

Teacher Edition

MATH 2



Fifth Edition

**bjupress**
Greenville, South Carolina

Part
1

Biblical Worldview Shaping

in *MATH 2*

Mathematics is not neutral ground. It is taught and learned from the perspective of a worldview. In order to shape a biblical worldview of mathematics, the beginning of this course focuses primarily on recalling and explaining the themes of exploring, working, and caring. As the themes are repeated, the students will evaluate the ideas within them. Our goal in *MATH 2*'s worldview instruction is assisting teachers to present math lessons in a way that helps children formulate and apply a biblical worldview of mathematics in an age-appropriate way.

Biblical Worldview Shaping Objectives

Biblical worldview shaping objectives are scaffolded throughout the text in *MATH 2*. The theme and level of each chapter's biblical worldview shaping objectives are listed below.

Exploring

God created the world in such a way that we can explore and describe it by using math. Some people believe math is solely the creation of man and give man all the glory for how well math helps us explore the world, and some people explore with math for selfish reasons. Believers should understand that math "works" because of God's design and give Him praise for it with thankful hearts.

- How do numbers help me learn about God's world?
- How can I make right choices in how I use math?

Chapter	2	4	8	10	12	16
Level	E, R, E	E, R, E	E, E, E	EV, E, EV	F, E, EV	A, E, E, E, F

KEY

- R:** Recall biblical teaching
- E:** Explain biblical teaching
- EV:** Evaluate controversial concepts
- F:** Formulate a biblical understanding of a controversial concept
- A:** Apply a biblical understanding to life



Working

Learning math helps us do our work of stewarding God's creation efficiently and effectively. The curse of sin affects all of creation and makes even good work harder to do. We should do our best at whatever work we have since we are ultimately serving God (Col. 3:23–24).

- How does measuring help me do my work?
- Why should a Christian be a good worker?

Chapter	3	6	11	14	15	18
Level	E, R, E	E, E, E	F, E, EV	A, E, EV	F, E, F	A, E, F

Caring

All people are important because all people are made in God's image. Our fallen nature is bent in a selfish direction, and people love themselves more than anything. Believers should use math to help care for others in practical ways.

- How can I use addition to care for others?
- Why should I use math to care for others?

Chapter	1	5	7	9	13	17	19
Level	E, R, E	E, E, E	E, E, E	EV, R, EV	F, E, EV	F, E, F	A, E, A



Scan this code for a fuller discussion of these themes. This document is also found in BJU Press Trove under General Resources and in Homeschool Hub under Course Resources.

Using Your Teacher Edition

Product Objectives

- Develop number sense and an understanding of place value to the thousands place through the progression from manipulatives to abstract representations.
- Solve addition and subtraction problems, including ones that involve money and ones with other authentic applications.
- Make equal sets to complete multiplication and division equations.
- Measure in customary and metric units.
- Tell and write time to the nearest 5-minute interval by using digital and analog clocks.
- Analyze fractions and geometric figures.
- Apply the Engineering Design Process to coding problems.
- Apply the biblical worldview themes of exploring, working, and caring in authentic mathematical contexts.



