Chapter 1

Addition Facts		
Lesson		**Skill Focus**
1	Serving God with Math	• Apply four biblical worldview truths to math
2	*Count On*; Add 0	• Solve addition equations using *counting-on* strategies and the adding-0 rule
3	Compose 10	• Find all pairs of addends that compose 10
4	Decompose Numbers Less Than 10	• Decompose the numbers 6–9 into fact combinations
5	Add Doubles; Even & Odd	• Identify the pattern for sums of double facts • Determine the sums of even and/or odd addends
6	Add Near Doubles	• Solve a near-double fact with a double fact
7	Make 10	• Use the make-10 strategy
8	Missing Addend	• Find a missing addend using reasoning skills and number sense
9	3 Addends	• Solve 3-addend problems using strategies
10	Chapter 1 Review	• Review the concepts presented in Chapter 1 in preparation for the Chapter 1 Test
11	Chapter 1 Test	• Complete the Chapter 1 Test

Materials

Items to gather or prepare from the Teacher's Visual Packet, the Teacher's Toolkit CD, the Student Manipulatives Packet, and the Tests and Tests Answer Key are listed here only once. Additional materials to gather or prepare are also listed here. Each individual lesson provides a complete list of the specific materials needed for that lesson.

Teacher's Visual Packet
- Charts 1–4: *Serving God with Math*, *Problem-Solving Plan*, *Addition Strategies*, *Hundred Chart*
- Stick puppets: *Matt*, *Paddy*
- 20 Counters
- Shapes Kit: circles, squares, triangles
- Place Value Kit: 20 ones
- Money Kit: pennies
- 2 Ten Frames

Teacher's Toolkit CD
- *Number Word Cards: zero–twenty*
- *Part-Whole Model*
- *Number Line (0–20)*
- *Problem-Solving Model*
- *Blank Number Lines*
- *T Chart*
- *Fact Family Flashcards:* 0–2 as addends and double facts

Student Manipulatives Packet
- 20 Counters
- Money Kit: pennies
- Place Value Kit: 20 ones
- 2 Ten Frames
- Fact Family Flashcards

Tests and Tests Answer Key
- Chapter 1 Test

Other Teaching Aids
- A photo of yourself
- Pretzel sticks
- A sheet of paper (for use as a workmat) for each student
- Sticky notes (blank)

Lessons 6, 7, 9, and 10 include teaching the Base 10 strategy. See page xvi for information regarding presentation and development of this concept.

Teacher Notes

This chapter reviews addition and the addition strategies that students learned in BJU Press *Math 1*. The review of concepts such as the Commutative Property of Addition helps students more effectively use addition strategies such as *counting on* 1 or 2, adding 0, and making 10. With practice, the students will be proficient with basic addition facts with sums to 18 by the end of Grade 2.

Students' use of manipulatives and drawings to represent addition problems strengthens their understanding of the foundational concepts of addition and their ability to articulate the function of each number in an addition equation. Addition facts set in the context of a real-world problem help the students see the importance of understanding math and adding accurately. Beyond addition's practical relevance, students need to understand how addition facts can be used as a tool to help others for God's glory. As you teach this chapter, encourage your students to find ways to help others by using their addition skills.

This chapter introduces the *Problem-Solving Model*, found on the Teacher's Toolkit CD, that guides students through discussing the meaning of each sentence in a word problem and picturing the information given. Use this model while solving word problems throughout the year. In addition, keep the Problem-Solving Plan from the Teacher's Visual Packet prominently displayed throughout the year so that the students can be easily reminded of the problem-solving steps when they work independently.

Addition facts to practice in this chapter

1 + 1	2 + 1	3 + 1	4 + 1	5 + 1	6 + 1	7 + 1	8 + 1	9 + 1	
	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	
2 + 2	3 + 2	4 + 2	5 + 2	6 + 2	7 + 2	8 + 2	9 + 2		
	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9		
0 + 0	1 + 0	2 + 0	3 + 0	4 + 0	5 + 0	6 + 0	7 + 0	8 + 0	9 + 0
	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9
3 + 3	4 + 3	5 + 3	6 + 3	7 + 3	4 + 4	5 + 4	6 + 4	5 + 5	
	3 + 4	3 + 5	3 + 6	3 + 7		4 + 5	4 + 6		

Facts are reinforced and practiced through Fact Fun Activities (A5), Fact Family Flashcards (Student Manipulatives Packet), and Fact Reviews (Teacher's Toolkit CD). Make fact practice, both oral and written, part of your daily math routine to help the students with fact automaticity. See the Facts Chart on pages A8–A12 for a list of facts with corresponding strategies.

Math Board activities provide a way to review previously learned material and to assess retention.

- Count forward from 0 to 20 and backward from 20 to 0
- *Count on* to 50 from any given number less than 50
- Count to 100 by 5s using the Hundred Chart
- Compose numbers 2–9 with all possible combinations using 2 addends
- Compose all possible combinations for 10 using 2 addends
- Represent numbers 11–19 as 10 and some more
- Compare sets of objects using greater-than and less-than signs
- Count sets of cubes by making as many tens as possible, counting the tens by 10s, and then *counting on* the ones by 1s

Introduce the Theme

Display the Matt and Paddy puppets as you introduce the theme of Math 2.

