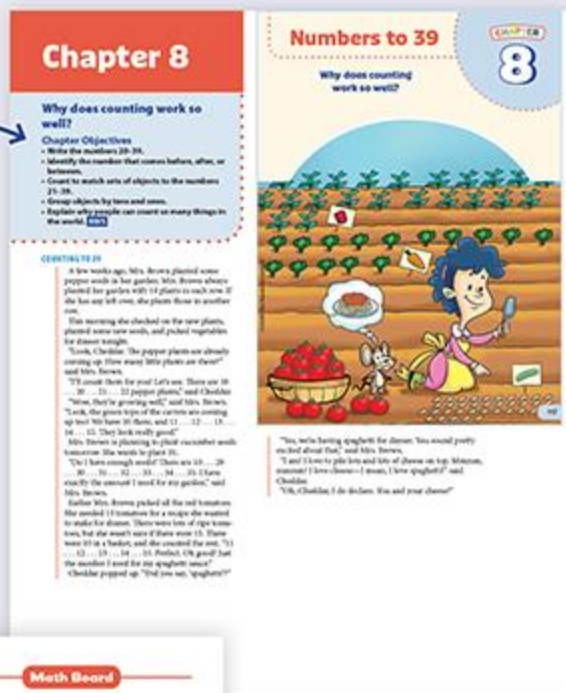


New to This Edition

Essential Questions

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



Former Brown's Form

PLANTING & CARBON

This chapter will focus on growing plants in the garden. Students will enjoy counting seeds as they learn to write and count numbers to 10. Teacher students to show their experimental planting seeds and with their class notes.

Learning Center

WHITE HORNETS

- Shovel up container filled with soil or sand
- Index cards with a number written on each

Place the number cards next to the containers. Direct the student to use an index finger to write the number in the box of cards. Tell the student to pinch the box to seal after writing each number.

Math Board

Continue daily counting activities with objects.

Count groups of 10 farm animals and write the number for each set.

Watch out gathering to multijays

Make a set that has the same number as another set.

Write a cell that says 1 more than a given number.

Use TenyCrax Frames to write the numbers 11, 18. Re-write the value of 10 and write more.

Differentiated Instruction

HOWARD WEITING © 2007 HOWARD WEITING

Provide the student with 2 different colored pencils. Direct the student to write the first number in the tens place using one color and the second number in the ones place with the other color.

continued over to page 70

Provide the student with 11 seeds. Display a number and ask the student to count the seeds to match the number. Extend the activity by encouraging the student to write the number.

Signature to 3b = 007

Learning Centers

Learning Center suggestions are included in each chapter opener. Learning Centers aid in reinforcing the topics and skills taught in each chapter.

New to This Edition

Biblical Worldview Shaping

Biblical worldview themes are 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.

Lesson 57

WORKSHEET PAGES 129–131

Objectives

- 57.1 Write the numbers 30–39.
- 57.2 Count to match sets of objects to the numbers 30–39.
- 57.3 Count by tens and ones.
- 57.4 **BWS** Create a world with objects that can be counted.

Printed Resources

- Instructional Aid 62: Ten Ones Frame
- Student Workspaces: Hundred Chart

Materials

- 2 markers: 1 blue, 1 yellow
- 30 linking cubes per student
- 30 linking cubes per student

Practice and Review

OBJECT 1–40

Direct the students in counting sequentially. Explain that you will take turns counting. Say the number 1 and number the students to answer by writing the number 1. Continue taking turns counting until the students reach 40.

IDENTIFYING POSITIONS: FIRST–TENTH

Write 10 students to stand in line at your desk.

Who is first in line?

Who is second in line?

(Student answer) Is what place in line?

(Student answer) Is what place in line?

Continue with similar questions for the second position through tenth.

Direct the students to turn around in the line.

Who is first in line now? (The person who used to be last.)

Continue the activity by asking about the new positions in random order.

Student Activities: You may choose to substitute 10 stuffed animals for the 10 students. Be sure to place the animals in a line facing a particular object.

Engage

PROBLEM

Read aloud the following to generate interest in the lesson theme.

Mrs. Brown likes to plant gardens in the fall. She counts the plants as she puts them in the ground. She has 30 plants.

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Learning Targets

Read aloud the learning target to introduce the lesson.

I will count to 39.

Instruct

TEACH THE NUMBERS 30–39

Guide a kinesthetic activity to trace the numbers 30–39. Explain that the number 30 is formed by writing a 3 and a 0. On handwriting lines, write the digit 3 in blue and the digit 0 in yellow. Circle the 0 on the lines as you write each digit. Instruct the students to do the same with the number 30 as you describe the stroke for both digits.

Follow the same procedure to demonstrate the writing of numbers 31–39.

COUNT TO MATCH SETS

Guide a counting activity. Distribute the Hundred Chart to each student (a pair of students). Lead the students in counting from 1 to 39 as they point to each number on their chart.

Use manipulatives to make sets.

Distribute 30 linking cubes to each student (a pair of students).

Direct the students to place 30 cubes on their chart by placing 1 cube on each number.

How many cubes did you put in the first row? 10

How many cubes did you put in the second row? 10

How many cubes did you put in the third row? 10

How many cubes did you put in the fourth row? 10

Direct the students to count each group of 10 cubes. Ask a volunteer to tell how many groups of 10 are in 30.

