Chapter 1

Addition & Subtraction Facts	
Lesson	**Skill Focus**
1 Serving God with Math	• Explain the biblical worldview truth that math helps people work by accomplishing a task
2 Addition Strategies; The Identity Property	• Use the *counting-on* strategies and the Identity Property to solve addition facts
3 Subtraction Strategies; The Zero Property	• Use the *counting-back* strategies and the Zero Property of Subtraction to solve subtraction facts
4 The Associative Property; 3 & 4 Addends	• Apply the Associative Property of Addition to solve 3-addend problems • Solve 3- and 4-addend problems using addition strategies
5 The Commutative Property; Missing Addends	• Apply the Commutative Property of Addition • Complete a missing-addend equation with a variable
6 Fact Families for 13 & 14	• Relate addition and subtraction using fact families • Solve a missing-addend word problem using a related fact
7 Fact Families for 15, 16, 17 & 18	• Relate addition and subtraction using fact families • Solve a missing-addend word problem with a variable
8 Chapter 1 Review	• Review the concepts presented in Chapter 1 in preparation for the Chapter 1 Test
9 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 the Tests and Tests Answer Key are listed here only once. Each lesson provides a complete list of the specific materials needed for that lesson.

Teacher's Visual Packet
- Charts 1–2: *Serving God with Math; Problem-Solving Plan*
- Fact Family Flashcards: addition/subtraction
- Number Cards: 0–19
- Money Kit
- Number Line
- Acorn counters

Teacher Resources
- *Ten Frame*
- *Problem-Solving Model*

Student Manipulatives Packet
- Money Kit
- Number Line
- Acorn counters

Tests and Tests Answer Key
- Chapter 1 Test

Teacher Notes

This chapter reviews addition and subtraction strategies that students learned in BJU Press's *Math 2*. The review of strategies such as making 10 and subtracting from 10 helps students use addition and subtraction more effectively. Students should continue to practice the basic addition and subtraction facts that they learned in Math 2. As students develop a deeper understanding of the relationship between addition and subtraction, they will see the benefit of using subtraction to solve a missing-addend problem.

Manipulatives

Students' use of manipulatives and drawings to represent addition and subtraction problems will strengthen their understanding of the foundational concepts of addition and subtraction and their ability to articulate the function of each number in an equation. Addition and subtraction facts set in the context of real-world problems will help the students see the importance of understanding math and adding and subtracting accurately.

Biblical Worldview Shaping

Emphasize throughout the chapter that math is a tool to help people work. Help students understand that work is accomplishing a task. God wants people to have a feeling of satisfaction when they finish a difficult job (Proverbs 13:19). Encourage students to look for ways that knowing math, and specifically knowing addition and subtraction, can help them accomplish tasks.

Problem Solving

This chapter introduces the Problem-Solving Model, found in Teacher Resources, that guides students to discuss the meaning of each sentence in a word problem and picture the information given. Use this model while solving word problems throughout the year. In addition, keep the Problem-Solving Plan chart from the Teacher's Visual Packet displayed throughout the year so that the students can be easily reminded of the problem-solving steps as they work independently.

Mastery of Basic Facts

Because the relationships of the facts within a fact family have been taught in previous grades, the Practice and Review sections will emphasize the memorization of the facts by fact families. The Teach for Understanding sections in Lessons 2–7 will focus on review of the addition and subtraction strategies and on the understanding of the relationships among the facts.

Facts are introduced and practiced through Fact Fun Activities (found in Online Resources), Fact Family Flashcards (found in the Teacher's Visual Packet), and Fact Reviews (found in Online Resources). Make fact practice, both oral and written, part of your daily math routine to help the students with mastery. See the Facts Chart and the Guide for Math Facts (found in Online Resources) for a list of facts and corresponding strategies. Visit bjupress.com/resources for links to enhance the lessons.

Addition and subtraction fact families to practice in this chapter

8-9-17	9-9-18
7-9-16	8-8-16
6-9-15	7-8-15
5-9-14	6-8-14
6-7-13	7-7-14

Introduce the Theme

As you present each story about Hailey and Horatio, point out the features on the student Worktext page that introduces the chapter. Direct attention to the biblical worldview truth that will be emphasized in each chapter.

As you listen to stories about Hailey's visits to national parks, you will learn that truths we learn in the Bible relate to math. You will also see how math points to God as Creator and helps people to work and to serve others.