As you listen to stories about Matt O'Malley, you will learn the important role math plays in your life, whether you are working, helping other people, or doing something for fun.

A Surprise Sendoff

RIIIIIIINNNG!

"The bell for dismissal—at last!" said Matt O'Malley. He snatched up his books and headed out the door. School was over.

Matt felt some coarse fur brush against his leg. He looked down at the little beaver sitting on the floor. "Take a good long look at those doors, Paddy," he said. "We won't be seeing them again for a long time! I'm graduating!"

Paddy whistled a sharp note through his front teeth.

"You know, Paddy," said Matt, "I've lived here in Ohio all my life. It will be fun to travel around the world and have some adventures. And think of all the friends we'll make as we help people build new houses. Who knows? We may never want to come back. And best of all—no more math class." He patted the beaver on the head. "Let's go collect the tools we'll need."

In his garage, Matt rummaged through the tools and wood scraps scattered on his workbench. "Hmmm, that's strange. I was sure I had five envelopes of new sandpaper here, but now I can find only one. Did we use it all up?"

He glanced over at Paddy. "Please don't chew on those wood scraps, Paddy. I know you're hungry, but supper can wait. Right now I need you to help me find my sandpaper."

After another half-hour of looking for the sandpaper, Matt had found two trunks and a suitcase, but he still hadn't found the sandpaper.

He glanced at his watch. "Paddy, we've got to get going! We promised the guys we'd meet them at Ralph's house for dinner."

Paddy didn't move. He was squatting on the workbench, looking longingly at the blocks of wood beside his feet. "Come on, Paddy, get up," said Matt.

As Paddy got up from the workbench, Matt let out a yell. "There they are—my envelopes of sandpaper! You've been sitting on them all this time!" He quickly counted them. "One, two, three, four, five. Great! They're all here." He quickly shoved them into a box and closed the lid. "I'm going to ask Ralph for some more boxes if I can figure out how many I need," Matt said. Matt had packed his tools in many small boxes. He thought he could fill the trunk and suitcases with boxes. "I need enough boxes to fill both trunks and the suitcase . . ." his voice trailed off as he estimated how many boxes he needed. "I think I can fit 6 boxes in each trunk and 2 boxes in the suitcase."

Paddy got up and waddled to the door.

"I'm coming, Paddy; I just need to write this down before I forget." Matt made a list on his paper: two trunks and one suitcase; a trunk holds 6 boxes and the suitcase holds 2 boxes. "Maybe I'll ask Ralph for some help." Paddy nodded his approval.

As Matt pulled the car up to the curb at Ralph's house, Ralph came out and waved. "How's the packing going, Matt?"

"Well, I'm having a little trouble," Matt said as he climbed out of the car. "I'm not sure if I have enough boxes or if I need to borrow some from you. Do you think you can help me?"

"Sure! Come in the house and we'll figure out how many boxes you need," said Ralph.

To the Parent

In Chapter 1 your child studied strategies and properties of addition as he developed the following skills. These will help him better understand addition and memorize addition facts to 18.

- Represent the part-whole relationship of addition using various manipulatives including number lines
- Apply rules of addition to 2 or more addends
- Practice the strategies of counting on 1 or 2, composing 10, decomposing to make 10, and adding doubles or near doubles
- Identify numbers as even or odd
- Find a missing addend

Serve with Math

Matt and his pet beaver, Paddy, are preparing to leave Ohio to help build houses. Their journeys will take them all around the world. Along the way they will face a variety of challenges that require math skills. As your child learns about Matt's ministry of building homes around the world, he will learn that math is a powerful tool for doing work. Doing jobs well is an important way Christians serve God with math.

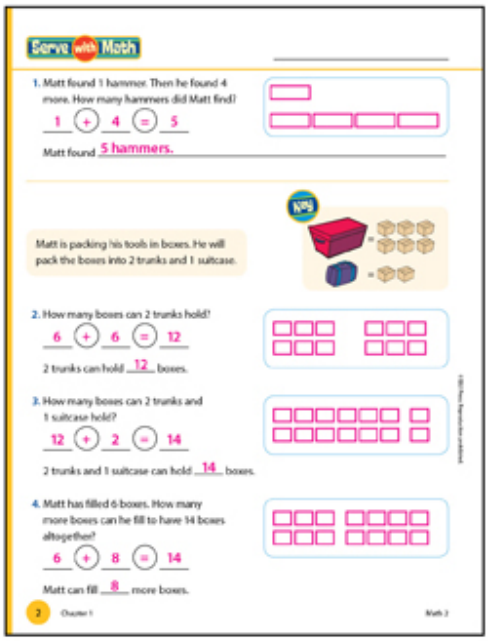
Math in the Home

Your child learned that daily life offers many opportunities to practice math skills. Make word problems a part of your daily conversation. For example, say, "You have 6 markers and your friend has 3 markers. If you both share your markers, how many do you have to choose from?" or "We brought a package of 8 hot dog buns to the cookout. The Parker family also brought a package of hot dog buns. There were 16 hot dog buns at the cookout. How many hot dog buns were in the package the Parker family brought?"

