



Core Knowledge[®] MATHEMATICS

Geometry, Time, and Money



Teacher Guide



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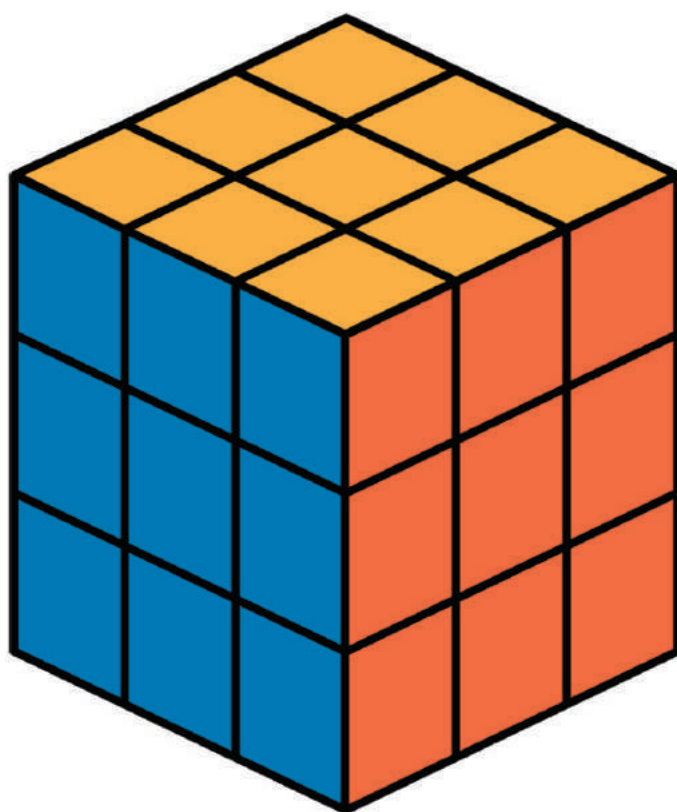
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Geometry, Time, and Money

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Geometry, Time, and Money
Teacher Guide

Core Knowledge Mathematics™

Unit 6: Geometry, Time, and Money

At a Glance

Unit 6 is estimated to be completed in 18-23 days including 2 days for assessment.

This unit is divided into four sections including 16 lessons and 5 optional lessons.

- Section A—Attributes of Shapes (Lessons 1-5)
- Section B—Halves, Thirds, and Fourths (Lessons 6-10)
- Section C—Time on the Clock (Lessons 11-14)
- Section D—The Value of Money (Lessons 15-21)

On pages 10-11 of this Teacher Guide is a chart that identifies the section each lesson belongs in and the materials needed for each lesson.

This unit uses seven student centers.

- Can You Draw It?
- Which One?
- How Are They the Same?
- Picture Books
- Capture Squares
- Number Puzzles: Addition and Subtraction
- Would You Rather?

Unit 6: Geometry, Time, and Money

Unit Learning Goals

- Students reason with shapes and their attributes and partition shapes into equal shares, building a foundation for fractions. They relate halves, fourths, and skip-counting by 5 to tell time, and solve story problems involving the values of coins and dollars.

In this unit, students transition from place value and numbers to geometry, time, and money.

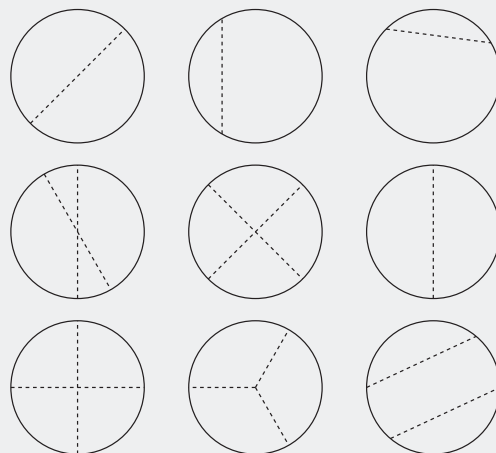
In grade 1, students distinguished between defining and non-defining attributes of shapes, including triangles, rectangles, trapezoids, and circles. Here, they continue to look at attributes of a variety of shapes and see that shapes can be identified by the number of sides and vertices (corners). Students then study three-dimensional (solid) shapes, and identify the two-dimensional (flat) shapes that make up the faces of these solid shapes.

Next, students look at ways to partition shapes and create equal shares. They extend their knowledge of halves and fourths (or quarters) from grade 1 to now include thirds.

Students compose larger shapes from smaller equal-size shapes and partition shapes into two, three, and four equal pieces.

As they develop the language of fractions, students also recognize that a whole can be described as 2 halves, 3 thirds, or 4 fourths, and that equal-size pieces of the same whole need not have the same shape.

Which circles are not examples of circles partitioned into halves, thirds, or fourths?



Later, students use their understanding of halves and fourths (or quarters) to tell time. In grade 1, they learned to tell time to the half hour. Here, they relate a quarter of a circle to the features of an analog clock. They use “quarter past” and “quarter till” to describe time, and skip-count to tell time in 5-minute intervals. They also learn to associate the notation “a.m.” and “p.m.” with their daily activities.