Lead the students in counting the cubes by counting by 10s. Count the remaining cubes by counting on from 30.

How many more cubes are needed to have 39 cubes?

Direct the students to put 1 more cube on their chart.

Count the cubes together.

Is the same as when they were 30?

How many more cubes are needed to have 39?

Direct the students to put 1 more cube on their chart.

Lead the students in counting the cubes by counting each set of 10.

In 30. Count the remaining cubes by counting on from 30.

How many more are in 39?

What number comes between 37 and 39?

What could you do so that you have 39 cubes on your chart?

Remove 1 cube.

Direct the students to remove 1 cube from their chart.

TEACHING TIPS

Guide a counting activity to group items by tens and ones.

Display the Ten Ones Frame and place 30 linking cubes in the one place. Invite students to group from ones cubes into tens. Lead the students in counting the cubes one at a time. Ask students if they estimate ten, five, five, or close to the correct number.

Are there enough cubes to make groups of 10?

Lead the students in counting 10 cubes as you connect the cubes.

What is a group of 10 objects called?

How do you put the cubes in the one place?

Put 1 ten in the tens place.

STEM 1: Building a Silo

WORKSHEET PAGES 399–402

Objectives

- 177.1 Follow the Engineering Design Process to solve a problem.
- 177.2 Build a silo.
- 177.3 Measure to compare heights.

Printed Resources

- Young STEM Engineering Design Process Story
- Instructional Aid 69: STEM Engineering Design Process

Digital Resources

- Video: STEM Engineering Design Process Story

Materials

- Pictures or a video of silos
- Paper cups
- Crab sticks
- 1 ruler per group

Engage

PROBLEM

Guide a discussion to generate interest in the activity.

Display the pictures or show a video of silos.

Do you think Farmer Brown would have a short silo or a tall silo on his farm?

Why do you think it would be helpful for a silo to be tall?

LEARNING TARGET

Read aloud the learning target to introduce the activity.

I will build a silo.

Instruct

ENGINEERING DESIGN PROCESS

Use direct instruction to introduce the Engineering Design Process.

Explain that engineers use math and science to solve problems and build things. When students use the Engineering Design Process, they are being engineers.

Display the instructional aid, point to each step as you explain the process.

Step 1: Define the problem. Help the students learn the steps of the process.

Guide the students as they use "STEM Engineering Design Process Story" in the form of "Yes This Story!" Read out the steps of the Engineering Design Process as you step.

Repeat the same material for each step of the Engineering Design Process.

1. Define the problem. I solve problems.

Yes, I did this. I did

I ask myself a question.

Then think about the answer.
I plan to solve a problem.
Then make a sketch of a model.
I test my model first.
And then I make a better.
I'm an engineer! Learning YES! This year!

TEACHING TIPS

Guide a collaborative activity to solve a problem using the Engineering Design Process.

Farmer Brown has many animals to feed. He wants to plant more corn this year for the animals. Farmer Brown needs a place to store the extra corn.

Ask: Direct attention to the Ask step.

What is Farmer Brown's problem? (He needs a place to store the extra corn.)

Plan: Direct attention to the Plan step.

How could you help Farmer Brown solve this problem? (I could help him think of a place to store the corn.)

Make: Direct attention to the Make step.

How will you help Farmer Brown solve his problem? (I will build a silo.)

Check: Direct attention to the Check step.

Explain that the students should work together to plan how they will use the materials to build a silo for Farmer Brown's corn.

Make: Direct attention to the Make step.

When the students are ready to build, instruct them to begin building the silo. Assist the groups as needed.

Test: Direct attention to the Test step.

As the groups complete their silos, instruct them to measure the height of their silos.

Make: Direct attention to the Make step.

Encourage the students to adjust their silos if needed to make it hold the corn. Instruct them to compare the heights of the silos and determine which silo is the tallest.

Check: Direct attention to the Check step.

Encourage the students to adjust their silos if needed to make it hold the corn. Instruct them to compare the heights of the silos and determine which silo is the tallest.

Make: Direct attention to the Make step.

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Learning Targets

Learning targets are clear, measurable statements at the beginning of a lesson that help the students focus on what they should know, do, or value by engaging in the lesson.

Strategies

Effective teaching strategies are offered in bold for each 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.

Teachers' Toolkit CD

The information from the Teachers' Toolkit CD can now be found in BJU Press Trove.

Teacher Edition Features

A Lesson Plan Overview immediately precedes each chapter. Each overview includes the objectives, printed resources, digital resources, and assessments for each lesson.

The **chapter opener** presents an essential question and artwork that supports the opening scenario.

Four **STEM** activities throughout the course emphasize science, technology, engineering, and math.

Differentiated instruction provides an alternate method of instruction to meet the needs of different learning styles and needs.