New to This Edition

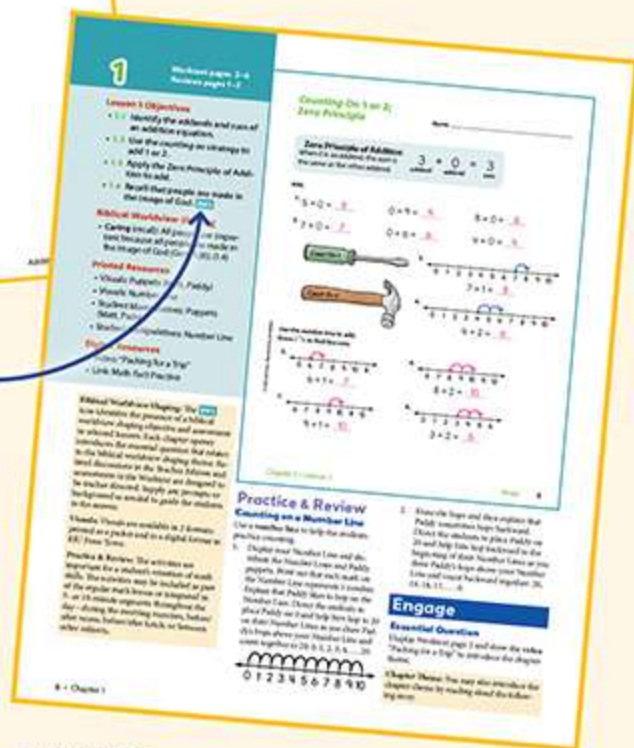


Essential Questions

Each chapter has an essential question that is posed near the beginning of the chapter. Instructional development is provided to help the teacher guide the students as they think about the essential question and arrive at an answer.

Biblical Worldview Shaping

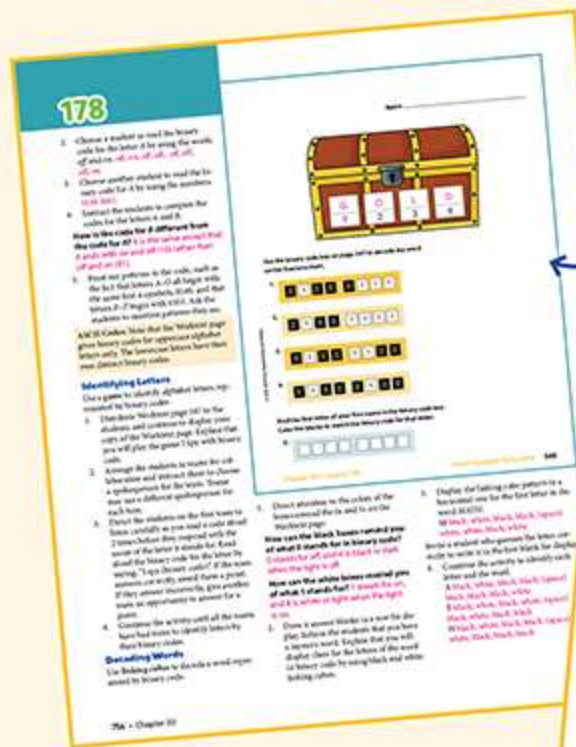
Biblical worldview themes are specifically highlighted in certain lesson objectives (indicated by **BWS**). These sections will help students learn to apply a biblical worldview of mathematics to real-world problems.



Strategies

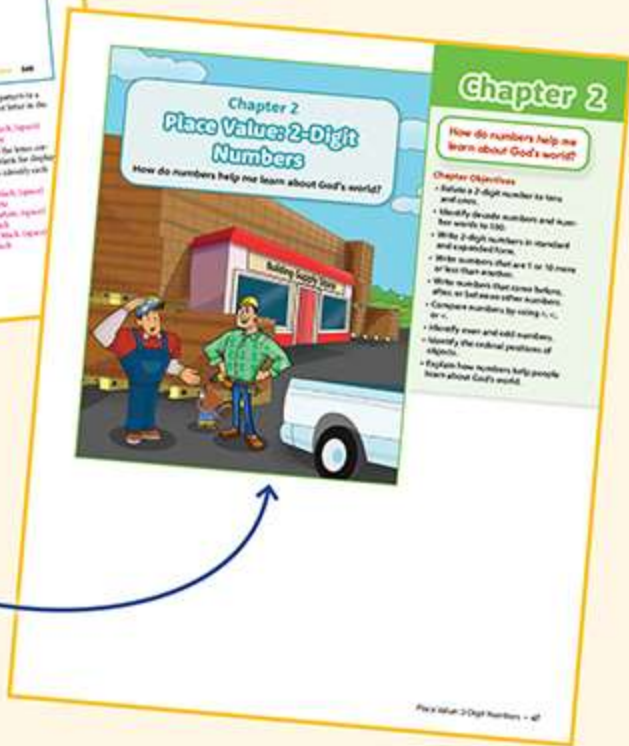
Effective teaching strategies are offered in bold for each different topic in the flow of the lesson. These may be used to provide variety, to sustain interest within and between the lessons, and to heighten student comprehension of concepts.





