 or fewer digits • Read and write numbers with 6 or fewer digits
3 Place Value: Millions	• Write numbers in standard, expanded, and word form
4 Compare Numbers	• Compare numbers using >, <, or =
5 Order Numbers	• Order numbers from least to greatest and from greatest to least
6 Round Numbers	• Round a number to the place with the greatest value • Round a number to a place within the number
7 Decimals: Tenths	• Rename 10 tenths as 1 one • Read and write decimals to the Tenths place
8 Decimals: Hundredths	• Rename 10 hundredths as 1 tenth • Read and write decimals to the Hundredths place
9 Count Money	• Write amounts of money • Determine the value of a set of money
10 Count Back Change	• Count back change from a purchase
11 Rename Numbers	• Rename to write and represent numbers in 3 different ways
12 Chapter 1 Review	• Review the concepts presented in Chapter 1 in preparation for the Chapter 1 Test
13 STEAM	• Design a room with furnishings and plants • Create a purchase list within a set budget
14 Chapter 1 Test	• Complete the Chapter 1 Test

Materials

Items to gather or prepare from the Teacher's Visual Packet, Teacher Resources, the Student Manipulatives Packet, and Assessments are listed here only once. Each lesson provides a complete list of the specific materials needed for that lesson.

Teacher's Visual Packet
• Charts 1–4: *One-Dollar Bill, Five-Dollar Bill, Ten-Dollar Bill, Clock*
• Money Kit
• Place Value Kit
• Place Value Pocket Chart Kit
• Decimal Place Value Pocket Chart

Teacher Resources
• *Price Tags*
• *Cashier's Drawer*
• *Bedroom Decor* (optional)
• *Cumulative Review Answer Sheet*

Other Teaching Aids
• 1,120 craft sticks
• 100 rubber bands
• 5 rolls of masking tape
• Judy® Clock
• Coffee cup
• Playground ball
• Jump rope
• Set of flashcards
• Box of markers
• Packet of hot chocolate mix
• Ads or pictures of priced items (optional)

Student Manipulatives Packet
• Money Kit
• Place Value Mat
• Place Value Kit
• Place Value Pocket Chart Kit
• Decimal Place Value Pocket Chart

Assessments
• Chapter 1 Test

In this chapter students will extend their knowledge of place value as they compare, order, and round numbers up to 7 digits. They will also build on their skills of writing numbers in standard, expanded, and word forms. Place value periods are introduced in this chapter. Use the Place Value Pocket Chart to reinforce the repetition of the Ones, Tens, and Hundreds places within each period. Emphasize throughout the chapter that as you move left from the Ones place, each place is ten times greater than the place immediately to its right—10 units equal 1 of the next larger unit to the left.

Manipulatives

Encourage the students to picture numbers with their place value pieces as they rename whole numbers and decimals. Use the place value pieces from the Teacher's Visual Packet to model the mathematical processes and guide the students' thinking. As their understanding grows, they will be able to transition to the Place Value Pocket Chart, using numbers instead of place value pieces.

STEAM Lessons

Each chapter in MATH 4 features a special lesson that emphasizes STEAM (science, technology, engineering, arts, and math). This lesson is intended to be enjoyable for the students as they collaborate to solve a problem and learn a biblical worldview truth. In order to teach the STEAM lesson effectively, preview this lesson (which appears at the end of each chapter in the Teacher Edition) and prepare any necessary materials in advance.

Mastery of Basic Facts

Facts are practiced through Fact Fun Activities and Fact Reviews (both found at TeacherToolsOnline.com). You may use technology or standard flashcards to review addition and subtraction facts with your students. Make fact practice, both oral and written, part of your daily math routine to help the students with mastery.

Visit TeacherToolsOnline.com for links to enhance the lessons.

STEAM

Chapter 1

Designing Your Dream Bedroom

Interior decorators plan, design, and decorate spaces for their clients. They must consider function, safety, traffic flow, comfort, and style. They must also work within a budget.

Budgeting is an important skill for life. God calls us to be good stewards of our resources—our money, materials, and work potential. We often find that our plans exceed our resources. Math can help us budget to make wise choices and live within our resources while fulfilling our needs and wants.