59 National Parks in 59 Weeks!

"Okay, Horatio!" Hailey exclaimed. "We're 12 parks down, 47 to go!"

Horatio, her pet squirrel, peered out from his favorite traveling place—a side pocket in her backpack.

"That's right!" Hailey said. "We're right on schedule to see all 59 parks in 59 weeks, and today is a great day to visit Isle Royale National Park."

Horatio chattered his agreement as he crawled out of the backpack pocket and jumped nimbly onto Hailey's shoulder. Hailey spied a lonely-looking trail to the right. "That must be our path," she said as she began to hike into the woods. Horatio chattered at birds and other squirrels as they traveled.

"You know, Horatio," Hailey mused out loud, "I think I want to learn more about how to use math in real life. I mean, it's great in school and all, but it seems like it should be useful in day-to-day life, too."

Horatio stopped chattering and gave her a quizzical look. Hailey laughed.

"You must think I'm crazy!" she said. "But here's what I'm thinking. There are lots of great things about math. It's a tool to get work done. It shows that the world is designed. And it helps people help other people. Granted, it doesn't have all the answers to life. But I still want to know how to use it better."

Horatio still had a confused look on his face.

"See, Horatio, I look at the world this way because I believe the Bible. The truth in the Bible makes me see the world differently."

Just then, they came out of the woods and caught sight of the beautiful Isle Royale Lighthouse. Horatio squealed with delight as he leaned forward to take in the view.

As they approached, they saw the lighthouse attendant diligently writing, oblivious to the world around him. Hailey squinted to read the name "Joe" on his name tag.

"Hello, Joe," Hailey said. "It looks like you're concentrating pretty hard."

Joe scratched his head. "Yeah, I'm trying to figure out how many tourists came to the lighthouse yesterday. My boss wants to know how many people she needs to run the park at different times of the day."

"That makes sense," Hailey said.

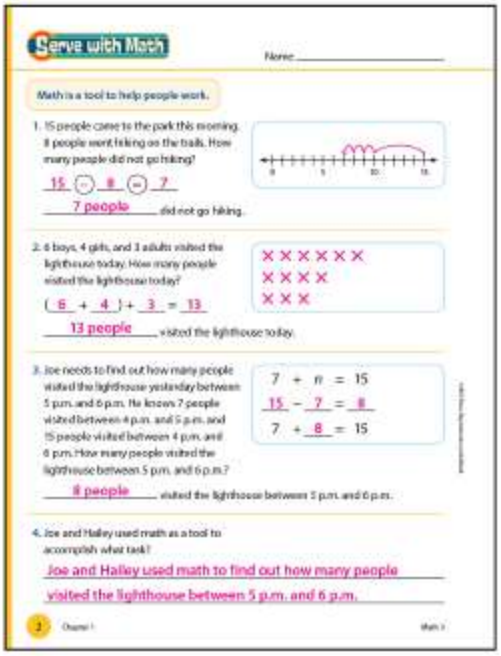
Joe sighed. "But the man who worked yesterday didn't finish totaling the number of people who visited the lighthouse. This paper says that 3 + 6 people came from 10:00 to 11:00 and that 6 + 3 people came from 11:00 to noon. How many people is that?"

Joe paused to think. "I wonder how many people came yesterday afternoon. There were 1 + 9 from 1:00 to 2:00, 8 + 2 from 2:00 to 3:00, and 3 + 7 from 3:00 to 4:00. How many total tourists came?"

Hailey smiled. "I think math can help us find out how many visitors came to the lighthouse." She gazed at the squirrel on her shoulder. "Right, Horatio? We can work together to accomplish a task that's important to the lighthouse!"

"Wait!" Joe exclaimed. "I forgot about the people who came from 4:00 to 6:00 yesterday afternoon! This part is harder. 7 people came from 4:00 to 5:00, and a total of 15 people visited from 4:00 to 6:00. How could I determine how many people came from 5:00 to 6:00?"

Eager to put her math skills to use, Hailey offered to help.



Lesson 1 Worktext pages 1–2

Objectives
- Identify instances of addition in the story
- Solve addition problems in the story
- Explain the biblical worldview truth that math helps people work by accomplishing a task

Teacher's Visual Packet
- Chart 1: *Serving God with Math*

Teach for Understanding

Lesson focus
In this lesson you will explain how math is an important tool for accomplishing many tasks.

- Direct attention to the picture on Worktext page 1. Read aloud the theme story and guide a discussion about how math can help people work.