The following facts were introduced in this chapter. Encourage your child to use strategies and manipulatives to help build fact automaticity. Math apps and games provide a fun way to practice facts.

0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9
1+0	2+0	3+0	4+0	5+0	6+0	7+0	8+0	9+0
1+2	1+3	1+4	2+1	3+1	4+1	5+1	6+1	7+1
2+1	3+1	4+1	5+1	6+1	7+1	8+1	9+1	
2+3	2+4	2+5	2+6	2+7	2+8	2+9		
3+2	4+2	5+2	6+2	7+2	8+2	9+2		
3+4	3+5	3+6	3+7	4+5	4+6			
4+3	5+3	6+3	7+3	5+6	6+4			
4+6	5+5	5+6	5+7	6+6	5+9			

Math 2 Chapter 1 1



Serve with Math

1. Matt found 1 hammer. Then he found 4 more. How many hammers did Matt find?

1 + 4 = 5

Matt found 5 hammers.

Matt is packing his tools in boxes. He will pack the boxes into 2 trunks and 1 suitcase.

2. How many boxes can 2 trunks hold?

6 + 6 = 12

2 trunks can hold 12 boxes.

3. How many boxes can 2 trunks and 1 suitcase hold?

12 + 2 = 14

2 trunks and 1 suitcase can hold 14 boxes.

4. Matt has filled 6 boxes. How many more boxes can he fill to have 14 boxes altogether?

6 + 8 = 14

Matt can fill 8 more boxes.

2 Chapter 1 Math 2

Lesson 1

Worktext pages 1–6
Reviews pages 1–2

Objectives

- Recognize four biblical worldview truths and their connections to math: God is the Creator, God put people on the earth to work, people are important, and math has limits
- Apply biblical worldview thinking to life

Teacher Materials and Manipulatives

- A photo of yourself
- Chart 1: *Serving God with Math*

Teach for Understanding

Lesson focus

In this lesson you will find out why God wants you to study math.

- Guide a discussion about the students' favorite subjects. Generate excitement about learning math.

  Does God want you to learn math? Accept any answer.
- Display the Serving God with Math chart and direct attention to Worktext pages 3–4 as you introduce the four biblical worldview truths. Use these truths to motivate the students to learn and improve their math skills.
- As you read aloud the first two paragraphs, direct the students to follow along to find out why math is important.

  What do Christians want to do with their lives? please God

  How can Christians use math to help them please God with their lives? Answers will vary.

  Guide a discussion that leads students to conclude that Christians should use math to solve problems, but they should then use biblical principles to determine how to follow what math says is possible.
- Instruct the students to follow along as you read aloud the first biblical worldview truth.

  How much of the world did God create? the entire world

  What can you use math with? everything

  Because math works in every part of the universe, it reveals that the world is designed by a wise Creator. People should worship God for His great power and wisdom.

  Why do you think you can use math with everything? because everything in the world was created by God
- Instruct the students to listen for another reason to learn math as you read aloud the second biblical worldview truth.

  What did God create people to do? God created people to work.

  Where did God put Adam to work? in the Garden of Eden

  Discuss the importance of work. Lead the students to understand that work is created by God and is good.

  According to this paragraph, why is learning math important? Everyone needs math to do the work God gives us to do.
- Before reading the third biblical worldview truth, guide a discussion of the word *image* (something that looks like a specific person or thing). Use a photo of yourself to illustrate the concept of an image. Explain that a photo is not the person, but it looks like the person and reminds you of the person. Because everyone is made in God's image, people are special and important.
- Instruct the students to find out how they should treat other people as you read aloud the third biblical worldview truth on Worktext page 4.

  Why are people special and important? because God created people in His image

  What did Jesus tell Christians to do? love other people

  How do you think math helps you to show love to other people? Answers should include that many problems can be solved accurately using math.
- Present questions such as the following to discuss problems that are solved using math skills learned in school.

  Did I save enough time in my day to help others?
  Was I wise in saving and spending my money so I can help those in need?
- Instruct the students to find out what math cannot do as you read aloud the fourth biblical worldview truth.

  What can math not do? It cannot tell you what is right or wrong, to work hard, or to love people.

  Invite students to tell about a time when they shared cookies with others.

  Did you use math to decide whether or not to share the cookies? no

  Did you use math to decide how to share the cookies? yes

  You shared the cookies because it was the right and kind thing to do. That decision did not have anything to do with math. However, the number of cookies you shared did have something to do with math.
- Read aloud the last paragraph and review the four biblical worldview truths.
- Explain that approaching math from a biblical worldview assumes that a person wants to please his Creator. But we are all born enemies of God. Only His saving grace can change our desires to what they should be. Encourage the students to consider whether they want to please God with their lives.
- Take the opportunity to explain the need to repent and trust Jesus for salvation using the *Explaining the Gospel* page (A2). Only those who repent of their sin and place their faith in Jesus Christ as their Savior are found acceptable to God.