In this chapter you will apply what you learn about place value and money to designing your dream bedroom. Your goal is to wisely use your resources so you can purchase the necessary items to decorate your bedroom while staying within your budget.

Math 4

Chapter 1 Lesson 11

Objectives

- Identify 10 hundreds as 1 one thousand
- Identify the Ones, Hundreds, and Thousands periods
- Identify the number of periods in up to a 6-digit number
- Identify the value of each digit in a 4-digit number

Teacher's Visual Packet
- Place Value Kit
- Place Value Pocket Chart Kit

Student Manipulatives Packet
- Place Value Mat
- Place Value Kit: hundreds, tens, ones

> Practice and Review activities may be integrated in 5- or 10-minute segments throughout the day

Practice and Review

Practice addition facts

► Choose a Fact Fun Activity from TeacherToolsOnline.com to practice facts with a sum of 0–9.

Teach for Understanding

Lesson Focus
In this lesson you will identify the number of periods in a number and the value of a digit in a 4-digit number.

Building STEAM

► Direct attention to Worktext page 1. The first lesson of each chapter will introduce the STEAM activity to be completed the day before the test. Read the STEAM Worktext page aloud to introduce and generate interest for the activity.

Identify 10 hundreds as 1 one thousand

► Write the numbers 19 and 91 for display.

Instruct the students to imagine that they are crew members on a Spanish galleon during the 1500s and that they have been ordered to move a chest full of jewels.

Would it be easier for you to carry the chest if it weighed 19 pounds or if it weighed 91 pounds? 19 pounds; the 19-pound chest would weigh less than the 91-pound chest, or 19 pounds would be lighter than 91 pounds.

Explain that even though 19 and 91 contain the same digits, the values of those digits are different because of the places that they occupy in each number.

What is the value of the 9 in 19? 9; the 9 is in the Ones place, or there are 9 ones.

How many tens are in 19? 1

What is the value of 1 ten? 10

What is the value of the 9 in 91? 90; the 9 is in the Tens place, or there are 9 tens.

How many ones are in the Ones place in 91? 1

What is the value of 1 one? 1

► Distribute a Place Value Mat and a Place Value Kit to each student. Draw a place value frame and demonstrate each step with your place value pieces.

H	T	O

Count together as the students place 10 ones in the Ones place on their mats: 1 one, 2 ones, . . . 10 ones.

What is another name for 10 ones? 1 ten

Guide the students as they align the 10 ones to form 1 ten. Direct the students to remove the 10 ones from their mats and place 1 ten in the Tens place.

Write "10 ones and 1 ten" for display.

► Follow the same procedure for counting and renaming 10 tens. 1 hundred; 10 tens = 1 hundred

► Count together as the students place 10 hundreds in the Hundreds place on their mats: 1 hundred, 2 hundreds, . . . 10 hundreds.

What is another name for 10 hundreds? 1 one thousand

Guide the students as they align the 10 hundreds to form 1 one thousand. Leave the 1 one thousand displayed in your place value frame.

Write "10 hundreds and 1 one thousand" for display.

What do you notice about how each place with a greater value is formed? A ten in a place makes one in the place of next-greatest value.

Remind the students that the value of each place is ten times greater than that of the place of lesser value immediately to its right.

Identify the Ones, Hundreds, and Thousands periods

► Write "1,000" for display.

How many digits are in 1,000? 4

What do the 0s represent? no ones, no tens, and no hundreds

What do you notice about the 4-digit number 1,000 that makes it different from a 3-digit number? It has a comma.

Explain that our number system is divided into sections, or periods, which are separated by commas.

► Display the Place Value Pocket Chart. Explain that the green section on the chart is called the *Ones period*.

What three places are in the Ones period? Ones, Tens, Hundreds

Explain that the yellow section on the chart is called the *Thousands period*.

Choose a student to name the three places in the Thousands period. Ones, Tens, Hundreds

What do you notice about the places in the Ones and the Thousands periods? They have the same names: Ones, Tens, Hundreds.

Identify the number of periods in up to a 6-digit number

► Display 34,587 in your Pocket Chart.

How many periods are in 34,587? 2; a comma separates the Ones period from the Thousands period.