Coding Chapter

Chapter 20 offers 4 additional coding activities to reinforce and support the concepts introduced in the STEM coding projects.



Revised Stories & Artwork

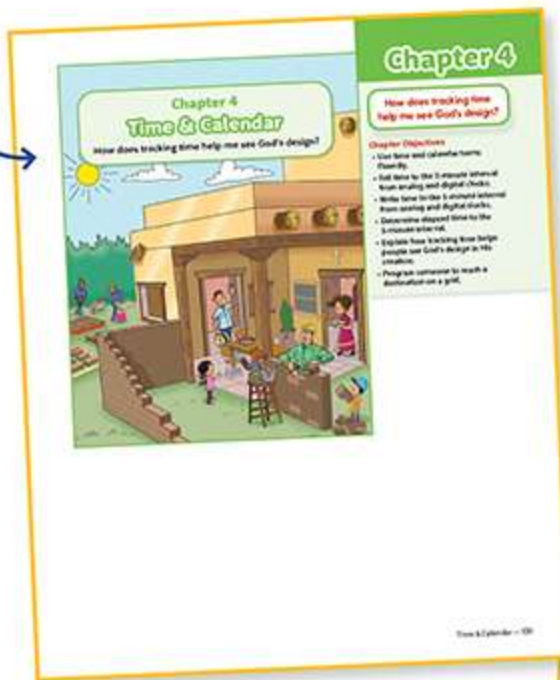
Opener stories and artwork have been updated to correlate with the biblical worldview shaping themes and to enhance the student experience.

Test Bank

A selection of test questions is available for each of the 19 tests.

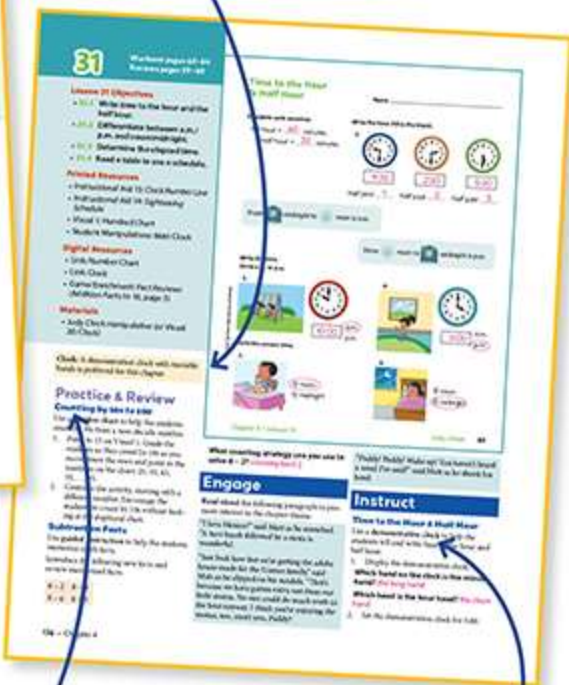
Teacher Edition Features

The chapter opener presents a chapter essential question and artwork that supports the opening scenario and the biblical worldview shaping theme.



The relationship between biblical worldview truths and math is shown through the discussion of real-world problems.

Clarifying notes inform the teacher of pertinent lesson details and suggestions.



Practice & Review provides activities for practicing facts and previously taught skills. Review of concepts can occur anytime during the day.

Instructional strategies provide the means for presenting educational content.

Review Features

Review with the chapter sequence

The chapter sequence of core math topics provides review. This sequence allows time for the teacher to review concepts and reteach, if necessary, before the student moves to a higher level in that same math topic.

Review daily with Practice & Review activities

Practice & Review activities may be scheduled for anytime during the day. Practice activities include rote counting, number recognition, and fact memorization. Review activities are designed for the teacher to reteach or review concepts from earlier lessons.