LESSON PLAN OVERVIEW

CHAPTER 1: GEOMETRY

Pages	Objectives	Resources & Materials	Assessments
Lesson 1 Circles			
4–7	1.1 Identify a circle. 1.2 Trace a circle. 1.3 Describe the position of shapes using the terms <i>next to, before, and after</i>. 1.4 State who created people. BWS Creation (recall)	Teacher Edition - Song: "Can You Count?" Visuals - Visuals 1, 13, 36: <i>Farm Scene; Circle; Biblical World-view Shaping Themes</i> - Stick puppets (Farmer Brown, Mrs. Brown, Cheddar) - Manipulatives (10 circles including 1 green and 1 yellow, 10 other shapes) Worktext - Chapter 1 Opener (pp. 1–2) BJU Press Trove* - Audio/Video: "Can You Count?" - Video: "Shapes" - PowerPoint presentation: Lesson 001 Materials 1 circular object per student (plastic lid, button, plate, or saucer)	Worktext - I will find circles. (pp. 3–4) Teacher Edition - Discussion - Manipulatives activity - Kinesthetic activity - Visual analysis
Lesson 2 Rectangles			
8–9	2.1 Identify a rectangle. 2.2 Trace a rectangle. 2.3 Distinguish between circles and rectangles. 2.4 Describe the position of shapes using the terms <i>before, after, above, and below</i>.	Teacher Edition - Song: "Can You Count?" Visuals - Visuals 1, 14: <i>Farm Scene; Rectangle</i> - Stick puppets (Farmer Brown, Mrs. Brown, Cheddar) - Number Cards (1–10) - Manipulatives (10 circles, 5 rectangles including 1 green and 1 blue) Student Manipulatives - Stick puppets: Mrs. Brown - Manipulatives: 1 rectangle BJU Press Trove - Audio/Video: "Can You Count?" - PowerPoint presentation: Lesson 002 Materials - Small bag 1 thin book per student	Worktext - I will find rectangles. (pp. 5–6) Teacher Edition - Discussion - Manipulatives activity - Kinesthetic activity - Visual analysis

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

Pages	Objectives	Resources & Materials	Assessments
Lesson 3 Squares			
10–11	3.1 Identify a square. 3.2 Trace a square. 3.3 Distinguish among circles, rectangles, and squares.	Teacher Edition - Song: "Can You Count?" Visuals - Visuals 1, 14, 15, 25: <i>Farm Scene; Rectangle; Square; Hundred Chart</i> - Stick puppets (Mrs. Brown) - Manipulatives (10 circles, 10 rectangles, 3 squares—at least 2 different colors of each shape) Student Manipulatives - Field workmat - Manipulatives: 10 sheep, 1 circle, 1 rectangle BJU Press Trove - Audio/Video: "Can You Count?" - PowerPoint presentation: Lesson 003 Materials 1 saltine cracker per student	Worktext - I will find squares. (pp. 7–8) Teacher Edition - Manipulatives activity - Discussion - Game
Lesson 4 Triangles			
12–13	4.1 Identify a triangle. 4.2 Trace a triangle. 4.3 Distinguish among circles, rectangles, squares, and triangles.	Teacher Edition - Instructional Aid 1: <i>Triangles</i> Visuals - Visuals 16, 26: <i>Triangle; Ten</i> - Manipulatives (1 circle, 1 rectangle, 1 square, 1 triangle) Student Manipulatives - Stick puppets: Mrs. Brown - Manipulatives: 1 circle, 1 rectangle, 1 square, 1 triangle BJU Press Trove - PowerPoint presentation: Lesson 004 Materials - Tagboard	Worktext - I will find triangles. (pp. 9–10) Teacher Edition - Manipulatives activity - Discussion - Kinesthetic activity
Lesson 5 Color Patterns			
14–15	5.1 Copy patterns of sounds and actions: <i>abab</i>. 5.2 Extend patterns of colors: <i>abab, abbabb</i>.	Teacher Edition - Song: "Numbers, Numbers 1 to 10" Visuals - Stick puppets (Mrs. Brown) - Manipulatives (6 red circles, 6 yellow circles, 6 blue circles, 6 blue rectangles, 4 green rectangles) Student Manipulatives - Manipulatives: 6 red circles, 6 yellow circles, 6 blue circles BJU Press Trove - Audio/Video: "Numbers, Numbers 1 to 10" - PowerPoint presentation: Lesson 005 Materials - Tracing pattern (stencil)	Worktext - I will copy color patterns. (pp. 11–12) Teacher Edition - Sound pattern activity - Kinesthetic activity - Pattern activity - Manipulatives activity

Pages	Objectives	Resources & Materials	Assessments
Lesson 6 Shape Patterns			
16–17	6.1 Extend patterns of shapes: <i>abab, abbabb, abcabc</i>. 6.2 State who created patterns and shapes in the world. BWS Creation (recall)	Teacher Edition - Song: "Numbers, Numbers 1 to 10" Visuals - Manipulatives (6 chicks, 6 sheep, 6 pigs) Student Manipulatives - Manipulatives: 3 chicks, 3 sheep, 3 pigs BJU Press Trove - Audio/Video: "Numbers, Numbers 1 to 10" - PowerPoint presentation: Lesson 006	Worktext - I will complete shape patterns. (pp. 13–14) Teacher Edition - Discussion - Manipulatives activity
Lesson 7 Same Shapes			
18–19	7.1 Identify shapes that are the same. 7.2 Identify shapes in various orientations.	Teacher Edition - Song: "Can You Count?" Visuals - Manipulatives (4 circles, 4 triangles, 4 rectangles, 4 squares—1 of each color) BJU Press Trove - Audio/Video: "Can You Count?" - PowerPoint presentation: Lesson 007	Worktext - I will match shapes. (pp. 15–16) Teacher Edition - Discussion - Manipulatives activity
Lesson 8 Chapter 1 Review			
20–21	8.1 Distinguish among a circle, a rectangle, a square, and a triangle. 8.2 Extend patterns of sounds and actions. 8.3 Extend patterns of colors and shapes. 8.4 Explain why people can see shapes and patterns. BWS Creation (explain)	Visuals - Visuals 13–16: <i>Circle; Rectangle; Square; Triangle</i> - Manipulatives (4 ducks, 4 pigs, 4 sheep, 4 red triangles, 4 yellow triangles, 4 green triangles, 4 squares, 10 circles, 10 rectangles) Student Manipulatives - Manipulatives: 4 ducks, 4 pigs, 4 sheep, 4 red triangles, 4 yellow triangles, 4 green triangles, 4 squares BJU Press Trove - Video: "Chapter 01 Review" - Video: "Shapes and Patterns" - PowerPoint presentation: Lesson 008	Worktext - Chapter 1 Review (pp. 17–18) Teacher Edition - Discussion - Game - Manipulatives activity - Pattern activity