Display the number 328 in your Pocket Chart.

How many periods are in 328? 1; there are only three digits; there is no comma.

► Repeat the procedure with the following numbers.
782,459 2 periods   4,568 2 periods   266 1 period

► Display the number 4,614,380.

How many periods are in this number? 3; there are 2 commas separating the number into 3 sections.

Identify the value of each digit in a 4-digit number

► Display 5 thousands, 2 hundreds, 8 tens, and 1 one in a place value frame drawn for display.

Choose a student to write the number below the frame. 5,281 Remind the students that a comma is placed between the One Thousands and Hundreds places.

Read the number aloud together: five thousand, two hundred eighty-one.

Which digit is in the One Thousands place? 5

Choose a student to write in the displayed frame the value of 5 one thousands. 5,000

Which digit is in the Hundreds place? 2

Invite a student to write the value of 2 hundreds. 200

Which digit is in the Tens place? 8

Choose a student to write the value of 8 tens. 80

Which digit is in the Ones place? 1

Choose a student to write the value of 1 one. 1

Th.	H	T	O
5	2	8	1
5	0	0	0
	2	0	0
		8	0
			1

What do you notice about the numbers that represent the values of the digits? Only the first digit in each number has any value; the other digits are 0s, except for in the Ones place.

► Continue the activity with the following Place Value Kit pieces.
3 one thousands, 3 hundreds, 4 tens, 5 ones 3,345
1 one thousand, 6 hundreds, 2 tens, 1 one 1,621
2 hundreds, 7 tens, 6 ones 276

► Write the following numbers for display.
2,572   7,935   5,304   3,251
Which number has a 3 in the Hundreds place? 5,304
Which number has a 5 in the Tens place? 3,251
Which number has a 7 in the One Thousands place? 7,935
Which number has a 2 in the Ones place? 2,572

Worktext pages 3–4

► The Worktext pages should be evaluated to determine the need for further instruction. These pages are not intended to be graded.

► Read and guide completion of page 3.

► Read and explain the directions for page 4. Assist the students as they complete the page independently.

Activities pages 1–2

► The Activities book provides two pages of practice for each lesson. The first page reinforces the lesson and may be used to assess daily grades. This assessment should be at least one day after the lesson to allow practice of new skills. The back of the page provides a spiral review of concepts as well as standards-based strategies and skills.

► Review writing the number represented on page 2.

Objectives

- Recall that the value of each place is ten times greater than the value of the place immediately to its right
- Identify the values of the digits in a number with 9 or fewer digits
- Read and write numbers with 6 or fewer digits

Teacher's Visual Packet

- Place Value Kit: 1 one thousand, 1 hundred, 1 ten, 1 one
- Place Value Pocket Chart Kit

Other Teaching Aids

- 1,120 craft sticks
- 100 rubber bands
- 5 rolls of masking tape

Practice and Review

Practice subtraction facts

▶ Select a Fact Fun Activity from TeacherToolsOnline.com to practice facts with a difference of 0–9.

Teach for Understanding

Lesson Focus

In this lesson you will identify the values of the digits in a number and read and write numbers up to 6 digits.

Recall that the value of each place is ten times greater than the value of the place immediately to its right

▶ Arrange the students in 5 groups and give each group a minimum of 224 craft sticks, a minimum of 20 rubber bands, and a roll of masking tape.

H	T	O,	H	T	O
		Thousands			Ones

Draw a 6-digit place value frame for display; label the Ones period and the Thousands period.
Display in the Ones place 1 one from the Place Value Kit and 1 craft stick below the 1 one. Explain that each craft stick will have the same value as 1 one.

▶ Direct each group to discuss how they can make 1 ten using the craft sticks and the rubber bands or masking tape, and then to make as many tens as possible.

How did you make 1 ten? by bundling 10 sticks together

In the Tens place of the Place Value frame, display 1 ten from the Place Value Kit and then 1 "craft stick ten" below the 1 ten.

▶ Direct each group to discuss how they can make 1 hundred, and then to make as many hundreds as possible.