Worktext pages 5–6

- Guide the students in completing the pages, using the following directions. Allow them to reference Worktext pages 3–4 and Chart 1.

  1. Circle each place where you might use math.

  2–5. Circle the answer that completes the sentence.

  6–7. Complete the sentence.

  8. Circle the picture that shows loving other people.

  9. Circle the book that teaches you right from wrong.

Serving God with Math

Chapter 1

Think about a time when you took cookies or cupcakes to share with some friends. How did you know how many to take? You used math.

A Christian wants to please God with his life. Math is a tool to do that.

Here are several ideas to think about as you study math this year.

1. God is the Creator.
Studying math helps people see that the entire world was made by God. He made the world so that math works with everything! You can add cookies or cars. You can subtract balls or elephants. This shows that everything was made by a wise Creator.

2. God put people on the earth to work.
Work is good. The Bible says in Genesis 1:28 that God created people to work. God gave Adam work to do in the Garden of Eden (Genesis 2:15). Almost every kind of work uses math. Learning math is important because it helps you do the work God gives you.

3. People are important.
God created people "in his own image" (Genesis 1:27). This means that people are special and important. Jesus said that it is important to love other people (Mark 12:31). Many times you use math to love other people.

4. Math has limits.
Math helps you do many things, but math cannot tell you to work hard or to love people. Math cannot tell you what is right or wrong. Only the Bible can teach you right from wrong.

You use math every day. The Bible helps you know the right way to use math!

Serving God with Math

Circle each place where you might use math.

1.

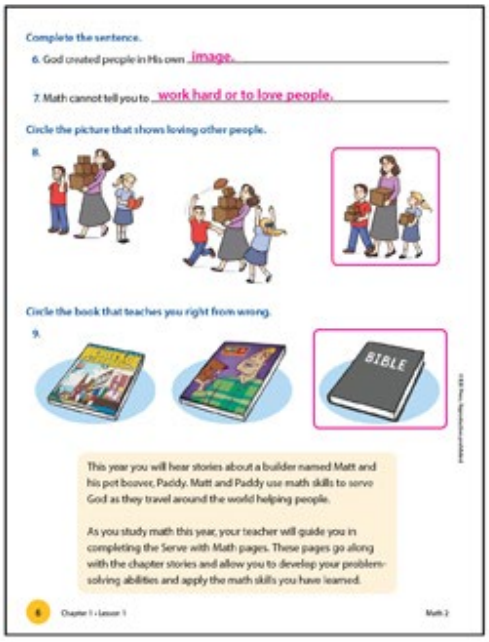
Circle to complete the sentence.

2. Math works with (some things. / everything.)

3. Math shows that God created the entire (city. / world.)

4. God created people to (study math. / work.)

5. You need (church / math) to do work.



Complete the sentence.

6. God created people in His own image.

7. Math cannot tell you to work hard or to love people.

Circle the picture that shows loving other people.

8.

Circle the book that teaches you right from wrong.

9.

This year you will hear stories about a builder named Matt and his pot bouvier, Paddy. Matt and Paddy use math skills to serve God as they travel around the world helping people.

As you study math this year, your teacher will guide you in completing the Serve with Math pages. These pages go along with the chapter stories and allow you to develop your problem-solving abilities and apply the math skills you have learned.

Lesson 2

Worktext pages 1–2, 7–8
Reviews pages 3–4

Objectives
- Demonstrate that addends can be joined in any order without changing the sum
- Use the *counting-on* strategies and the adding-0 rule

Teacher Materials and Manipulatives
- Charts 2–3: *Problem-Solving Plan*, *Addition Strategies*
- 20 Counters
- *Number Word Cards: zero-twenty* (Teacher's Toolkit CD)
- *Part-Whole Model* (Teacher's Toolkit CD)
- 2 copies of *Number Line (0–20)* (Teacher's Toolkit CD)
- 10 pretzel sticks
- 2 different-colored markers

Student Materials and Manipulatives
- 10 pretzel sticks

Practice and Review

Describe a set of 0–20 objects using numbers and number words

- Distribute one *Number Word Card* to each student. Write a number between 0 and 20 for display and show the same number of counters. Direct the student with the corresponding *Number Word Card* to stand and identify the number word. Repeat the activity for sets of 0–20 counters.

Teach for Understanding

Lesson focus

In this lesson you will use addition strategies to add 0 and *count on* 1 or 2 to solve addition facts. Changing the order of addends will help in *counting on* from the larger addend.

- Direct attention to the picture on Worktext page 1. Read aloud the theme story in the Chapter 1 Overview.
- Guide the students in identifying Matt's math problem.

  Why is Matt packing his things? He's going on a trip.

  What is Matt's problem? He doesn't know how many boxes he needs to pack.