Chapter 1

Why can I find shapes and patterns?

Chapter Objectives

- Identify 2D shapes in various orientations by their names and characteristics.
- Compose circles, rectangles, squares, and triangles.
- Describe the positions of shapes.
- Extend patterns of sounds, actions, colors, shapes, and sizes.
- Explain why people can see shapes and patterns. **BWS**

Essential Question: Each chapter opener introduces the essential question that relates to the biblical worldview shaping theme.

SHAPES

Farmer Brown greeted a new day with a smile and a silent prayer of thanks to its Creator. He stood outside the chicken coop and looked at a basket of eggs.

"These chickens sure have been laying lots of eggs! I think they like the new feed I've been giving them," said Farmer Brown. He began to put the eggs into egg cartons. "I'll put the brown egg here in this carton, . . . and these 2 blue eggs here, and that will leave 3 white eggs to put into the last carton."

Farmer Brown smiled as he heard rustling and squeaking from behind a square bale of hay. A little mouse scampered out from his hiding place.

"Good morning, Cheddar. It's always good to see you," said Farmer Brown. "Were you playing hide-and-seek? Did one of your friends find your hiding place?"

Some mornings, Cheddar came to help Farmer Brown. Other mornings, Cheddar liked to play games.

Over in the farmhouse, Mrs. Brown was also thanking God for a new day as she worked. Sometimes Mrs. Brown could be found canning the vegetables from the garden, feeding the chickens, or taking the eggs to the farmers market. This morning, she was sorting fabric shapes for a quilt she was making.

"I'm so excited to finish my quilt. I just need a few more square shapes for the last row. I don't need this circle shape or this rectangle shape. . . . Oh, there we go. Lots of square shapes for

Geometry

CHAPTER

1

Why can I find shapes and patterns?



my quilt."

Farmer Brown headed inside. As he went, he heard a squeaky little voice calling his name.

"Farmer Brown! Oh, Farmer Brown! Come find me!" called Cheddar.

"You're behind the circle-shaped tractor wheel, Cheddar. You always hide there. That is your favorite hiding place, isn't it?" Farmer Brown smiled.

As you can see, the Browns' farm is always busy.

Farmer Brown's Farm

FARMS

The lessons introduce students to Farmer Brown, Mrs. Brown, and their friend Cheddar the Mouse. In this chapter students will observe shapes in the design of various buildings and equipment on the farm. Circle shapes make it possible for Farmer Brown's tractor to easily roll across the fields. Square and rectangle shapes make it possible for Mrs. Brown to freely slide windows up and down in the farmhouse, while Cheddar likes to use the rectangular top of a hay bale for a bed. Point out the different buildings on the farm—the barn, farmhouse, henhouse, and silo—and how each building is used. Discuss some of the vehicles and equipment that Farmer Brown has on the farm—the tractor, pickup truck, and plow. Students will enjoy learning how each is used and sharing their experiences on a farm.

Learning Center

TRACE SHAPES

Materials

- Masking tape
- Toy cars

Activity

Use masking tape to make shapes on the floor. Instruct students to drive their cars on the "roads" and identify the shapes.

Math Board

Math board suggestions are provided for every chapter and may be used throughout the day. Additional information for the math board is available in BJU Press Trove.

Count objects at the math board daily to reinforce cardinality. Counting can also be done using the calendar each morning as you point to the numbers and count together.

Identify a shape by name.

Describe the position of items using words such as *next to*, *before*, *after*, *above*, and *below*.

Extend simple patterns of shapes, colors, or farm animals.

Chapter Overview

The **BWS** icon identifies the presence of a biblical worldview shaping objective and assessment in selected lessons. Related discussions and assessments are designed to be teacher-directed. Supply any prompts or background as needed to guide the students to the answer.

Cut out the Farmer Brown, Mrs. Brown, and Cheddar puppets from the Visuals. Glue a craft stick to the back of each puppet. The puppets may also be backed with magnetic tape for use on a magnetic board. The circles, rectangles, squares, and triangles from the Visuals will be used throughout Chapter 1.

To help with classroom organization, items from the Student Manipulatives should be stored in envelopes or resealable bags.

For this chapter, maintain a display of real objects to help the students observe the integration of math shapes in their world.