How did you make 1 hundred? by bundling 100 sticks together

In the Hundreds place of the place value frame, display 1 hundred from the Place Value Kit and then 1 "craft stick hundred" below the 1 hundred.

How would you make 1 one thousand? All five groups would need to combine their "craft stick hundreds" so that 10 hundreds could be bundled together to make 1 "craft stick one thousand."

▶ In the One Thousands place of the place value frame, display 1 one thousand from the Place Value Kit and then 1 "craft stick one thousand" below.

What do you notice about how each place with a greater value is formed? 10 in a place makes 1 in the next-greatest place value.

▶ Point to the Ten Thousands place in the place value frame.

How many one thousands do you need to make 1 ten thousand? 10; you need 10 in a place to make 1 in the next-greatest place value.

Review that the value of each place is ten times greater than the place of lesser value immediately to its right.
Discuss how large 1 "craft stick ten thousand" would be.

▶ Point to the Hundred Thousands place in the place value frame.

How many ten thousands do you need to make 1 hundred thousand? 10

Discuss how large 1 "craft stick hundred thousand" would be.

▶ Display the Place Value Pocket Chart. Direct attention to the Millions period.

How many hundred thousands do you think you need to make 1 one million? 10; you need 10 in a place to make 1 in the next-greatest place value; the value of each place is ten times greater than the place of lesser value immediately to its right.

How many one millions do you need to make 1 ten million? 10
How many ten millions do you need to make 1 hundred million? 10

▶ Explain that no matter how large the value of a number, 10 in a place makes 1 in the next-greatest place value.

Identify the value of the digits in a number with 9 or fewer digits

▶ Remind the students that the value of each digit in a number is determined by its location in the Ones, Tens, or Hundreds place of a period and that commas are used to separate the periods.

▶ Display 725,809,463 in your Place Value Pocket Chart.

What digit is in the Ones place? 3
What is its value? 3
Write for display "3 ones = 3."
What digit is in the One Thousands place? 9
What is its value? 9,000
Write "9 one thousands = 9,000."
What digit is in the One Millions place? 5
What is its value? 5,000,000
Write "5 one millions = 5,000,000."

▶ Repeat the procedure with the Tens place in each period, then with the Hundreds place. 6, 60; 0, 0; 2, 20,000,000; 4, 400; 8, 800,000; 7, 700,000,000

Why do you think 0s are written in these numbers when 0s have no value? The digit 0 in a number shows that the place in which the 0 is written has no value.

▶ Follow a similar procedure with the following numbers, asking questions about the digits and their values in random order.
98,147,526   7,436,958   259,169

Read and write numbers with 6 or fewer digits

▶ Write "827,436" for display.

Remind the students that when you read a 6-digit number, you say the 3 digits in the Thousands period together, then the word *thousand* (when you get to the comma), and then the last 3 digits.

Choose a student to read the number.

Place Value Periods

Name:

O T H Ones Thousands Millions

1\. H T O H T O H T O

Millions Thousands Ones

2\. Hundreds place 600

3\. Ten Thousands place 30,000

4\. One Thousands place 7,000

5\. Hundred Thousands place 800,000

6\. D

7\. C

8\. A

9\. E

10\. B

1\. D

2\. B

3\. A

4\. C

5\. 10,000 6. 300 7. 30

8\. 500,000 9. 9,000 10. 0

11\. 60,000 12. 400,000 13. 5,000

17\. 4,638

What do you notice about how this number is read? The digits in each period are read as any other 3-, 2-, or 1-digit number; you say the name of the period when you come to the comma at the end of that period.

- Write "69,170" for display. Choose a student to read the number aloud.

  Write for display the number's word form; point out the comma written after the name of the period: sixty-nine thousand, one hundred seventy.

  Read together the standard form of 69,170.
- Repeat the procedure for 95,841 (ninety-five thousand, eight hundred forty-one) and 204,139 (two hundred four thousand, one hundred thirty-nine).
- Direct the students to write the following numbers in standard form and in word form.

  619,387 67,358 23,090 750,012

Worktext pages 5–6

- Invite students to show 4-, 5-, or 6-digit numbers in the displayed Place Value Pocket Chart. Ask volunteers to identify the value of each digit.
- Read and guide completion of page 5.
- Read and explain the directions for page 6. Assist the students as they complete the page independently.