  What adventure is Hailey on? visiting 59 national parks

  What is Hailey helping Joe to do? count the tourists who visited the lighthouse
- Invite students to tell about national parks they have visited.
- Display the Serving God with Math chart as you introduce the first biblical worldview truth.

  Point out the boldface biblical worldview truth that appears above the picture on Worktext page 1. Explain that this is the truth the students will be learning about in Chapter 1.

  Direct the students to follow along on the chart as you read aloud the first biblical worldview truth and its description.

  How can math be used as a tool? It can be used to help people work.
- Read aloud Proverbs 13:19*a*.

  How does the Bible describe the feeling we have when we accomplish a desire or task? It is sweet.

  Invite students to describe a time when they worked hard to get a difficult job done well and how it made them feel.

  Remind the students that the feeling of satisfaction we have when we finish a tough task is a feeling God wants us to have.

  Explain that in the story Joe was trying to accomplish a specific task. Many times, completing a task requires math skills.

  Point out that Joe needed to find out how many people visited the lighthouse during certain hours of the day. Explain that this is an example of a job that requires math skills to complete.

  As you reread the part of the story that discusses the visitors, write the equations for display for each hour mentioned.

10:00–11:00	3 + 6 = 9
11:00–12:00	6 + 3 = 9
1:00–2:00	1 + 9 = 10
2:00–3:00	8 + 2 = 10
3:00–4:00	3 + 7 = 10

- Direct attention to the first problem.

  How could you find out how many people visited between 10:00 and 11:00? Find the sum of 3 + 6.

  Ask a student to write the answer for display.
- Direct attention to the second problem.

  What do you notice about this problem? The order of the addends is switched from the first problem.

  What is the sum? 9, because the order of the addends can be changed without changing the sum

  Ask a volunteer to write the answer for display.
- Follow a similar procedure for the next 3 problems as you review the story.

  What do you notice about these problems? They all equal 10.

  Choose students to write the answers for display.
- Point out that in the story the task of counting visitors was provided for the students and the equations were given. Explain to the students that they will now demonstrate a deeper level of understanding as they think of tasks that require math and explain how math would be used to accomplish those tasks.

  What other tasks can you think of that require math to complete them?

  As students give suggestions, write them for display. Answers may include sharing candy equally with 4 people, helping to build a birdhouse or doghouse, finding the number of pieces of pizza to serve at a party, finding the cost of purchasing 3 items, or determining when soccer practice will end.
- Arrange the students into small groups. Assign each group one of the suggested tasks from their list. Ask the students to write a specific problem for the task and explain how math could be used to solve it. Allow students from each group to share their problems and solutions.

  How is math an important tool for accomplishing a task? Answers may be similar to the following solutions modeled from the previous examples.

  There are 12 pieces of candy to share with 4 people. 12 ÷ 4 = 3

  Boards for a doghouse need to be 4 ft long. I can use a measuring tape to measure correctly.

  In a class of 20 students, each person eats 2 pieces of pizza. 20 + 20 = 40, or 20 × 2 = 40 pieces of pizza.

  I need to buy a pencil for 10¢, a pad of paper for $1, and an eraser for 25¢. $1 + 10¢ + 25¢ = $1.35

  Soccer practice starts at 10:30 and lasts 1 hour. 1 hour past 10:30 is 11:30.
- Conclude that work is completing a task and that math is sometimes necessary to accomplish the task.

  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. Only those who repent of their sin and place their faith in Jesus Christ as their Savior are found acceptable to God.

Serving God with Math

1. Math is a tool to help people work.

The Bible teaches that God created people to work (Genesis 1:28). God instructed Adam to work in the Garden of Eden before sin ever came into the world. Work is accomplishing a task. Just like everything else that God created, work is good. Math is a powerful tool to help people to do the work God gave them.

2. Math shows the world is designed.

Studying math helps people see God's design. You can see design in animal structures, snowflakes, and flowers. Simple and complex designs show evidence of planning. This shows that only God could have designed this world.

1a

Worktext pages 1–2

- Daily Worktext pages should be evaluated for accuracy and the need for further instruction. These pages are not intended to be graded.
- Lesson 1 is designed to introduce the theme and biblical worldview truths for Math 3. There are no additional Worktext pages accompanying this lesson.