To continue to build fluency with addition and subtraction within 100, students conclude the unit with a money context. They skip-count, count on from the largest value, and group like coins, and then add or subtract to find the value of a set of coins. Students also solve one- and two-step story problems involving sets of dollars and different coins, and use the symbols \$ and ¢.

Section A: Attributes of Shapes

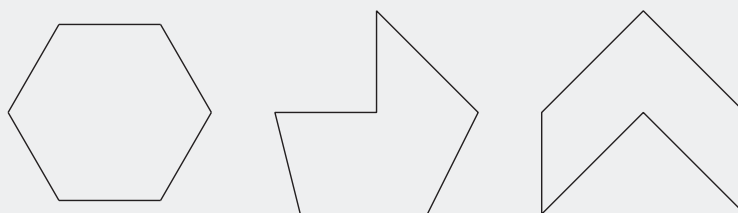
Standards Alignments

Building On	1.G.A.1
Addressing	2.G.A.1, 2.MD.A.1, 2.NBT.A.3, 2.NBT.B.5
Building Towards	2.G.A.1

Section Learning Goals

- Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.

In this section, students identify and draw triangles, quadrilaterals, pentagons, and hexagons. Students are likely familiar with triangles and hexagons given their previous work with pattern blocks. Here, they see that hexagons include any shape with six sides and six corners, and may look different from the pattern block they worked with in the past. For example, each of these shapes is a hexagon:



Students learn to name a shape by counting the sides and corners and come to see that, in any shape, the number of corners is the same as the number of sides. (The term “corners” is used in lieu of “vertices” because the latter requires an understanding of angles, which is developed in grade 4.)

Students come to recognize that some shapes such as rectangles and squares have “square corners,” the informal language for 90-degree angles. As they identify and draw shapes with given attributes, they measure length in centimeters and inches, revisiting previously learned skills.

At the end of the section, students relate two-dimensional (flat) shapes to three-dimensional (solid) shapes. They see that flat shapes make up the faces of solid shapes and identify solid shapes based on the flat shapes that constitute them.

 PLC: Lesson 2, Activity 2, What Shape Could It Be?

Suggested Centers

- Can You Draw It? (1–5), Stage 1: Grade 1 Shapes (Supporting)

- Which One? (K-5), Stage 2: Grade 1 Shapes (Supporting)

Section B: Halves, Thirds, and Fourths

Standards Alignments

Building On	1.G.A.2
Addressing	2.G.A.1, 2.G.A.3, 2.NBT.A.1, 2.NBT.A.2
Building Towards	2.G.A.3, 2.MD.C.7

Section Learning Goals

- Partition rectangles and circles into halves, thirds, and fourths and name the pieces.
- Recognize 2 halves, 3 thirds, and 4 fourths as one whole.
- Understand that equal pieces do not need to be the same shape.

In this section, students learn that shapes can be partitioned into two, three, or four equal pieces called halves, thirds, and fourths or quarters.

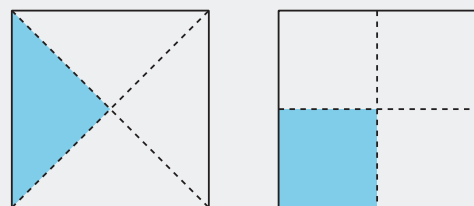
Students begin by composing shapes using pattern blocks, initially using any combination. Later, they use a single type of pattern block, which allows them to see the composed shape as partitioned into equal pieces.


In grade 1, students partitioned shapes into two and four equal pieces, and described each piece as a half or a fourth or quarter. (To prepare students to tell time to the quarter hour in the next section, be sure that they hear and use fourths and quarters interchangeably.) Here, they add the term “thirds” to their vocabulary and partition rectangles into halves, thirds, and fourths.

Students then identify equal-size pieces in shapes, which are partitioned in different ways to build an understanding that equal-size pieces of the same whole do not need to be the same shape.

They come to understand that if the whole is partitioned into the same number of equal pieces, the names of the pieces are the same. Students also learn that 2 halves, 3 thirds, and 4 fourths each make up one whole.

Although students are expected to use the language of fractions (halves, thirds, and fourths), they are not expected to use the word “fraction” or see fractions in numerical form until grade 3.



 PLC: Lesson 7, Activity 2, That’s Not It

Suggested Centers

- How Are They the Same? (1-5), Stage 2: Grade 2 Shapes (Addressing)

- Which One? (K-5), Stage 3: Grade 2 Shapes (Addressing)

Section C: Time on the Clock

Standards Alignments

Building On	1.MD.B.3
Addressing	2.G.A, 2.G.A.1, 2.MD.C.7, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.6
Building Towards	2.MD.C.7

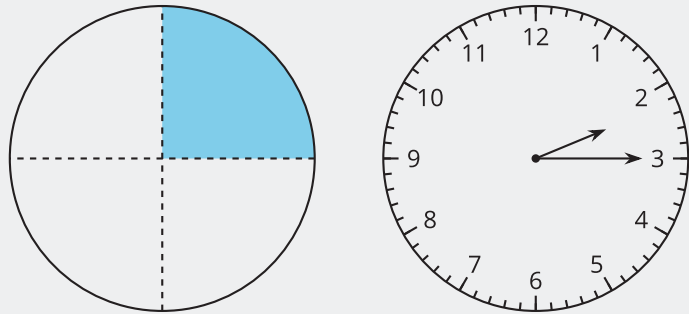
Section Learning Goals

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

In this section, students use their understanding of fourths and quarters to tell time.