Activities pages 3–4

- Review placing a comma in the number to separate periods on page 4.

CHAPTER 1 REVIEW

Objectives
- Write numbers in standard, expanded, and word form
- Identify the value of the digits in a number
- Compare numbers written in standard, expanded, and word form
- Order numbers from least to greatest and from greatest to least
- Identify even and odd numbers
- Round a number to the place with the greatest value
- Read and write decimals
- Write amounts of money
- Count out amounts of money

Student Manipulatives Packet
- Money Kit
- Place Value Kit
- Decimal Place Value Pocket Chart Kit

The Chapter Review offers an opportunity for students to discuss the concepts they have learned in the chapter. They may work collaboratively or independently as you review concepts. Circulate among the students, giving individual help as needed. Students who demonstrate proficiency with the discussion, the modeling, and the Worktext pages are ready for the Chapter Test. Students who encounter difficulties with the review concepts would benefit from additional coaching and practice before testing.

Check for Understanding

Write numbers in standard, expanded, and word form; identify the value of the digits in a number

► Write "three hundred forty-five million, eight hundred sixty thousand, nine hundred forty-two" for display.
Guide the students in writing the standard form for the number. Then guide them in writing the expanded form. Use procedures similar to those in Lessons 3–4. 345,860,942;
300,000,000 + 40,000,000 + 5,000,000 + 800,000 + 60,000 + 900 + 40 + 2

► Follow the same procedure with the following numbers.
ninety-six thousand, one hundred sixty-eight
96,168; 90,000 + 6,000 + 100 + 60 + 8

three million, nine hundred sixty-two thousand, seventy-eight
3,962,078; 3,000,000 + 900,000 + 60,000 + 2,000 + 70 + 8

Compare numbers written in standard, expanded, and word form

► Use procedures similar to those in Lesson 4 to guide the students in comparing the numbers in each of the following number sentences.

73,598 < 74,598,362   46,499 < 452,489

8,164,523 > 8,161,514   512,394 = 512,394

30,000 + 2,000 + 800 + 60 + 7 < 132,298

662,138 = 600,000 + 60,000 + 2,000 + 100 + 30 + 8

seven million, eight hundred sixty-two thousand, four hundred thirty-eight > 988,706

2,310,658 < two million, six hundred eighty-seven thousand, two hundred twelve

Order numbers from least to greatest and from greatest to least

► Use procedures similar to those in Lesson 5 to guide the students in ordering the following sets of numbers.

from least to greatest

14,915	14,314	2,523,765	8,402
8,402	14,314	14,915	2,523,765
4,000,050	432,108	49,258	400,005
49,258	400,005	432,108	4,000,050

from greatest to least

61,874	78,398	984	5,892,657
5,892,657	78,398	61,874	984
724,568	2,456	9,989	72,456
724,568	72,456	9,989	2,456

Identify even and odd numbers
Which numbers from 1 to 9 are even? 2, 4, 6, 8
Which are odd? 1, 3, 5, 7, 9

► Remind the students that they can determine whether a number is even or odd by looking at the Ones place. If the digit in the Ones place is even, the number is even. If the digit in the Ones place is odd, the number is odd.
When a number with two or more digits (e.g., 10, 50, 120) has a 0 in the Ones place, is the number odd or even? Even; a number with 0 in the Ones place can be divided into 2 equal sets with nothing left over.

► Write the following numbers for display.
549   10,658   962,130
432,657   8,364,754
Which numbers are even? 10,658; 962,130; 8,364,754
Which numbers are odd? 549; 432,657

Round a number to the place with the greatest value
► Follow a procedure similar to the one in Lesson 6 to guide the students in rounding the following numbers to the place with the greatest value.

2,686 3,000   42,138 40,000   9,573 10,000
582,731 600,000   72,862 70,000   928,456 900,000

Remind the students that they can look at the digit immediately to the right of the rounding digit to determine whether to round up or down.

Read and write decimals
► Distribute the Decimal Place Value Pocket Chart Kit to each student and write "two and two tenths" for display.
Instruct each student to silently read the word form and then show the decimal in his Pocket Chart. 2.2

Choose a student to write the standard form of the decimal for display. Instruct the students to read the decimal aloud together: two and two tenths.