  What skills would help Matt decide how many boxes he needs? Elicit that math skills would help Matt.

  In school you will develop skills that can help you serve God. In math class you will develop number sense and other mathematical skills.

Demonstrate that addends can be joined in any order without changing the sum

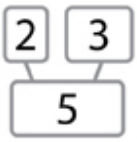
- Display 10 pretzels and give 10 pretzels to each student. Write "2 + 3 = ___" and "3 + 2 = ___" for display.

  Lead the students in picturing the addition facts with pretzels. Solve each fact by *counting on* the second set of pretzels. Write each sum. 5

  How are these facts similar? The addends, 2 and 3, are the same but in a different order; the sums, 5, are the same.

- Remind students that addition can be shown on a part-whole model and on a number line as well.

  Display the *Part-Whole Model* page. Remind the students that each set of objects is a part of the whole set, or an addend (write "2" and "3" in the "part" boxes), and the whole, or total, is the sum (write "5" in the "whole" box).



The part-whole model is used extensively in BJU Press *Math K5* and *Math 1*. You may need to remind the students that the larger section represents the whole and the 2 smaller sections represent the parts or sets that are joined to make the whole.

  Display 2 *Number Line (0–20)* pages side by side. Draw individual jumps to show 2 + 3 on the left number line and 3 + 2 on the right. Using one color for 2 and another color for 3 helps the students better identify the addends and shows that when the order of the addends are switched, the sum remains the same.
- Solve similar problems to reinforce that the order of addends does not change the sum (Commutative Property of Addition). Using any manipulative, picture the first equation and then switch the order of the addends to show the second equation. Remind the students that these are called related facts.

  4 + 3 = 7 and 3 + 4 = 7; 7 + 2 = 9 and 2 + 7 = 9

Use the *counting-on* strategies and the adding-0 rule

- Write "1 + 5 = ___" for display. Lead the students in reading the addition equation together.

  What does 1 plus 5 mean? A set of 1 and a set of 5 are joined to find the number of objects in the whole.

  Lead the students in picturing the parts with pretzels. Without combining the 2 sets of pretzels, *count on* with the students from 1 pretzel to 6 pretzels.

  Discuss with the students the strategy of *counting on*.

  How did you find the whole, or the sum? I counted the pretzels in the first part: 1; then I *counted on* each pretzel in the second part: 2, 3, 4, 5, 6.

  Write "5 + 1 = ___" for display below "1 + 5 = ___."

  How are the equations similar? The addends, or sets, are the same but in a different order.

  How can you picture the related fact with pretzels? I can change the order of the sets to be 5 pretzels and 1 pretzel.

  Reorder your picture with the students and *count on* with them to find the sum. Complete the equation.

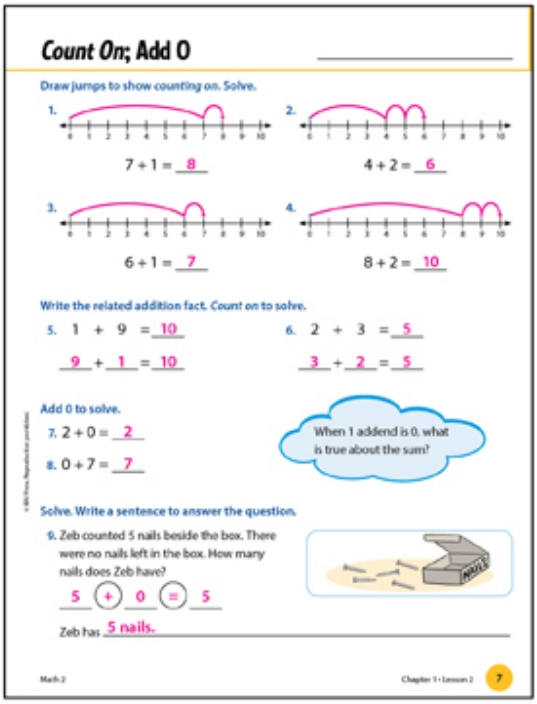
  How many pretzels are there altogether? 6

  Why can you *count on* to find the sum for 5 + 1 more quickly than for 1 + 5? *Counting on* 1 more from 5 is faster than *counting on* 5 more from 1.

  Explain that you can *count on* from any addend to find a sum, but *counting on* from the larger addend takes less time.

  Instruct the students to practice *counting on* from the larger addend by picturing and solving the following problems.

  2 + 3 = 5 8 + 2 = 10 1 + 9 = 10 5 + 2 = 7



Count On; Add 0

Draw jumps to show counting on. Solve.

1. 7 + 1 = 8
2. 4 + 2 = 6
3. 6 + 1 = 7
4. 8 + 2 = 10

Write the related addition fact. Count on to solve.

5. 1 + 9 = 10; 9 + 1 = 10
6. 2 + 3 = 5; 3 + 2 = 5

Add 0 to solve.

7. 2 + 0 = 2
8. 0 + 7 = 7

When 1 addend is 0, what is true about the sum?