Lesson 2 — Worktext pages 3–4 · Reviews pages 1–2

Objectives
- Use the *counting-on* strategies and the Identity Property to solve addition facts
- Compose 10 on the Ten Frame and on the number line
- Apply the doubles strategy to find the sums of double and near-double facts
- Apply the make-10 strategy for a sum of more than 10

Teacher's Visual Packet
- Number Cards: 0–19
- Money Kit: 10 pennies

Teacher Resources
- *Ten Frame* (for teacher and for each pair of students)

Student Manipulatives Packet
- Money Kit: 10 pennies (for each pair of students)

For your convenience the Teacher Resources are available in 2 formats: as printed pages in the back of this book and as digital files online at bjupress.com/resources.

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

Practice and Review

Number words *zero* through *nineteen*

- Lead the students in reading the number words on the back of the Number Cards in random order. Then guide the students in sequencing the number words and writing the corresponding numbers.

Teach for Understanding

Lesson focus
In this lesson you will use addition strategies and the Identity Property to solve addition facts.

Use the *counting-on* strategies and the Identity Property to solve addition facts

- Write "2 + 6 = ___" for display. Read the addition equation together.

  What does "2 + 6" mean? A set of 2 and a set of 6 are joined to find the number of objects in the whole.

  Discuss the strategy of *counting on*.

  How did you find the whole, or the sum? I said the number in the first part, 2; then I *counted on* 6 more for the number in the second part: 3, 4, 5, 6, 7, 8.

  Write "6 + 2 = ___" for display below the first equation.

  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 *count on* from the larger addend to solve the following problems.

  2 + 7 = 9 1 + 9 = 10 5 + 2 = 7 2 + 9 = 11

- Write "9 + 0 = ___" for display.

  What is the sum when 0, or nothing, is added to 9? 9

  Write the sum.

  What do you notice about 9 when 0 is an addend? The sum is the same as the first addend.

  Do you remember the rule this equation shows? Add-0

  Explain that Add-0 and the Identity Property of Addition are the same, and that in Math 3 the term *Identity Property of Addition* will be used.

- Affirm that the Identity Property is true by solving the following facts.

  7 + 0 = 7 0 + 93 = 93 0 + 47 = 47 151 + 0 = 151

Do you think that these math rules and strategies always work?

Write for display and solve the following addition equations to show that the Identity Property of Addition and the *counting-on* strategy work with every number.

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

28 + 2 = 30 153 + 1 = 154 0 + 69 = 69

1 + 147 = 148 97 + 2 = 99 725 + 0 = 725

Compose 10 on the Ten Frame and on the number line

- Group the students in pairs. Distribute a *Ten Frame* page and 10 pennies to each pair. Model the steps with your manipulatives. Instruct the students to place 5 pennies in the top row and 1 penny in each of the first 2 boxes of the bottom row.

  How many more pennies are needed to make 10? 3

  Write "7 + 3 = 10" for display below the frame.

  Repeat the activity for 6 + 4 = 10 and 5 + 5 = 10.

- Follow the same procedure as the students solve more difficult combinations for 10.

  4 + 6 = 10 3 + 7 = 10 2 + 8 = 10 1 + 9 = 10

  Encourage the students to quickly find the missing addend by knowing the number of empty spaces on the bottom row (5) and then *counting on* the empty spaces on the top row.

- Instruct the students to draw a number line with the numbers 0 through 10 as you do the same for display. Explain that a number line is helpful for solving addition problems.

  Direct the students to show 7 by air-tracing 1 jump from 0 to 7 on the number line.

  Count together the number of individual jumps needed to get from 7 to 10. 3 more jumps

- Repeat the activity to show other combinations of 10.

Apply the doubles strategy to find the sums of double and near-double facts

- Write "8 + 8 = 16" for display.

  What do you notice about the addends? They are the same.