Direct the students to use their Place Value Kits to show two and two tenths. 2 large red ones and 2 tenths on the Tenths Mat

► Follow the same procedure with the following numbers. Remind the students that when there are no ones in a decimal, you write a 0 in the Ones place, but that the 0 is not read. Guide the students in renaming 10 hundredths as 1 tenth as they show the decimals with their Place Value Kit pieces.

one and twenty-five hundredths 1.25

four tenths 0.4

thirty-three hundredths 0.33

three and nine hundredths 3.09

Write amounts of money; count out amounts of money

▶ Distribute a Money Kit to each student.

Choose a student to write "$5.45" for display and direct each student to count out the amount, using the fewest bills and coins possible. 1 five-dollar bill, 1 quarter, 2 dimes

Discuss other combinations of currency that would equal $5.45.

▶ Follow the same procedure for the following amounts.

$8.06 1 five-dollar bill, 3 one-dollar bills, 1 nickel, 1 penny

$15.29 1 ten-dollar bill, 1 five-dollar bill, 1 quarter, 4 pennies

$22.80 1 twenty-dollar bill, 2 one-dollar bills, 3 quarters, 1 nickel

$4.18 4 one-dollar bills, 1 dime, 1 nickel, 3 pennies

$31.34 1 twenty-dollar bill, 1 ten-dollar bill, 1 one-dollar bill, 1 quarter, 1 nickel, 4 pennies

Worktext pages 25–26

▶ Read and explain the directions for pages 25–26. Assist the students as they complete the pages independently.

Activities pages 23–24

▶ Use pages 23–24 to provide additional preparation for the Chapter Test.

Objectives

- Identify the problem that needs to be solved
- Design a room with furnishings and plants
- Create a purchase list within a set budget
- Present a concept design
- Write a check for a purchase
- Explain how math can be used to make wise choices

Teacher Resources

- *Bedroom Decor* (for the teacher and for each group of students) (optional)

Other Teaching Aids

- Ads or pictures of priced items (optional)

Note

For this lesson, the students will need access to some type of idea resources (either the *Bedroom Decor* page, ads or pictures of priced items, or appropriate shopping websites).

Teach for Understanding

Lesson Focus

In this lesson you will design your dream bedroom, working within a budget.

Identify the problem that needs to be solved

► Direct the students to Worktext page 1. Review the project that was introduced at the beginning of the chapter.

Have you seen television shows where contestants are given certain ingredients and challenged to plan a winning meal? Or where a family buys a house and has someone renovate it for them within a certain budget?

Allow students to share their experiences.

What is a budget? a plan for spending money within a limit

Explain that you cannot spend more money than you have, so you must plan how to best spend it.

Cooking and decorating shows emphasize planning, creativity, skill, and working wisely with the resources provided. Your group has been selected for a competition to design a dream bedroom for a fourth grader. The partially furnished room contains a twin-sized bed (but no bedspread), a chest of drawers, and a nightstand. Your challenge is to design the winning bedroom while staying within your budget of $500. You must include at least one indoor plant, and your design should be both functional and attractive.

Explain that *functional* means that it should be suitable and useful for a fourth grader.

Why would you want to include a plant? Besides contributing beauty, plants also help provide oxygen and purify the air as part of the process of photosynthesis.

As you plan with your group, consider what your design theme will be and what items you will purchase within your budget.

Design a room with furnishings and plants; create a purchase list within a set budget

► Group the students and direct attention to the idea resources.

Working with your group and using your resources for ideas, plan your bedroom design. Remember that you must include at least one indoor plant. Describe your plan on your own paper, using both pictures and words. Indicate colors, patterns, and furniture arrangement.

As you work, how can you be sure you are staying within your budget? I can keep a list of the cost of each item I purchase and total the list as I go.

► Allow time for the students to work on their designs. Circulate around the room, giving help and answering questions as needed.

> The students may use room design software to plan and show their design.

► When their designs are complete, direct the students to complete question 1 on Worktext page 2.