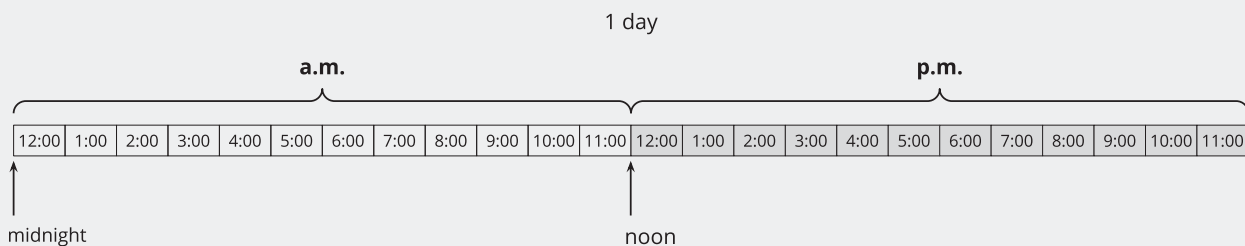
In grade 1, students learned to tell time to the hour and half-hour. Here, they make a connection between the analog clock and circles partitioned into halves or fourths.

Students use the phrases “half past,” “quarter past,” and “quarter till” to tell time. They skip-count by 5 to tell time in 5-minute intervals.



Students recognize that the hour hand on an analog clock moves towards the next hour as time passes. They represent time on analog clocks by drawing the hour and minute hands and writing the time with digits.

Students recognize that, as time passes, the hour hand on an analog clock moves towards the next hour. They learn that each hour comes around twice a day on a 12-hour clock, and is labeled with “a.m.” and “p.m.” to distinguish between times of day. Towards the end of this section, students relate a.m. and p.m. times to their daily activities.



 PLC: Lesson 13, Activity 1, What is the Time of Day?

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Can You Draw It? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

Section D: The Value of Money

Standards Alignments

Addressing	2.G.A, 2.G.A.1, 2.MD.C.8, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.6, 2.NBT.B.8, 2.OA.A.1
Building Towards	2.MD.C.8

Section Learning Goals

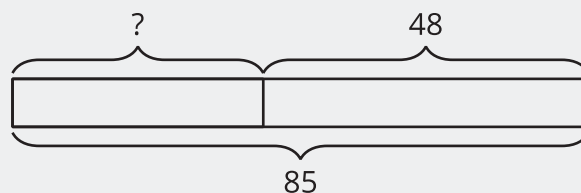
- Find the value of a group of bills and coins.
- Use addition and subtraction within 100 to solve one- and two-step word problems.

In this section, students learn about money concepts while continuing to develop fluency with addition and subtraction within 100. They identify coins such as quarters, dimes, nickels, and pennies, and find the total value of different coin combinations.



Students learn that 1 dollar has the same value as 100 cents and solve problems involving dollars and cents. Although students will not need to use decimal notation to represent money, they are expected to appropriately use the symbols \$ and ¢.

*Mai had some money. Elena has \$48.
They combined their money and now they have \$85.
How much money did Mai have?*



Students are likely to have some previous experience with dollars and cents. Encourage them to share their experiences throughout the section. Consider creating an anchor chart of pictures of each coin and its value so that all students can access the content. As much as possible, give students access to real or plastic coins to support their reasoning. A Instructional master with images of the coins is provided as an alternative, in case needed.

PLC: Lesson 16, Activity 1, How Much is a Quarter Worth?

Suggested Centers

- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Would You Rather? (2–5), Stage 1: Money (Addressing)

Throughout the Unit

Throughout this unit, students experience Number Talk routines that allow them to continue to develop fluency with addition and subtraction within 100, using strategies based in place value and the properties of operations. These routines also support the work in the unit as students can relate the numbers used to adding the values of quarters, dimes, nickels, and pennies together.