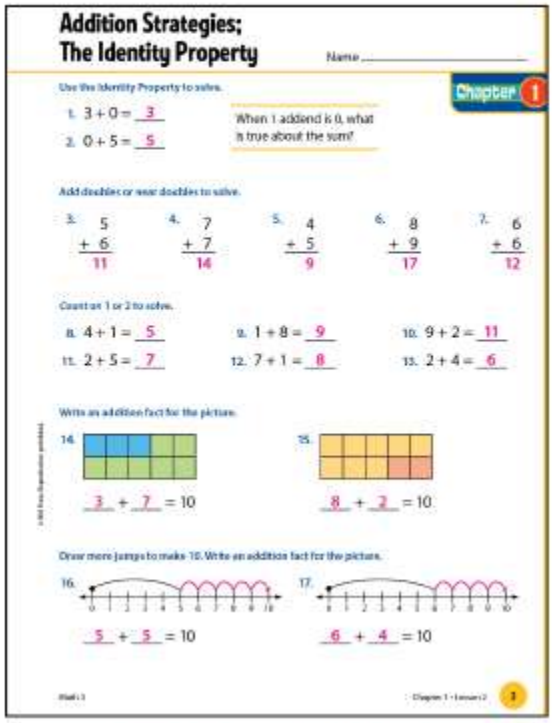
  What do you call a combination of identical addends? a double fact

  Write "8 + 9 = ___" below the previous equation.

  Is this equation a double fact? No; the addends are different.

  Point out that because the addends are only 1 apart, the fact is called a near-double fact.

  Do you think the sum for a near-double fact will be even or odd? The sum will be odd since there is 1 more in one set than in the other.



Addition Strategies; The Identity Property

Name _____

Chapter 1

Use the Identity Property to solve.

1. 3 + 0 = 3
2. 0 + 5 = 5

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

Add doubles or near doubles to solve.

3. 5 + 6 = 11
4. 7 + 7 = 14
5. 4 + 5 = 9
6. 8 + 9 = 17
7. 6 + 6 = 12

Count on 1 or 2 to solve.

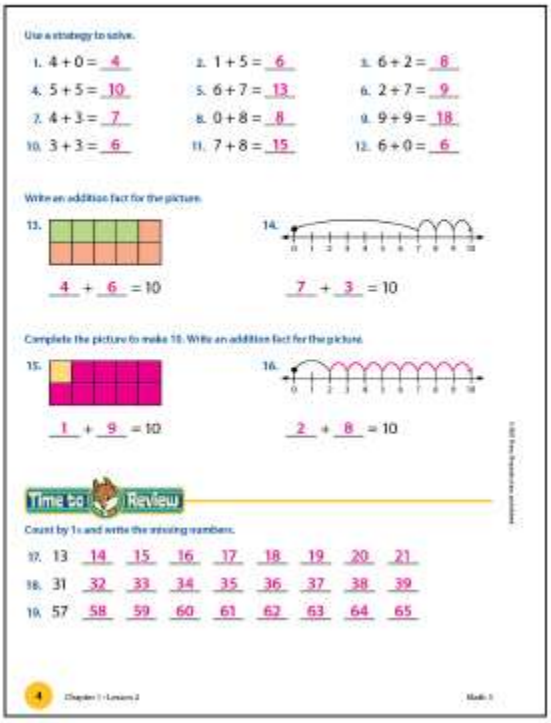
8. 4 + 1 = 5
9. 1 + 8 = 9
10. 9 + 2 = 11
11. 2 + 5 = 7
12. 7 + 1 = 8
13. 2 + 4 = 6

Write an addition fact for the picture.

14. 3 + 7 = 10
15. 8 + 2 = 10

Draw more jumps to make 10. Write an addition fact for the picture.

16. 5 + 5 = 10
17. 6 + 4 = 10



Use a strategy to solve.

1. 4 + 0 = 4
2. 1 + 5 = 6
3. 6 + 2 = 8
4. 5 + 5 = 10
5. 6 + 7 = 13
6. 2 + 7 = 9
7. 4 + 3 = 7
8. 0 + 8 = 8
9. 9 + 9 = 18
10. 3 + 3 = 6
11. 7 + 8 = 15
12. 6 + 0 = 6

Write an addition fact for the picture.

13. 4 + 6 = 10
14. 7 + 3 = 10

Complete the picture to make 10. Write an addition fact for the picture.

15. 1 + 9 = 10
16. 2 + 8 = 10

Time to Review

Count by 1s and write the missing numbers.

17. 13, 14, 15, 16, 17, 18, 19, 20, 21
18. 31, 32, 33, 34, 35, 36, 37, 38, 39
19. 57, 58, 59, 60, 61, 62, 63, 64, 65

How can knowing the fact 8 + 8 = 16 help you solve 8 + 9?
I can add 1 more to the double fact 8 + 8 = 16.
What is 1 more than the double fact 8 + 8 = 16? 17

Choose a volunteer to complete the equation.