Review with Fact Reviews pages

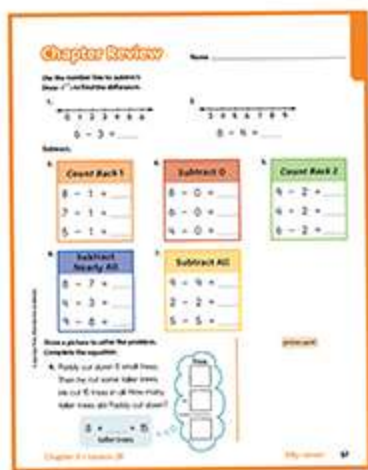
Fact Reviews (available in BJU Press Trove) help students work toward fact memorization. Daily fact practice should include a variety of practice methods, such as using flashcards, games, and written practice.

Review with Worktext Review

Review exercises are included almost daily on the Worktext pages. These exercises review a concept taught or practiced in an earlier chapter or in first grade.

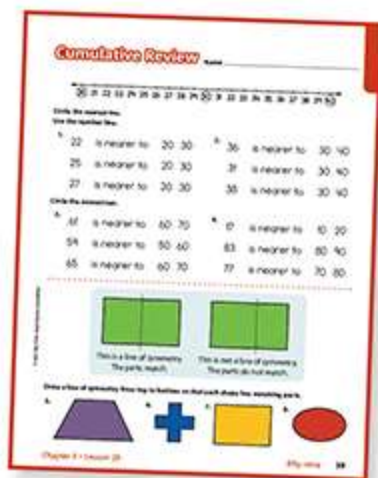
Review with math learning centers

Create math learning centers using ideas from the Extended Activities provided in many lessons. If available, computer-based apps and games may be included.



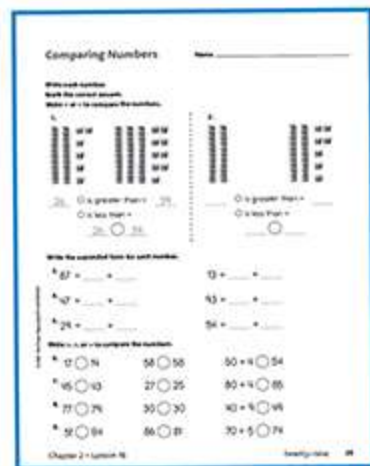
Review the chapter with a Chapter Review

The Chapter Review provides an overview of the main concepts of the chapter and assists the teacher in evaluating what the students have learned and the level of proficiency they have attained. Chapter Review pages may be used as a study guide for the chapter test.



Review preceding chapters with a Cumulative Review

A Cumulative Review follows the Chapter Review at the end of Chapters 1–19. Use these pages to review math concepts and evaluate which essential skills need reteaching.



Review with a Reviews page

The Reviews book provides 2 pages of practice for each lesson. The first page reinforces the lesson and may be used to assess daily grades. The second page reviews concepts previously taught and provides fact practice.