Here is a sampling of Number Talk warm-ups in the unit.

lesson 5	lesson 8	lesson 9	lesson 14
$5 + 30 + 5$	$25 - 15$	$20 + 10 + 10 + 5$	$10 + 15 + 20 + 10$
$50 + 30 + 5$	$40 - 15$	$30 + 25$	$5 + 30 + 20$
$50 + 5 + 30 + 5$	$65 - 25$	$35 + 15$	$15 + 20 + 30$
$500 + 30 + 5$	$60 - 35$	$15 + 25 + 15$	$25 + 15 + 5 + 15$

lesson 17	lesson 19	lesson 20
$25 + 10 + 10 + 5$	$18 + 32$	$20 + 25 + 5 + 5$
$25 + 25$	$28 + 32$	$15 + 25 + 25$
$25 + 25 + 25$	$28 + 34$	$25 + 15 + 25 + 6$
$25 + 25 + 25 + 25$	$38 + 35$	$20 + 15 + 30 + 7$

Materials Needed

LESSON	GATHER	COPY
A.1	<ul style="list-style-type: none"> Materials from a previous activity 	<ul style="list-style-type: none"> Shape Cards Grade 2 (groups of 2)
A.2	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> none
A.3	<ul style="list-style-type: none"> Rulers 	<ul style="list-style-type: none"> none
A.4	<ul style="list-style-type: none"> Geoblocks Scissors Tape Tools for creating a visual display 	<ul style="list-style-type: none"> Cube Pattern (groups of 2) Shape Design Card Sort (groups of 2)
A.5	<ul style="list-style-type: none"> Materials from a previous activity Materials from a previous lesson 	<ul style="list-style-type: none"> Centimeter Dot Paper - Standard (groups of 1)
B.6	<ul style="list-style-type: none"> Pattern blocks 	<ul style="list-style-type: none"> Compose a Butterfly (groups of 2) Centimeter Dot Paper - Standard (groups of 1) Isometric Dot Paper - Standard (groups of 1)
B.7	<ul style="list-style-type: none"> Construction paper Rulers Scissors 	<ul style="list-style-type: none"> none
B.8	<ul style="list-style-type: none"> none 	<ul style="list-style-type: none"> none
B.9	<ul style="list-style-type: none"> Colored pencils 	<ul style="list-style-type: none"> none
B.10	<ul style="list-style-type: none"> Materials from a previous lesson Materials from previous centers Paper 	<ul style="list-style-type: none"> Shape Cards Grade 2 (groups of 2)

C.11	<ul style="list-style-type: none"> ● Chart paper 	<ul style="list-style-type: none"> ● Halves and Quarters Clock Sort (groups of 2)
C.12	<ul style="list-style-type: none"> ● none 	<ul style="list-style-type: none"> ● Count on the Clock Card Sort (groups of 2)
C.13	<ul style="list-style-type: none"> ● Glue ● Scissors 	<ul style="list-style-type: none"> ● Hours in a Day Timeline (groups of 1)
C.14	<ul style="list-style-type: none"> ● Materials from previous centers ● Picture books 	<ul style="list-style-type: none"> ● Picture Books Stage 3 Recording Sheet (groups of 1)
D.15	<ul style="list-style-type: none"> ● Scissors 	<ul style="list-style-type: none"> ● Money Poster Images (groups of 0) ● Coins to Cut and Count (groups of 1)
D.16	<ul style="list-style-type: none"> ● none 	<ul style="list-style-type: none"> ● Coins to Cut and Count (groups of 1)
D.17	<ul style="list-style-type: none"> ● none 	<ul style="list-style-type: none"> ● none
D.18	<ul style="list-style-type: none"> ● none 	<ul style="list-style-type: none"> ● none
D.19	<ul style="list-style-type: none"> ● none 	<ul style="list-style-type: none"> ● none
D.20	<ul style="list-style-type: none"> ● Materials from previous centers 	<ul style="list-style-type: none"> ● Would You Rather Stage 1 Recording Sheet (groups of 2) ● Would You Rather Stage 1 Spinner (groups of 2)
D.21	<ul style="list-style-type: none"> ● Card stock ● Pattern blocks 	<ul style="list-style-type: none"> ● none

Center: Can You Draw It? (1–5)

Stage 1: Grade 1 Shapes

Lessons

- Grade2.6.A1 (supporting)
- Grade2.6.A2 (supporting)
- Grade2.6.A3 (supporting)
- Grade2.6.A4 (supporting)

Stage Narrative

Partner A chooses a shape card and describes it to their partner. If Partner B draws the shape correctly, they keep the card. Shape cards include triangles and quadrilaterals.

Standards Alignments

Addressing 1.G.A.1

Materials to Copy

Centimeter Dot Paper - Standard (groups of 1), Flat Shape Cards Grade 1 (groups of 2)

Additional Information

Before playing, remove any cards that do not show a triangle or quadrilateral.

Stage 2: Grade 2 Shapes

Lessons

- Grade2.6.C11 (addressing)
- Grade2.6.C12 (addressing)
- Grade2.6.C13 (addressing)

Activities

- Grade2.6.A5.2 (addressing)
- Grade2.6.B10.2 (addressing)

Stage Narrative

Partner A chooses a shape card and describes it to their partner. If Partner B draws the shape correctly, they keep the card. Shape cards include triangles, quadrilaterals, and hexagons.

Standards Alignments

Addressing 2.G.A.1

Materials to Copy

Centimeter Dot Paper - Standard (groups of 1), Shape Cards Grade 2 (groups of 2)

Additional Information

Before playing, remove any cards that do not show a triangle, quadrilateral, or hexagon.