- Discuss and conclude that to find the sum of a near-double fact the students can double the smaller addend and add 1 (think 8 + 8 = 16; 8 + 8 + 1 = 17) or double the larger addend and subtract 1 (9 + 9 = 18; 18 − 1 = 17).

Direct the students to use double facts to solve the following near-double facts.

6 + 7 = 13 5 + 6 = 11
8 + 7 = 15

The foundational skills of composing and decomposing were taught in Math 2 and are reviewed in Math 3 to offer strategies for students to add and subtract mentally. Additional practice is provided on Reviews pages 6 and 8.

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

- Write "7 + 6 = ___" for display. Direct attention to the addend 7.

Seven and what is 10? 7 and 3 is 10.
How can you describe the other addend, 6, as 3 and some more? 6 is 3 and 3.
How can knowing 7 + 3 = 10 help you to solve this problem?
I can think 7 + 3 + 3 is the same as 7 + 6.

Direct the students to add 7 + 3 to make 10 and then add 3 more. Write the sum for display. 13

- Follow a similar procedure with the facts 8 + 6 and 9 + 4.

Worktext pages 3–4

- Review the doubles strategy and the make-10 strategy to practice solving addition facts. Discuss when each strategy is the most helpful. Conclude that knowing the facts that make 10 can help in solving facts with sums greater than 10.
- Read and guide completion of page 3. Direct attention to the discussion question and guide students to conclude that when 0 is an addend, the sum is the same as the other addend.
- Read and explain the directions for page 4. Assist the students as they complete the page independently.

Reviews pages 1–2

- The Reviews book provides 2 pages of practice for each lesson. The front side of the page reinforces the Worktext lesson and may be used to assess daily grades. The assessment should be delayed a day or 2 to allow practice of the new skills. The back side of the page provides a spiral review of concepts as well as standards-based strategies and skills.
- Encourage the students to review and write related facts using the part-whole model on page 2.

Lesson 8 — Worktext pages 15–16, Reviews pages 13–14

CHAPTER REVIEW

Objectives
- Solve addition and subtraction facts using strategies
- Write a related addition fact using the Commutative Property
- Solve 3- and 4-addend problems using the Associative Property
- Find a missing addend by using a related subtraction fact
- Relate addition and subtraction facts by writing fact families
- Use the Problem-Solving Model to solve addition and subtraction word problems
- Explain the biblical worldview truth that math helps people work by accomplishing a task

Fact Reviews for each group of facts are provided in the Online Resources.

Teacher's Visual Packet
- Chart 2: *Problem-Solving Plan*
- Fact Family Flashcards: 4-8-12, 9-9-18
- 20 acorn counters (optional)

Teacher Resources
- *Problem-Solving Model*

Student Manipulatives Packet
- 20 acorn counters (optional)

The Chapter Review offers an opportunity for students to discuss the concepts they have learned about in each chapter. They may work collaboratively or independently as you review the 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 these concepts would benefit from additional coaching and practice before testing or progressing to place value concepts.

Check for Understanding

Solve addition and subtraction facts using strategies

▸ Write "8 + 7 = ___" for display.

What strategy could you use if you did not know the answer to this equation? near doubles

Follow a similar procedure with the following equations, encouraging the students to identify the strategy to use.

8 + 1 = 9; *count on* 1 — 9 + 7 = 16; make 10
6 + 6 = 12; doubles — 7 + 6 = 13; near doubles
8 − 1 = 7; *count back* 1 — 6 − 2 = 4; *count back* 2
9 − 9 = 0; subtract all — 8 − 7 = 1; subtract nearly all
14 − 6 = 8; subtract back to 10, then subtract the remaining part

Write a related addition fact using the Commutative Property

▸ Write "7 + 4 = 11" for display. Direct the students to use the Commutative Property of Addition to write another addition equation on paper. 4 + 7 = 11

▸ Repeat the procedure with 5 + 8 = 13 and 9 + 5 = 14.

What does the Commutative Property allow you to do? change the order of the addends without changing the sum

Solve 3- and 4-addend problems using the Associative Property

▸ Write "1 + 4 + 4 = ___" twice for display.

The Associative Property states that you can group the addends in different ways without changing what? the sum

Choose a student to use parentheses to group the addends in the first equation and to explain what addition strategy he will use to solve the equation. Direct another student to do the same with the second equation, grouping the addends differently. (1 + 4) + 4 = 9, *count on* 1; 1 + (4 + 4) = 9, doubles

▸ Instruct each student to write "5 + 5 + 2" in vertical form twice as you do the same for display.