Differentiated Instruction

SHAPE RECOGNITION

Provide the students with plastic or heavy cardboard shapes (circle, square, rectangle, triangle). Guide students as they trace around each shape, first using their finger and later using paper and pencil. Direct them to count the sides as they trace the square, rectangle, and triangle.

SHAPE RECOGNITION IN DIFFERENT ORIENTATIONS

Direct students to identify each shape used in the Shape Recognition activity and then turn the shape so they can see and manipulate it in different positions. Encourage them to count the sides of the shape in each position.

Lesson 1

WORKTEXT PAGES 1–4

Objectives

- 1.1 Identify a circle.
- 1.2 Trace a circle.
- 1.3 Describe the position of shapes by using the terms *next to, before, and after*.
- 1.4 State who created people. **BWS**

Biblical Worldview Shaping

- **Creation** (recall): God created me. (1.4)

Printed Resources

- Song: “Can You Count?”
- Visuals 1, 13, 36: *Farm Scene; Circle; Biblical Worldview Shaping Themes*
- Visuals: Stick puppets (Farmer Brown, Mrs. Brown, Cheddar)
- Visuals: Manipulatives (10 circles including 1 green and 1 yellow, 10 other shapes)

Digital Resources

- Audio/Video: “Can You Count?”
- Video: “Shapes”

Materials

- 1 circular object per student (plastic lid, button, plate, or saucer)

Preparation

- Fasten Visuals 1a and 1b together.

Practice and Review

COUNT 1–10

Display Farmer Brown.

Farmer Brown and I will sing a counting song. Listen carefully so that you can sing it with us too.

Play the audio or show the video “Can You Count?” and sing the first verse with students several times.

Engage

INTRODUCTION

Read aloud the following to introduce the theme of *K5 MATH*.

Have you ever wanted to live on a farm? Living on a farm would be fun. You could pet the farm animals, eat fresh fruits and vegetables, and ride on a tractor! Living on a farm would also be a lot of hard work. Families must work together to get all the chores done.

Farms are very important. Most of the food we eat is from farms. Farmers have special equipment to help them raise their crops, but it is God who makes things grow. While you learn about math this year, you will also learn more about farms and about the God who created the farmer, the farm animals, and the plants.

Display Visual 1 and ask volunteers to identify things they see on the farm such as cows, ducks, horses, sheep, barn, farmhouse, silo, tractor, hay, corn, cabbage.

Use stick puppets to generate interest in the mascots.

Farmer Brown (in a deep voice)

Hi, boys and girls! My name is Farmer Brown. I have a busy little farm down on Kindergarten Lane in Mathville. I plant many kinds of vegetables and crops in my fields. God sends sunshine and rain to help the crops grow. I take care of the animals on my farm too. This is my wonderful wife, who helps me on the farm.

Mrs. Brown (in a cheerful, high voice)

Hello! My name is Mrs. Brown. I enjoy cooking and serving the fresh fruits and vegetables from our fields. I work in the kitchen, canning and freezing the extra fruits and vegetables to use during the cold winter months. My other farm jobs include feeding the chickens and gathering their eggs and taking Farmer Brown his lunch when he has a busy day planned.

Cheddar (in a squeaky voice)

Hey, don't forget about me! I'm Cheddar, Farmer Brown's faithful friend. I help Farmer Brown keep an eye on what's happening on the farm. The farm on Kindergarten Lane is my favorite place to be!

Show the video “Shapes” to introduce the chapter theme.

Chapter Story: The chapter opener story is also available in video format for your convenience.

Read aloud the essential question on the chapter opener. Explain that what the students learn in this chapter will help them answer the question.

LEARNING TARGET

Read aloud the learning target to introduce the lesson.

I will find circles.

Instruct

IDENTIFY A CIRCLE

Guide a **discussion** to help students identify a circle.

Distribute a circular object to each student.

How would you describe your object? *no corners, round, flat, like a ball, like a circle, rolls*

Explain that the shape of the object is a circle.

Display Visual 13. Ask a volunteer to identify the shape at the top of the visual. Run your hand under the word *circle* as you say the word.

Invite students to identify the objects on the visual.

What is the same about all these objects? *They are all circles.*

How do you know the objects are circles? *They are round and have no corners.*

Instruct students to identify objects in the room that are shaped like circles.

Ask volunteers to identify objects at home that are shaped like circles.

Display Visual 1.

Are there any objects in the picture that are shaped like circles? *tires on the tractor*

Sing “Did You Ever See a Circle?” to the tune of “Did You Ever See a Lassie?” Ask volunteers to identify objects in the room that are shaped like circles.

Did you ever see a circle, a circle, a circle?

Did you ever see a circle?

[Student name], show me one now.

I will find circles.

Find the circles. Trace each circle.

Look at the shapes. Color each circle red.

Chapter 1 Lesson 1 3

Count the circles.

Trace each circle. Color each circle.

4 Lesson 1 KS Math

Use **manipulatives** to compare circles to other shapes.
 Display 10 circles and 10 other shapes.
 Direct volunteers to remove the circles. Instruct them to say the word *circle* as they remove any shape that is a circle.

TRACE A CIRCLE

Guide a **kinesthetic** activity to trace a circle.
What shape is the object on your desk? *a circle*
 Instruct students to use their index finger to trace around the object.
 Sing "Draw a Circle in the Air" to the tune of "London Bridge."
 Before singing each verse, show students what to use to draw the circle (finger, head, elbow, foot).
 Draw a circle in the air.
 In the air, in the air.
 Draw a circle in the air.
 Draw it with your finger (head, elbow, foot).