Stages used in Grade 1

Stage 1

Addressing

- Grade1.7.B
- Grade1.7.C

Center: Which One? (K–5)

Stage 2: Grade 1 Shapes

Lessons

- Grade2.6.A1 (supporting)
- Grade2.6.A2 (supporting)
- Grade2.6.A3 (supporting)
- Grade2.6.A4 (supporting)

Stage Narrative

One partner chooses a shape on the gameboard. The other partner asks questions to figure out what shape they chose. Students may use counters to cover up shapes that have been eliminated. Students work with triangles and quadrilaterals.

Standards Alignments

Addressing 1.G.A

Materials to Gather

Counters

Materials to Copy

Which One Stage 2 Gameboard (groups of 2)

Stage 3: Grade 2 Shapes

Lessons

- Grade2.6.B6 (addressing)
- Grade2.6.B7 (addressing)
- Grade2.6.B8 (addressing)
- Grade2.6.B9 (addressing)
- Grade2.6.C11 (addressing)
- Grade2.6.C12 (addressing)
- Grade2.6.C13 (addressing)
- Grade2.6.D15 (addressing)
- Grade2.6.D16 (addressing)
- Grade2.6.D17 (addressing)
- Grade2.6.D18 (addressing)
- Grade2.6.D19 (addressing)

Activities

- Grade2.6.A5.1 (addressing)
- Grade2.6.B10.2 (addressing)

Stage Narrative

Students lay out the shape cards face up in rows. One partner chooses a shape. The other partner asks questions to figure out what shape they chose. Students work with triangles, quadrilaterals, and hexagons.

Standards Alignments

Addressing 2.G.A.1

Materials to Copy

Shape Cards Grade 2 (groups of 2)

Stages used in Grade 1

Stage 2

Addressing

- Grade1.7.C

Center: How Are They the Same? (1–5)

Stage 2: Grade 2 Shapes

Lessons

- Grade2.6.B6 (addressing)
- Grade2.6.B7 (addressing)
- Grade2.6.B8 (addressing)
- Grade2.6.B9 (addressing)
- Grade2.6.C11 (addressing)
- Grade2.6.C12 (addressing)
- Grade2.6.C13 (addressing)
- Grade2.6.D15 (addressing)
- Grade2.6.D16 (addressing)
- Grade2.6.D17 (addressing)
- Grade2.6.D18 (addressing)
- Grade2.6.D19 (addressing)
- Grade2.6.D21 (addressing)

Activities

- Grade2.6.B10.1 (addressing)
- Grade2.6.B10.2 (addressing)
- Grade2.6.C14.2 (addressing)
- Grade2.6.D20.2 (addressing)

Stage Narrative

Students lay six shape cards face up. One student picks two cards that have an attribute in common. All students draw a shape that has a shared attribute with the two shapes. Students get a point if they draw a shape that no other student drew. It is possible that students will draw a shape with a different shared attribute than what the original student chose. This can be an interesting discussion for students to have.

Variation:

Students can write down a shared attribute of the shapes.

Standards Alignments

Addressing 2.G.A.1

Materials to Gather

Paper

Materials to Copy

Shape Cards Grade 2 (groups of 2)

Stages used in Grade 1

Stage 1

Addressing

- Grade1.7.A

Center: Picture Books (K–5)

Stage 3: Find Shapes

Lessons

- Grade2.6.D15 (addressing)
- Grade2.6.D16 (addressing)
- Grade2.6.D17 (addressing)
- Grade2.6.D18 (addressing)
- Grade2.6.D19 (addressing)
- Grade2.6.D21 (addressing)

Activities

- Grade2.6.C14.1 (addressing)
- Grade2.6.C14.2 (addressing)
- Grade2.6.D20.2 (addressing)

Stage Narrative

Students look through picture books and notice and describe shapes they see in the pictures.

Variation:

Students may record the shapes they see with drawings or words.

Standards Alignments

Addressing 1.G.A, 2.G.A, 3.G.A.1, 4.G, 5.G.A, K.G

Materials to Gather

Picture books

Materials to Copy

Picture Books Stage 3 Recording Sheet (groups of 1)

Additional Information

Each group of 2–4 needs at least one picture book that shows a variety of shapes throughout the book.

Stages used in Grade 1

Stage 2

Addressing

- Grade1.7.A
- Grade1.7.B

Stage 3

Addressing

- Grade1.7.A

Center: Capture Squares (1–3)

Stage 3: Add within 20

Activities

- Grade2.6.C14.2 (supporting)

Stage Narrative

Students spin to get a number (6–10) and flip a card (0–10) and find the sum. The spinner includes a wild space where students can choose their own number.

Standards Alignments

Addressing 1.OA.C.6, 2.OA.B.2

Materials to Gather

Colored pencils or crayons, Number cards 0–10, Paper clips

Materials to Copy

Capture Squares Stage 3 Gameboard (groups of 2), Capture Squares Stage 3 Spinner (groups of 2)

Stage 4: Subtract within 20

Activities

- Grade2.6.C14.2 (supporting)

Stage Narrative

Students spin to get a number (16–20) and flip a card (0–10). They subtract the number on the card from the number on the spinner. The spinner includes a wild space where students can choose their own number.