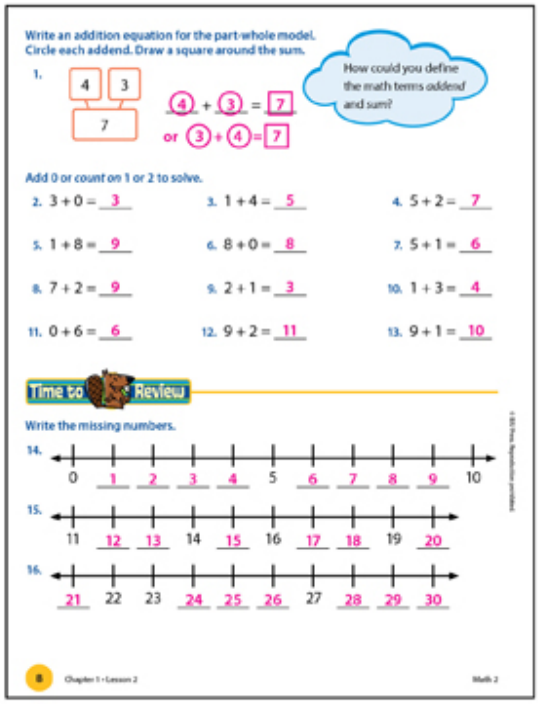
Solve. Write a sentence to answer the question.

9. Zeb counted 5 nails beside the box. There were no nails left in the box. How many nails does Zeb have?

5 + 0 = 5

Zeb has 5 nails.

Math 2 Chapter 1 • Lesson 2 7



Write an addition equation for the part-whole model. Circle each addend. Draw a square around the sum.

1. 4 3 / 7

4 + 3 = 7 or 3 + 4 = 7

How could you define the math terms addend and sum?

Add 0 or count on 1 or 2 to solve.

2. 3 + 0 = 3
3. 1 + 4 = 5
4. 5 + 2 = 7
5. 1 + 8 = 9
6. 8 + 0 = 8
7. 5 + 1 = 6
8. 7 + 2 = 9
9. 2 + 1 = 3
10. 1 + 3 = 4
11. 0 + 6 = 6
12. 9 + 2 = 11
13. 9 + 1 = 10

Time to Review

Write the missing numbers.

14. 0 1 2 3 4 5 6 7 8 9 10
15. 11 12 13 14 15 16 17 18 19 20
16. 21 22 23 24 25 26 27 28 29 30

8 Chapter 1 • Lesson 2 Math 2

Picture the above equations on the *Number Line (0–20)* page and find the sum by *counting on* from the larger addend. Point out that trusting this math rule eliminates the need to rewrite the math equation.

- Write "6 + 0 = ___" for display. Lead the students in using pretzel sticks to represent the addends and find the result of 0 being added to 6. Write the sum.

  What is the sum when 0, or nothing, is added to 6? 6

  What do you notice about the sum when 0 is an addend? The sum is the same as the first addend.

- Affirm that the adding-0 rule is true by picturing and solving these facts.

  5 + 0 = 5 0 + 3 = 3 0 + 1 = 1 4 + 0 = 4

Do you think these math rules and strategies always work? Answers will vary.

- Write for display and solve the following addition equations to show that the adding-0 rule and the *counting-on* strategy work with every number.

  26 + 1 = 27 1 + 19 = 20 47 + 2 = 49
  93 + 0 = 93 0 + 56 = 56 2 + 63 = 65

The gear icon ( ) identifies the need for higher-order thinking. Supply any prompts or background as needed to guide the students to the answer.

Worktext pages 7–8

- Display the top section of the Addition Strategies chart and review the *counting-on* strategies for solving addition facts. Lead a discussion about when *counting on* is the most helpful. Draw students to the conclusion that knowing that addends can be joined in any order helps them to work more efficiently and accurately.
- Guide completion of page 7. As you guide students through the first page of each lesson, encourage them to explain their pictures and solutions. Refer to the Problem-Solving Plan chart as you guide the students in solving problem 9.
- Direct the students to the discussion question on page 7 and lead them to discuss what happens when 0 is an addend.
- Use the discussion question and the model on page 8 to guide a discussion about the part-whole (addend-sum) relationship of addition. Read and explain the directions for page 8. Assist the students as they complete the page independently. The second page of each lesson functions as independent practice and should not be graded. If you choose to grade the students' work, use the first page of the assigned Reviews pages or the Assessments throughout the chapters.

Display the Problem-Solving Plan chart throughout the school year so that the students can be easily reminded of the problem-solving steps as they solve math problems.

Lesson 10 Worktext pages 23–24 Reviews pages 19–20

CHAPTER REVIEW

Objectives
- Review parts and wholes as addends and sums
- Review even and odd numbers
- Review the adding-0 rule and the *counting-on* strategies
- Review the make-10 strategy for a sum of more than 10
- Review the biblical worldview truth that God wants us to show love to other people

Teacher Materials and Manipulatives
- *Fact Family Flashcards*: 0–2 as an addend and double facts (Teacher's Toolkit CD)
- *Problem-Solving Model* (Teacher's Toolkit CD)

Student Materials and Manipulatives
- Place Value Kit: 20 ones
- 2 Ten Frames
- *Part-Whole Model* (Teacher's Toolkit CD)

The Chapter Review offers an opportunity for students to discuss the concepts they have learned about in this chapter. They can work collaboratively or independently as you teach the lesson. 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 these concepts would benefit from additional coaching and practice before testing and progressing to subtraction concepts.