How many addends are in these identical problems? 3

Guide the students as they add the first problem going down and then add the second problem going up. 12

Which property are you showing by first adding down and then adding upwards to find the sum? Associative Property of Addition

How might the Associative Property help you solve addition problems? You can use it with other properties, strategies, or facts that you know to solve the problem more easily; you can solve the problem by adding down and then adding upwards to check the answer.

What strategy can you use when adding 5 + 5 + 2 down? doubles, then *counting on* 2

▸ Follow a similar procedure with 0 + 2 + 8 = 10. Answers may include the Identity Property, *counting on* 2, or making 10.

▸ Repeat the procedure with the following 4-addend problems, directing the students to circle the 2 addends in each equation that make 10.

(6) + 1 + (4) + 0 = 11 — (5) + (5) + 3 + 1 = 14

Find a missing addend by using a related subtraction fact

▸ Write "7 + *n* = 13" for display.

What kind of equation is this? a missing-addend problem

What does the *n* represent? the missing number, or addend

What is a missing-addend equation? an equation in which you know the sum, but you do not know 1 of the addends

How can you solve a missing-addend equation? write a related subtraction fact

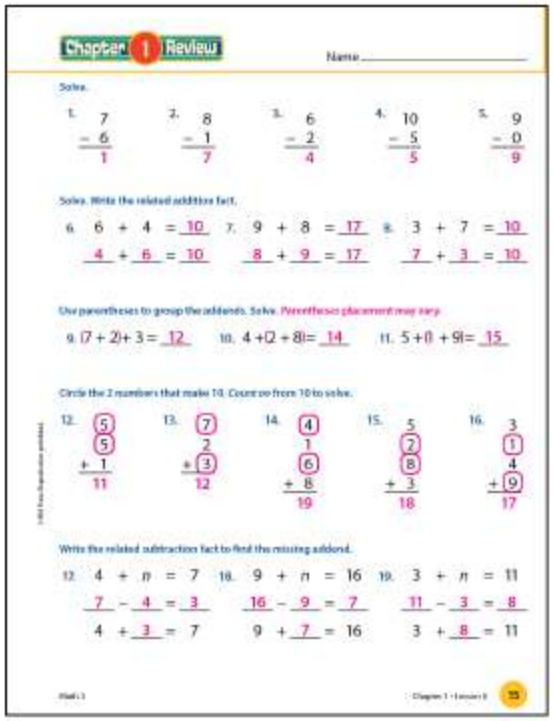
What related subtraction fact can you write to help you find the missing addend in this equation? 13 − 7 = 6

Write "13 − 7 = 6" below 7 + *n* = 13.

What is the missing number? 6

Write the addition equation again, replacing the *n* with the missing number 6.

Follow a similar procedure with 9 + *n* = 18 and 6 + *n* = 14.



Chapter 1 Review

Name _____

Solve.

1. 7 − 6 = 1
2. 8 − 1 = 7
3. 6 − 2 = 4
4. 10 − 5 = 5
5. 9 − 0 = 9

Solve. Write the related addition fact.

6. 6 + 4 = 10 — 4 + 6 = 10
7. 9 + 8 = 17 — 8 + 9 = 17
8. 3 + 7 = 10 — 7 + 3 = 10

Use parentheses to group the addends. Solve. Parentheses placement may vary.

9. (7 + 2) + 3 = 12
10. 4 + (2 + 8) = 14
11. 5 + (1 + 9) = 15

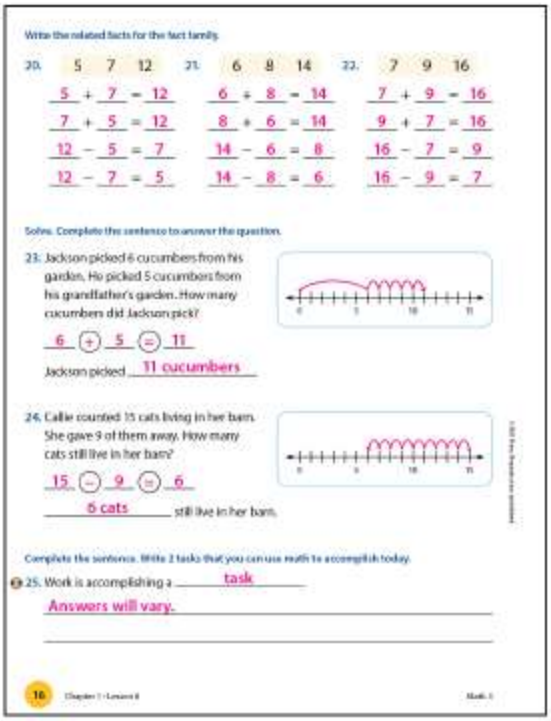
Circle the 2 numbers that make 10. Count on from 10 to solve.