POSITION OF SHAPES

Guide a **visual analysis** to describe the position of shapes using *before* and *after*.
 Display a green circle followed by a yellow circle.
What is the same about these shapes? *They are both circles.*
What is different about these circles? *One is green and the other is yellow.*
Which color circle is first? *the green circle*
Which color circle is right after the green circle? *the yellow circle*
Which color circle is right before the yellow circle? *the green circle*
 Explain that another way to describe these circles is "the yellow circle is next to the green circle" or "the green circle is next to the yellow circle."

GOD CREATED ME

Guide a **discussion** to help students recall who created them.
 Use Visual 36 to introduce the biblical worldview shaping themes.
 Explain that God created the world and everything and everyone in it. (Gen. 1:1).
Who created you? *God; God created everything and everyone.*

Apply and Assess

WORKTEXT PAGES 1-4

Review the learning target as you guide completion of the pages.
 Discuss the picture on the chapter opener page. Encourage the students to share the story at home.

Extended Activities

MAKE A PICTURE USING CIRCLES

Materials

- Assortment of circular objects

Activity

Place circular objects on a flat surface. Instruct students to choose 3 items and trace around each item to make a picture. Allow time for coloring the pictures.

"RING AROUND THE ROSY"

Activity

Instruct students to join hands to form a large circle. Sing "Ring around the Rosy" as students walk around in a circle holding hands.

Lesson 2

WORKTEXT PAGES 5–6

Objectives

- 2.1 Identify a rectangle.
- 2.2 Trace a rectangle.
- 2.3 Distinguish between circles and rectangles.
- 2.4 Describe the position of shapes by using the terms *before, after, above, and below*.

Printed Resources

- Song: “Can You Count?”
- Visuals 1, 14: *Farm Scene; Rectangle*
- Visuals: Stick puppets (Farmer Brown, Mrs. Brown, Cheddar)
- Visuals: Number Cards (1–10)
- Visuals: Manipulatives (10 circles, 5 rectangles including 1 green and 1 blue)
- Student Manipulatives: Stick puppets (Mrs. Brown)
- Student Manipulatives: 1 rectangle

Digital Resources

- Audio/Video: “Can You Count?”

Materials

- Small bag
- 1 thin book per student

Suggested Reading

- *Farmer Dillo Shapes Things Up* available from journeyforth.com

Practice and Review

COUNT 1–10

- Display Number Cards 1–10.
- Sing together the first verse of “Can You Count?”
- Use Farmer Brown to point to Number Cards 1–10 as students sing the second line of the song.
- Invite a student to hold Farmer Brown and point to the Number Cards as the students sing the song again.

Engage

STICK PUPPETS

- Use **stick puppets** to generate interest in the mascots. Encourage students to share information they remember about each puppet.

LEARNING TARGET

- Read aloud the learning target to introduce the lesson.
I will find rectangles.

Instruct

IDENTIFY A RECTANGLE

- Guide a **discussion** to help students identify a rectangle.
- Display Visual 14.

Run your hand under the word *rectangle* as you say the word. Ask a volunteer to identify the shape at the top of the visual. Explain that a rectangle is a shape with 4 sides and 4 corners. Reinforce the word *rectangle* throughout the discussion.

Invite students to identify the objects on the visual.

What shape are all the objects? *rectangles*

How do you know the objects are rectangles? *They all have 4 sides and 4 corners.*

Use **manipulatives** to teach students about rectangles.

Distribute a rectangle to each student.

Display a rectangle and move it into various positions. Direct students to move their rectangle the same way you do.

Explain that the shape of the rectangle does not change when we turn it.

Is the shape still a rectangle? *Yes; the shape has 4 corners and 4 sides.*

Scaffolding: Guide the students in supporting “yes/no” responses.

Display Visual 1.

What rectangle shapes do you see on the farm? *barn doors, fence, hayloft, house windows, some of the bricks in the chimney*

Distribute the Mrs. Brown stick puppets. Direct the students to hold up Mrs. Brown if they can name an object in the room that is shaped like a rectangle. *windows, doors, bulletin boards, displays, marker boards, erasers, books, charts*

Looking Ahead: Lesson 3 will present a square as a special kind of rectangle.

TRACE A RECTANGLE

Guide a **kinesthetic activity** to trace a rectangle.

Distribute 1 thin book to each student. Instruct students to use their index finger to trace around the edges of the book.

How many sides does the book have? *4*

How many corners are there? *4*

Explain that the shape of the book is a rectangle.

Direct students to count each side as they trace around the book again.

Sing “Draw a Rectangle in the Air” to the tune of “London Bridge.” Before singing each verse, show students what to use to draw the rectangle.

Draw a rectangle in the air,

In the air, in the air.

Draw a rectangle in the air.

Draw it with your finger (head, elbow, foot).

CIRCLES AND RECTANGLES

Use **manipulatives** to distinguish between circles and rectangles.

Place 10 circles and 5 rectangles in a bag. Direct volunteers to take a shape without looking into the bag.

Is the shape a circle or a rectangle? How do you know? *The shape is a circle. The circle is round and has no corners. The rectangle has 4 sides and 4 corners.*

I will find rectangles.