Present a concept design

► Encourage groups to present their plans to the class; commend students for their wise planning and creativity. You may allow students to vote for a winning design.

Write a check for a purchase

► Lead a discussion about writing a check.

If you were designing your own bedroom, you would have to pay for your purchases. One way to do that is by writing a check. A personal check is a piece of paper that promises a person that he can receive a certain amount of money from your bank account when he cashes the check. Should you write a check promising a person money if that money isn't in your bank account? No; that would be lying; it would also be breaking the law.

► Guide the students in filling out the check on Worktext page 2, modeling each step as it is discussed.

DATE

Write today's date on the line to the right of *Date*.

PAY TO THE ORDER OF

We will pretend that you purchased everything from the company *Lovely Interior Designs*. Write that name in the blank to the right of *Pay to the order of*.

$_____

Write the total value of your purchase in standard form in the box following the dollar sign.

_____ DOLLARS

On the next line you will write the dollar value of your purchase in word form. You will write the cents value as a fraction. Twenty cents is $\frac{20}{100}$ dollars. How would you write $493.20 as four hundred ninety-three and $\frac{20}{100}$

Write the word form and the fraction for display.

Why don't we need to write the word *dollars* after the dollar value? It's already printed on the check at the end of the line.

MEMO

On the memo line you may write a word or two as a reminder of what the purchase is for. A good memo for this check might be "bedroom design" or something similar.

SIGNATURE

All checks must be signed in order for them to be cashable. Your signature is your name written in cursive. It goes in the blank in the bottom right corner of the check.

Assist students who need help writing their checks.

Explain how math can be used to make wise choices

► Guide a discussion about planning purchases.

Luke 14:28 tells us, "For which of you, intending to build a tower, sitteth not down first, and counteth the cost, whether he have sufficient to finish it?" What does the builder of the tower do before he starts building? He plans ahead and adds up the

cost of building the tower to be sure that he has enough money to finish it.

▶ Direct the students to complete the first part of problem 3 by telling whether they were able to keep their purchases within their budget.

How can you find out how much money was left? by subtracting the total spent from $500, my budget limit

Discuss the importance of evaluating your work and reflecting on what changes could improve the design. Direct the students to complete question 4.

As you were adding up your purchases, did you find that you had to leave some things off your list? Answers may vary.

Sometimes what we want costs more money than we have. Math helps us to determine what our options are and to evaluate those options so we can see our needs and some of our wants met. This way we can wisely use what God provides.

▶ Direct attention to the last question on the Worktext page.

How did math help you "count the cost" of designing a dream bedroom while staying within your budget? Math helped me compare prices on items, make decisions about which items I could afford, and add up my purchases so I could stay within my budget.

Designing Your Dream Bedroom

Interior decorators plan, design, and decorate spaces for their clients. They must consider function, safety, traffic flow, comfort, and style. They must also work within a budget.

Budgeting is an important skill for life. God calls us to be good stewards of our resources—our money, materials, and work potential. We often find that our plans exceed our resources. Math can help us budget to make wise choices and live within our resources while fulfilling our needs and wants.

In this chapter you will apply what you learn about place value and money to designing your dream bedroom. Your goal is to wisely use your resources so you can purchase the necessary items to decorate your bedroom while staying within your budget.

CHAPTER 1 TEST

▶ To prepare the students for the format of achievement tests, instruct them to work on a separate sheet of paper, if necessary, and to mark their answers on the *Cumulative Review Answer Sheet*.

Note that the *Cumulative Review Answer Sheet* has 25 answer lines, but some of the Cumulative Review pages have fewer than 25 problems.

Concept Review

Activities pages 25–26

The Cumulative Review provides additional practice of previously learned concepts. These pages may be completed during this lesson or anytime after this lesson, since they require limited or no teaching. Frequent review of core math concepts will help the students build mathematical knowledge and gain confidence in solving problems.

▶ Review the following concepts. Adapt instructions and activities and provide reteaching as needed to meet the specific needs of your students.

- Adding and subtracting 2- and 3-digit numbers
- Writing numbers in standard form

The concepts reviewed here were presented and practiced in Math 3.

- Telling time to the 5-minute interval
- Writing an equation for a word problem