12. (5) (5) + 1 = 11
13. (7) 2 + (3) = 12
14. (4) 1 (6) + 8 = 19
15. 5 (2) (8) + 3 = 18
16. 3 (1) 4 + (9) = 17

Write the related subtraction fact to find the missing addend.

17. 4 + n = 7 — 7 − 4 = 3 — 4 + 3 = 7
18. 9 + n = 16 — 16 − 9 = 7 — 9 + 7 = 16
19. 3 + n = 11 — 11 − 3 = 8 — 3 + 8 = 11

Math 1 · Chapter 1 · Lesson 8 · 15



Write the related facts for the fact family.

20. 5 7 12
5 + 7 = 12
7 + 5 = 12
12 − 5 = 7
12 − 7 = 5

21. 6 8 14
6 + 8 = 14
8 + 6 = 14
14 − 6 = 8
14 − 8 = 6

22. 7 9 16
7 + 9 = 16
9 + 7 = 16
16 − 7 = 9
16 − 9 = 7

Solve. Complete the sentence to answer the question.

23. Jackson picked 6 cucumbers from his garden. He picked 5 cucumbers from his grandfather's garden. How many cucumbers did Jackson pick?

6 (+) 5 (=) 11

Jackson picked 11 cucumbers

24. Callie counted 15 cats living in her barn. She gave 9 of them away. How many cats still live in her barn?

15 (−) 9 (=) 6

6 cats still live in her barn.

Complete the sentence. Write 2 tasks that you can use math to accomplish today.

25. Work is accomplishing a task

Answers will vary.

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Relate addition and subtraction facts by writing fact families

- Display Fact Family Flashcard 4-8-12. Ask the students to give the facts in this fact family. Write the equations for display.

  4 + 8 = 12 8 + 4 = 12 12 − 4 = 8 12 − 8 = 4

  How many addition facts are in this family? 2

  How many subtraction facts are in this family? 2

  Display Fact Family Flashcard 9-9-18. Choose volunteers to tell the facts in this fact family. 9 + 9 = 18, 18 − 9 = 9

  Why is there only 1 addition fact and 1 subtraction fact in this fact family? Answers may include that the 2 addition or 2 subtraction facts would be the same; they are doubles; there are two 9s.

Solve addition and subtraction word problems

- Distribute the counters to each student (optional).

  Use the Problem-Solving Model to solve the following word problems, referring to the steps on the Problem-Solving Plan chart.

  Hailey took 15 pictures at Isle Royale National Park. She emailed 9 of the pictures to friends. How many pictures did Hailey not email to friends? 15 − 9 = 6; there are 6 pictures Hailey did not email.

  What does this question ask you to find? how many pictures Hailey did not email to friends

  Direct the students to picture and tell the word problem in their own words as they determine the equation and then write a summary statement to answer the question.

  Hailey saw 8 geese flying over the lighthouse. Horatio saw 4 geese swimming. How many geese did Hailey and Horatio see? 8 + 4 = 12; Hailey and Horatio saw 12 geese.

- Direct attention to Serve with Math, Worktext page 2. Review the theme story on page 3 of the Chapter 1 Overview. Lead a discussion about the importance of using math to help other people work, and assist the students as they answer problem 4 on page 2.

Worktext pages 15–16

- Read and explain the directions for pages 15–16. Assist the students as they complete the pages independently.
- Direct attention to number 25 on page 16. Review the biblical worldview truth that math helps people work by accomplishing a task.

Reviews pages 13–14

- Use the pages to provide additional preparation for the chapter test.

Lesson 9 Reviews pages 15–16

CHAPTER 1 TEST

Concept Review

Reviews pages 15–16

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.
  - Ordering the days of the week and the months of the year
  - Writing a 2-digit number in expanded form
  - Writing the fraction that names the shaded part of the whole
  - Practicing addition and subtraction facts

The concepts reviewed here are concepts that were presented and practiced in Math 2.

Notes