Standards Alignments

Addressing 1.OA.C.6, 2.OA.B.2

Materials to Gather

Colored pencils or crayons, Number cards 0–10, Paper clips

Materials to Copy

Capture Squares Stage 4 Gameboard (groups of 2), Capture Squares Stage 4 Spinner (groups of 2)

Stages used in Grade 1

Stage 1

Addressing

- Grade1.2.B
- Grade1.2.C
- Grade1.2.D

Supporting

- Grade1.7.A
- Grade1.7.B
- Grade1.7.C

Stage 2

Addressing

- Grade1.2.C
- Grade1.2.D

Supporting

- Grade1.7.A
- Grade1.7.B
- Grade1.7.C

Center: Number Puzzles: Addition and Subtraction (1–4)

Stage 2: Within 20

Activities

- Grade2.6.C14.2 (supporting)

Stage Narrative

Students work together to use digit cards to make addition and subtraction equations within 20 true. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.OA.C.6, 1.OA.D.8, 2.OA.B.2

Materials to Copy

Number Puzzles Addition and Subtraction Stage 2
Gameboard (groups of 1), Number Puzzles Digit
Cards (groups of 2)

Stage 3: Within 100 without Composing

Activities

- Grade2.6.C14.2 (supporting)

Stage Narrative

Students work together to use digit cards to make addition and subtraction equations within 100 without composing true. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8

Materials to Copy

Number Puzzles Addition and Subtraction Stage 3
Gameboard (groups of 2), Number Puzzles Digit
Cards (groups of 2)

Stage 4: Within 100 with Composing

Activities

- Grade2.6.C14.2 (supporting)

Stage Narrative

Students use digit cards to make addition and subtraction equations true. They work with sums and differences within 100 with composing and decomposing. Each digit card may only be used one time on a page.

Standards Alignments

Addressing 1.NBT.C.4, 1.OA.D.8, 2.NBT.B.5

Materials to Copy

Number Puzzles Addition Stage 4 Gameboard (groups of 2), Number Puzzles Digit Cards (groups of 2)

Stages used in Grade 1

Stage 1

Addressing

- Grade1.2.D
- Grade1.3.C

Supporting

- Grade1.3.A
- Grade1.3.B
- Grade1.4.A
- Grade1.4.B
- Grade1.5.A
- Grade1.5.B
- Grade1.5.C

Stage 2

Addressing

- Grade1.3.B
- Grade1.3.C

Supporting

- Grade1.4.A
- Grade1.4.B
- Grade1.5.A
- Grade1.5.B
- Grade1.5.C

Stage 3

Addressing

- Grade1.5.A
- Grade1.5.B
- Grade1.5.C

Stage 4

Addressing

- Grade1.5.C

Center: Would You Rather? (2–5)

Stage 1: Money

Lessons

- Grade2.6.D21 (addressing)

Activities

- Grade2.6.D20.1 (addressing)
- Grade2.6.D20.2 (addressing)

Stage Narrative

The first partner spins to get a group of coins. They write a question that compares the amount they spun to a different group of coins that they make up.

Standards Alignments

Addressing 2.MD.C.8

Materials to Copy

Would You Rather Stage 1 Recording Sheet (groups of 2), Would You Rather Stage 1 Spinner (groups of 2)

Section A: Attributes of Shapes

Lesson 1: Identify and Sort Shapes

Standards Alignments

Building On	1.G.A.1
Addressing	2.G.A.1
Building Towards	2.G.A.1

Teacher-facing Learning Goals

- Recognize triangles, quadrilaterals, pentagons, and hexagons based on the number of sides and vertices (corners).

Student-facing Learning Goals

- Let's sort and name shapes based on their sides and corners.

Lesson Purpose

The purpose of this lesson is for students to recognize and name shapes based on the number of sides and vertices (corners). Students name triangles, quadrilaterals, pentagons, and hexagons.

In previous grades, students identified, described, and compared two-dimensional and three-dimensional shapes. Students learned that shapes have defining attributes and drew shapes that possessed these attributes.

In this lesson, students learn that they can identify a shape by the number of sides and corners it has. Students sort shapes into examples and non-examples of triangles, quadrilaterals, pentagons, and hexagons. They define triangle, **quadrilateral**, **pentagon**, and **hexagon** based on the number of sides and corners and use these terms to name shapes. Throughout the lesson, students have opportunities to think about how to clearly describe the attributes of shapes to others and consider the precision of their language (MP6). It is not necessary for students to use the term vertices, so they are referred to as "corners" in this unit.

Access for:

Students with Disabilities

- Representation (Activity 2)

Instructional Routines

Card Sort (Activity 1), MLR2 Collect and Display (Activity 1), Notice and Wonder (Warm-up)

Materials to Gather

- Materials from a previous activity: Activity 2, Activity 3

Materials to Copy

- Shape Cards Grade 2 (groups of 2): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	10 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

In grade 1, students learned to distinguish between attributes that define a shape and those that do not. How does this understanding help students classify shapes as quadrilaterals, pentagons, and hexagons?