Find the rectangles. Trace each rectangle.



Color each rectangle blue. Draw a happy face on each circle.

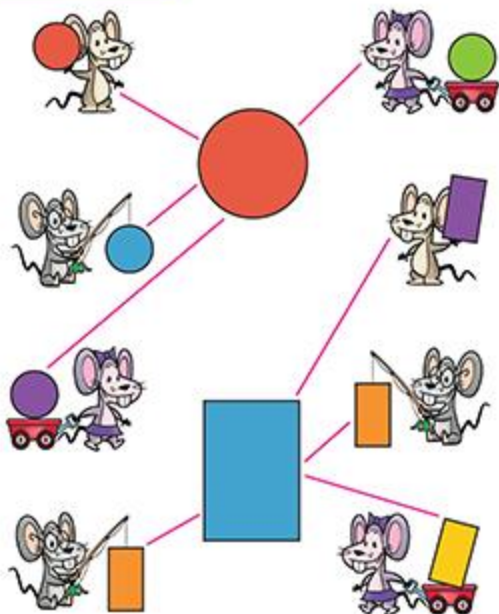


Chapter 1

Lesson 2

5

Draw a line to match each shape.



6

Lesson 2

K5 Math

POSITION OF SHAPES

Guide a **visual analysis** to describe the position of shapes using *above* and *below*.

Use a green rectangle and a blue rectangle to review *before* and *after*.

Display the green rectangle above the blue rectangle.

Which color rectangle is *above* the blue rectangle? **green**

Which color rectangle is *below* the green rectangle? **blue**

Apply and Assess

WORKTEXT PAGES 5–6

Review the learning target as you guide completion of the pages.

Demonstrate how to make a happy face using the circle. Direct students to draw a happy face in each circle on page 5.

Extended Activity

MAKE A RECTANGLE

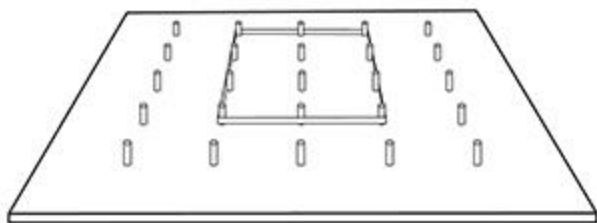
Materials

- Rubber band
- Geoboard

Activity

Demonstrate making a rectangle on a geoboard using a rubber band. Allow each student to practice making rectangles on the geoboard.

Geoboards: A geoboard may be made by tapping small nails into a 5" × 5" array, placing nails about 1 in. apart. The geoboard may be used to make squares and triangles in the next 2 lessons.



Lesson 8

WORKTEXT PAGES 17–18

Chapter Review

Objectives

8.1 Distinguish among a circle, a rectangle, a square, and a triangle.

8.2 Extend patterns of sounds and actions.

8.3 Extend patterns of colors and shapes.

8.4 Explain why people can see shapes and patterns. BWS

Biblical Worldview Shaping

• **Creation** (explain): God created me in a way that I can see shapes and patterns. (8.4)

Printed Resources

- Visuals 13–16: Circle; Rectangle; Square; Triangle
- Visuals: Manipulatives (4 ducks, 4 pigs, 4 sheep)
- Visuals: Manipulatives (4 red triangles, 4 yellow triangles, 4 green triangles, 4 squares, 10 circles, 10 rectangles)
- Student Manipulatives: 4 ducks, 4 pigs, 4 sheep
- Student Manipulatives: 4 red triangles, 4 yellow triangles, 4 green triangles, 4 squares

Digital Resources

- Video: “Chapter 01 Review”
- Video: “Shapes and Patterns”

Practice and Review

COUNT UP TO 10 OBJECTS

Display 10 circles and lead the students in counting the circles. Display 10 rectangles below the circles and count the rectangles together.

Is the number of rectangles the same as the number of circles?

Yes; there are 10 circles and 10 rectangles.

Ask volunteers to count each set as you direct them to remove the following shapes from display: 4 circles, 8 rectangles, 2 rectangles, 5 circles, and 1 circle.

Engage

REVIEW

Show the video “Chapter 01 Review” to reinforce the concepts taught throughout the chapter.

Instruct

DISCUSS CIRCLES, RECTANGLES, SQUARES, AND TRIANGLES

Guide a **discussion** to review circles, rectangles, squares, and triangles.

Display Visuals 13–16.

Ask a volunteer to name the large shape at the top of each visual.

Point out why the other objects pictured belong with the shape.

Explain that the circle objects are round with no corners; the rectangle objects have 4 sides and 4 corners; the square objects have 4 sides that are the same and 4 corners; the triangle objects have 3 sides and 3 corners.

DISTINGUISH AMONG CIRCLES, SQUARES, RECTANGLES, AND TRIANGLES

Introduce the game “I Spy” to activate prior knowledge. Explain that you will say something such as “I spy a shape that is round.”

Invite a student to identify an object in the room that is the shape of a circle.

Play the game spying circles, squares, rectangles, and triangles.

Triangles: Your room may not have very many triangular objects. You may display triangular objects, or you may need to bring in some triangular objects, such as a pennant or half a sandwich.

IDENTIFY SHAPES IN VARIOUS ORIENTATIONS

Use **manipulatives** to help students identify shapes in various orientations.