LESSON PLAN OVERVIEW

CHAPTER 1: ADDITION FACTS			
IA Instructional Aid G/E game/enrichment Vis. Visual PPT pres. PowerPoint presentation			
PAGES	OBJECTIVES	RESOURCES	ASSESSMENTS
Lesson 1 <i>Counting On 1 or 2; Zero Principle</i>			
Teacher Edition 6-9 Worktext 2-4	1.1 Identify the addends and sum of an addition equation. 1.2 Use the <i>counting on</i> strategy to add 1 or 2. 1.3 Apply the Zero Principle of Addition to add. 1.4 Recall that people are made in the image of God. BWS Caring (recall)	<p style="text-align: center;">Visuals</p> <ul style="list-style-type: none"> • Puppets: Matt, Paddy • Number Line <p style="text-align: center;">Student Manipulatives</p> <ul style="list-style-type: none"> • Puppets: Matt, Paddy • Number Line <p style="text-align: center;">BJU Press Trove*</p> <ul style="list-style-type: none"> • Video: "Packing for a Trip" • Link: Math Fact Practice • PPT pres.: Lesson 001 	<p style="text-align: center;">Reviews</p> <ul style="list-style-type: none"> • Pp. 1-2
Lesson 2 <i>Adding with 5; Order Principle</i>			
Teacher Edition 10-13 Worktext 5-6	2.1 Add with 5. 2.2 Apply the Order Principle of Addition to add. 2.3 Write an equation for an addition word problem.	<p style="text-align: center;">Visuals</p> <ul style="list-style-type: none"> • Number Cards: 0-20 <p style="text-align: center;">Student Manipulatives</p> <ul style="list-style-type: none"> • Number Cards: 0-9 • Lodge Workmat <p style="text-align: center;">BJU Press Trove</p> <ul style="list-style-type: none"> • Link: Linking Cubes • PPT pres.: Lesson 002 	<p style="text-align: center;">Reviews</p> <ul style="list-style-type: none"> • Pp. 3-4
Lesson 3 <i>Adding Doubles; Bar Graphs</i>			
Teacher Edition 14-17 Worktext 7-8	3.1 Add doubles. 3.2 Make a bar graph. 3.3 Interpret a bar graph. 3.4 Write an addition equation by using a bar graph.	<p style="text-align: center;">Teacher Edition</p> <ul style="list-style-type: none"> • IA 3: <i>Favorite Colors Bar Graph</i> <p style="text-align: center;">Student Manipulatives</p> <ul style="list-style-type: none"> • Number Cards: 0-20 <p style="text-align: center;">BJU Press Trove</p> <ul style="list-style-type: none"> • Link: Linking Cubes • PPT pres.: Lesson 003 	<p style="text-align: center;">Reviews</p> <ul style="list-style-type: none"> • Pp. 5-6

*Digital resources for homeschool users are available on Homeschool Hub.

PAGES	OBJECTIVES	RESOURCES	ASSESSMENTS
Lesson 4 Adding Near Doubles			
Teacher Edition 18–21 Worktext 9–10	4.1 Add near doubles (double + 1). 4.2 Solve word problems by using near doubles. 4.3 Explain why people should use math to care for others. BWS Caring (explain)	Visuals <ul style="list-style-type: none"> Counters: 20 construction workers Student Manipulatives <ul style="list-style-type: none"> Number Cards: 0–20 Counters: 20 construction workers Construction Site Workmat BJU Press Trove <ul style="list-style-type: none"> PPT pres.: Lesson 004 	Reviews <ul style="list-style-type: none"> Pp. 7–8
Lesson 5 Writing Names for 10; Missing Addends			
Teacher Edition 22–25 Worktext 11–12	5.1 Write addition equations for names for 10. 5.2 Apply the Order Principle of Addition to add. 5.3 Complete missing-addend equations. 5.4 Write a missing-addend equation for a word problem.	Visuals <ul style="list-style-type: none"> Money Kit: 9 dimes Student Manipulatives <ul style="list-style-type: none"> Number Cards: 0–20 Ten Bar Mat BJU Press Trove <ul style="list-style-type: none"> Link: Linking Cubes PPT pres.: Lesson 005 	Reviews <ul style="list-style-type: none"> Pp. 9–10
Lesson 6 Adding with 9; Thinking of 10			
Teacher Edition 26–29 Worktext 13–14	6.1 Add 10 by using a ten bar. 6.2 Add 9 by making 10. 6.3 Write addition equations by using a bar graph.	Teacher Edition <ul style="list-style-type: none"> IA 5: <i>Ten Bar</i> IA 3: <i>Favorite Colors Bar Graph</i> Visuals <ul style="list-style-type: none"> Vis. 1: Hundred Chart Student Manipulatives <ul style="list-style-type: none"> Number Cards: 0–20 Ten Bar Mat BJU Press Trove <ul style="list-style-type: none"> Link: Linking Cubes PPT pres.: Lesson 006 	Reviews <ul style="list-style-type: none"> Pp. 11–12