Cool-down (to be completed at the end of the lesson)

 5 min

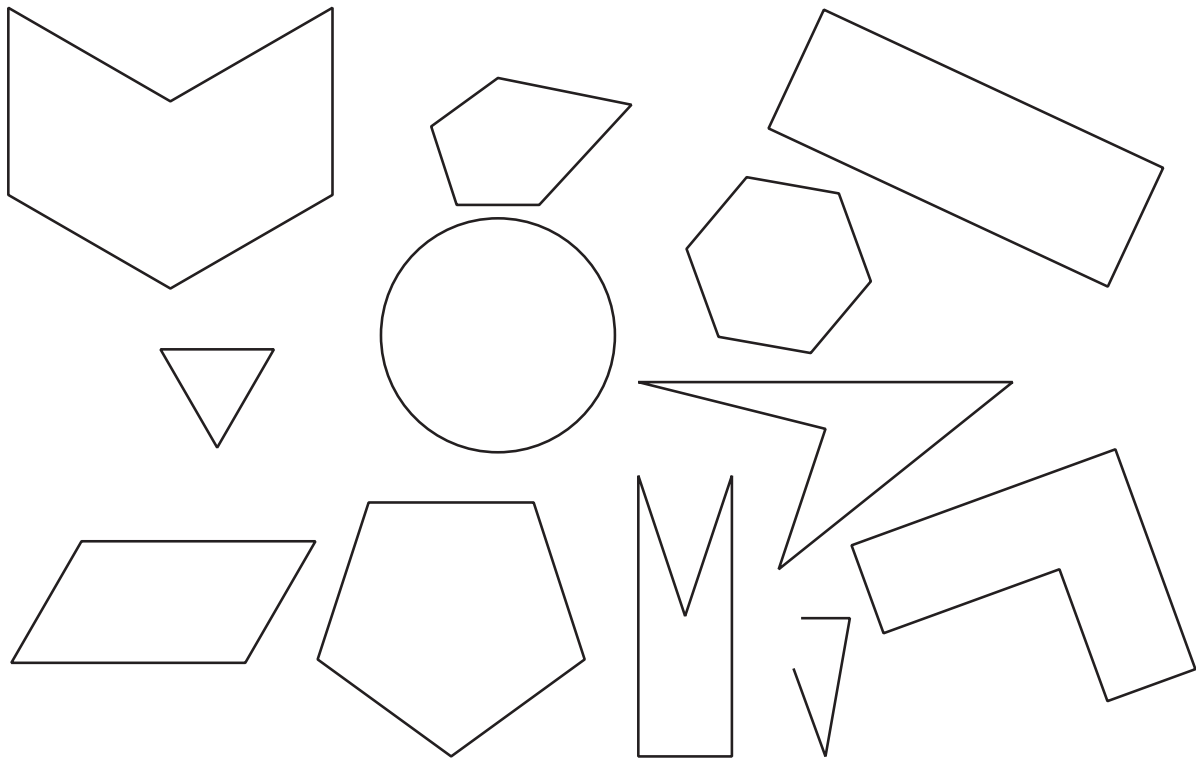
Find the Shapes

Standards Alignments

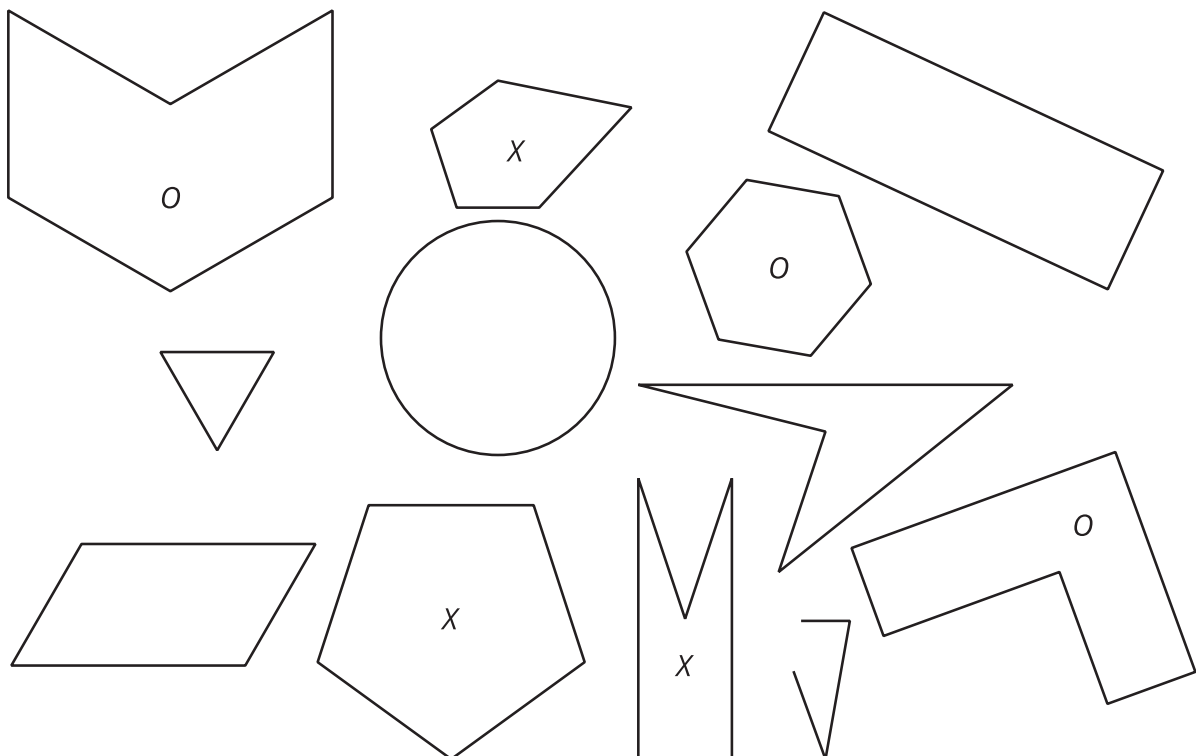
Addressing 2.G.A.1

Student-facing Task Statement

- Put an x inside all the pentagons.
- Put an o inside all the hexagons.



Student Responses



Begin Lesson

Warm-up

🕒 10 min

Notice and Wonder: Groups of Shapes

Standards Alignments

Building On	1.G.A.1
Building Towards	2.G.A.1

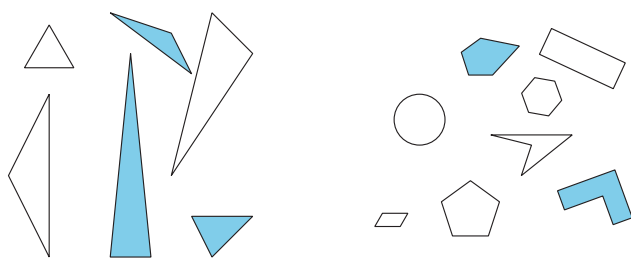
The purpose of this warm-up is to elicit student ideas about examples and non-examples of triangles and how to describe the attributes of a category of shapes. This will be useful when students determine the defining attributes of quadrilaterals, pentagons, and hexagons in a later activity. While students may notice and wonder many things about these groups of shapes, how the shapes are alike and different are the important discussion points.

Instructional Routines

Notice and Wonder

Student-facing Task Statement

What do you notice? What do you wonder?

**Student Responses**

Students may notice:

- Some of the shapes are colored in.
- Some of the shapes look like the pattern blocks.
- All the triangles are together.
- All the other shapes are not triangles.
- The triangles are different sizes.

Launch

- Groups of 2
- Display the image.
- “What do you notice? What do you wonder?”
- 1 minute: quiet think time

Activity

- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Share and record responses.

Synthesis

- Point to the group on the right.
- “Why do you think these shapes are together?” (They aren’t triangles. They have more than 3 sides. Some have curved lines.)
- “What could we name each group?” (triangles, not triangles)

- There are triangles, circles, rectangles, and hexagons.
- Some shapes have lines that are curves.

Students may wonder:

- Did someone sort the shapes?
- Why are all the triangles together?
- What is the shape with five sides called?