Display in random order 2 rectangles, 2 squares, and 2 triangles in various orientations.

Display a third triangle. Ask a student to identify the shape.

How do you know the shape is a triangle? It has 3 sides and 3 corners.

Invite a student to point to the displayed shapes that are triangles.

How do you know those shapes are triangles? They have 3 sides and 3 corners.

Follow the same procedure with a rectangle and a square.

EXTEND PATTERNS OF SOUNDS AND ACTIONS

Guide a **pattern activity** to help students copy patterns of sounds and actions.

Instruct the students to listen carefully as you say this sound pattern: *clip, clon, clip, clon*. Direct them to copy the pattern. Remind them that the base pattern tells what to repeat. Ask a student to identify the base pattern. *clip, clon*

Direct the students to repeat the pattern 3 times.

Demonstrate this action pattern: stomp both feet once, tap your desk with both hands once, and clap your hands once.

Guide the students in copying the pattern.

Ask a volunteer to identify the base of the pattern. *stomp both feet once, tap your desk with both hands once, clap your hands once*

Direct the students to repeat the pattern 2 times.

EXTEND PATTERNS OF COLORS AND SHAPES

Use **manipulatives** to extend patterns of colors and shapes.

Distribute the triangles. Use triangles to display the color pattern red, yellow, red, yellow. Direct the students to copy the pattern at their desk.

What is the base of the color pattern? red, yellow

Instruct the students to extend the pattern 2 more times.

Use triangles to display the color pattern red, green, yellow, red, green, yellow. Instruct the students to copy the pattern.

What is the base of the color pattern? red, green, yellow

Instruct the students to extend the pattern 2 more times.

Distribute the sheep, ducks, and pigs.

Display the shape pattern sheep, duck, sheep, duck.

Direct students to copy the pattern.

What is the base of the shape pattern? sheep, duck

Instruct the students to extend the pattern 2 more times.

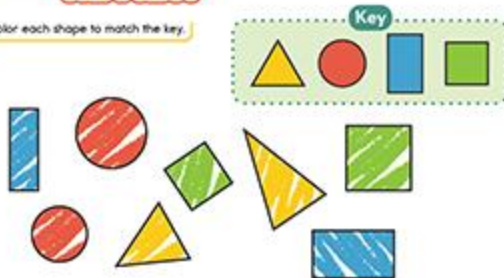
Display the shape pattern duck, pig, sheep, duck, pig, sheep. Direct students to copy the shape pattern.

What is the base of the shape pattern? duck, pig, sheep

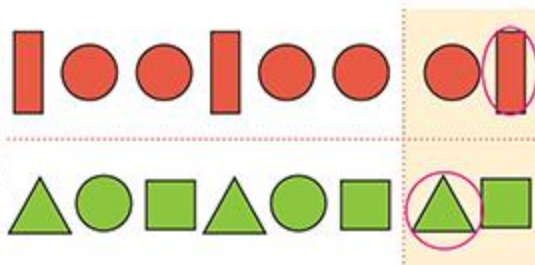
Instruct students to extend the pattern 2 more times.

Chapter 1 REVIEW

Color each shape to match the key.



Circle the shape that completes each pattern.

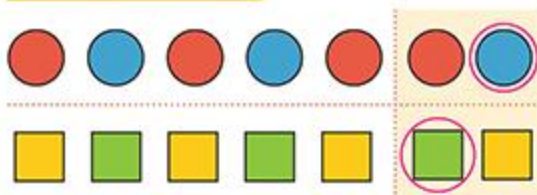


Chapter 1

Lesson 8

17

Circle the color that completes each pattern.



Math in the Home

Help your child notice the shape of objects by playing an "I Spy" game. Describe an object by giving clues such as, "It is round. It has (number of) sides. It has two sides longer than the other two; it has (number of) corners." You might say, "I spy something round on the wall." Your child may say, "The clock is round." Encourage your child to take a turn describing an object for you to guess.

Try the following cut-and-glue activity. Draw and cut several circles, squares, triangles, and rectangles. Make some the same size and some different sizes. Encourage your child to use his or her imagination to create a picture. Guide your child in gluing the shapes on a large sheet of paper. Ask your child to point to all the circles. Display the picture.

In Chapter 2 your child will participate in activities with classifying and comparing objects.

KS Math

SEE SHAPES AND PATTERNS

Guide a **discussion** to help students recall why people can see shapes and patterns.

Point out that God's creation includes many shapes and patterns. Explain that God created us in a way that we can view shapes and patterns. God wants us to enjoy and use His creation. God's beautiful creation includes colors, shapes, and patterns for us to enjoy.

Why can people see shapes and patterns? God created us in a way that we can see shapes and patterns.

Show the video "Shapes and Patterns" to reinforce the concepts taught throughout the chapter.

Apply and Assess

WORKTEXT PAGES 17-18

Use **guided practice** to complete the pages.

Extended Activity

COPY A PATTERN TO MAKE A SHAPE ANIMAL

Materials

- Construction paper shapes for making animals
- 2 envelopes

Activity

On each envelope draw the outline of an animal using shapes. Place the shapes needed to make the animal inside the envelope. Direct the student to use the shapes to make the animal pictured on each envelope.

Art Project: You may adapt this activity into an art project. If so, provide enough shapes for each student to make a shape animal by gluing the shapes onto a sheet of construction paper.