Check for Understanding

Review parts and wholes as addends and sums

- Distribute the *Part-Whole Model* page and 20 red squares (ones) to each student.
- Write "6 + 8 = 14" for display.

  What is happening in this equation? Parts are being joined to find the whole.

  Guide the students to use the part-whole model to demonstrate the addition equation.

  What are the mathematical terms for the numbers in this equation? The numbers 6 and 8 are addends; the number 14 is the sum.

Review even and odd numbers

- Distribute 2 Ten Frames to each student.
- Lead the class in skip counting by 2s to 20: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20.

  Call out one number at a time and direct the students to picture the number using squares on the Ten Frames. Then use the pairing idea they practiced in the chapter to determine if these numbers are even or odd.

  When skip counting by 2s, are the numbers you say even or odd? even

  What is true about even numbers? They are made of pairs of objects.

- Direct the students to show 5 counters on each frame.

  What number is shown? 10

  How do you know if 10 is even or odd? The 2 sets are equal; also, a double fact always has an even sum.

- Follow a similar procedure by leading the class in *counting on* by 2s from 1 to 20, naming the odd numbers (1, 3, 5, 7, 9, 11, 13, 15, 17, 19). Then call out one number at a time for the students to picture using the pairing they used for the even numbers.

  Are these numbers even or odd? odd

  How do you know these numbers are odd? There is always 1 counter that cannot be paired.

Review the adding-0 rule and the *counting on* strategies

- Write the following facts for display.

  5 + 0 = ___ 0 + 9 = ___ 0 + 3 = ___ 6 + 0 = ___

  Direct the students to show the addition facts on their Ten Frames.

  What do you know about the sum of an addition fact that has 0 as an addend? The sum is the same as the other addend.

  Choose several volunteers to write the sums for the equations.

- Follow a similar procedure for the following *count-on*-1 facts, then *count-on*-2 facts.

  1 + 8 = ___ 5 + 1 = ___ 9 + 1 = ___ 1 + 1 = ___

  7 + 2 = ___ 2 + 6 = ___ 4 + 2 = ___ 8 + 2 = ___

  What do you know about the sum of an addition fact that has 1 as an addend? The sum will always be one more than the other addend, or the next counting number.

  How can you quickly find the sum of an addition fact that has 2 as an addend? You can *count on* 2 from the other addend.

- Invite other students to write the sums, and then write a related addition equation for the fact that they solve.

  What changed in the fact? the order of the addends

  Did the sum change? No, when an equation has only plus signs, the addends can be combined in any order without changing the sum.

- Write "2 + 9 = ___" and "9 + 2 = ___" for display.

  Which addition fact makes it easier to *count on*? 9 + 2 (You have less to remember to *count on* when *counting on* from the larger addend.)

- Invite a student to *count on* 2 more from the larger number to find the sum (9; 10, 11). Write "11" to complete the fact.

  What related fact would help me *count on* to find the sum of 1 + 9? 9 + 1

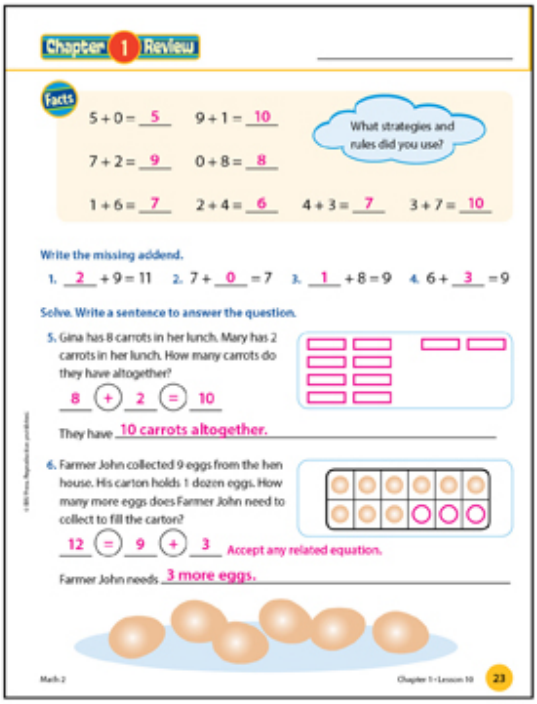
Review the make-10 strategy for a sum of more than 10

- Write "9 + 6 = ___" for display. Tell the students to use both Ten Frames to show the sum.

  Will this sum be more than 10 or less than 10? Explain. It will be more than 10; you only need to add 1 to 9 to get 10.

  What fact for 6 has 1 as an addend? 1 + 5

- Model solving the problems on Worktext page 17.



Chapter 1 Review

Facts

5 + 0 = 5 9 + 1 = 10

7 + 2 = 9 0 + 8 = 8

1 + 6 = 7 2 + 4 = 6 4 + 3 = 7 3 + 7 = 10

What strategies and rules did you use?

Write the missing addend.

1. 2 + 9 = 11 2. 7 + 0 = 7 3. 1 + 8 = 9 4. 6 + 3 = 9

Solve. Write a sentence to answer the question.

5. Gina has 8 carrots in her lunch. Mary has 2 carrots in her lunch. How many carrots do they have altogether?

8 + 2 = 10

They have 10 carrots altogether.

6. Farmer John collected 9 eggs from the hen house. His carton holds 1 dozen eggs. How many more eggs does Farmer John need to collect to fill the carton?

12 = 9 + 3 Accept any related equation.

Farmer John needs 3 more eggs.

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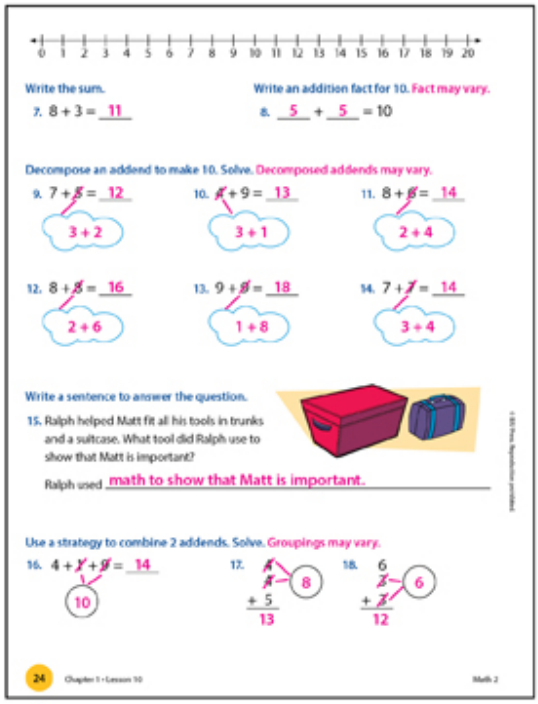

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Write the sum.

7. 8 + 3 = 11

Write an addition fact for 10. Fact may vary.

8. 5 + 5 = 10

Decompose an addend to make 10. Solve. Decomposed addends may vary.

9. 7 + 5 = 12 (3 + 2)

10. 4 + 9 = 13 (3 + 1)

11. 8 + 6 = 14 (2 + 4)

12. 8 + 8 = 16 (2 + 6)

13. 9 + 9 = 18 (1 + 8)

14. 7 + 7 = 14 (3 + 4)

Write a sentence to answer the question.

15. Ralph helped Matt fit all his tools in trunks and a suitcase. What tool did Ralph use to show that Matt is important?

Ralph used math to show that Matt is important.

Use a strategy to combine 2 addends. Solve. Groupings may vary.

16. 4 + 7 + 9 = 14 (10)

17. 5 + 3 + 5 = 13 (8)

18. 6 + 4 + 2 = 12 (6)

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- Follow a similar procedure using the make-10 strategy to solve the following problems.

  8 + 8 = 16 6 + 7 = 13 4 + 9 = 13

  4 + 9 = 4 + 6 + 3 = 10 + 3 = 13

- Guide the students to recognize they could use other strategies such as doubles and near doubles.

  Use the *Problem-Solving Model* to solve this word problem.

  Molly ate 4 round crackers, 7 square crackers, and 5 triangular crackers. How many crackers did Molly eat? 7 + 4 + 5 = 16; Molly ate 16 crackers.

Worktext pages 23–24

- Use the Fact Family Flashcards to review addition with the students. Encourage them to tell the strategy they used to solve the fact.
- Read and explain the directions for pages 23 and 24. Assist the students as they complete the pages independently. Encourage them to answer the discussion question on page 23 by explaining what strategies and rules they used to solve the facts.
- Problem 15 is a good opportunity for the students to build reasoning skills. Guide a discussion about different uses of the word *tool* in this problem.

Lesson 11 Reviews pages 21–22

CHAPTER 1 TEST

- Provide manipulatives for the students to use as they complete the test.

Concept Review

Reviews pages 21–22

The Cumulative Review in the Reviews book provides additional practice of previously learned concepts. These pages can be done during this lesson or any time after this lesson, as they require limited or no teaching. Frequent review of core math concepts helps the students build mathematical knowledge and gain confidence solving problems.

- Review the following concepts. Adapt instructions and activities and provide reteaching as needed to meet the specific needs of your students.
  - Identifying numbers and corresponding number words
  - Practicing addition facts with sums to 10
  - Skip counting by 2s, 5s, and 10s
  - Extending a pattern of shapes and symbols
  - Identifying the value of a penny, nickel, dime, and quarter

The concepts reviewed here are concepts that were presented and practiced in Grade 1.

Notes