- Why are some shapes colored in?

Activity 1

🕒 15 min

Card Sort: Shapes

Standards Alignments

Addressing 2.G.A.1

In this activity, students sort and compare the attributes of triangles, quadrilaterals, pentagons, and hexagons. They use informal vocabulary as they describe the defining and non-defining attributes of shapes. As an informal assessment, listen as students describe how they sort and categorize the shapes within each group (MP6).

Although students may know some shape names, they may sort their shapes by any attribute during the first sort. In the activity synthesis, all students sort the shapes based on the number of sides and corners. In the next activity, students will match shape names to the groups that are sorted based on number of sides and corners.

This activity uses *MLR2 Collect and Display*. Advances: conversing, reading, writing

Instructional Routines

Card Sort, MLR2 Collect and Display

Materials to Copy

Shape Cards Grade 2 (groups of 2)

Required Preparation

- Create a set of cards from the Instructional master for each group of 2.
- Remove the shape name cards for this activity. Students will use them in the next activity.

Student-facing Task Statement

Sort the shapes into categories in a way that makes sense to you. Be prepared to explain how you sorted the shapes.

Student Responses

Sample responses:

- sorted by number of sides or corners (3, 4, 5)
- sorted by color/shading
- sorted by relative size (big shapes, small shapes)

Shapes sorted into sides and corners:

- 3 sides and 3 corners (triangle): A, E, G, H, L, V
- 4 sides and 4 corners (quadrilateral): D, K, N, O, Q, W
- 5 sides and 5 corners (pentagon): F, M, P, S, T, X
- 6 sides and 6 corners (hexagon): B, C, I, J, R, U

Launch

- Groups of 2
- Give each group of 2 students a set of shape cards.

Activity

- “In this activity, you will sort some cards into categories of your choosing. When you sort the shapes, you should work with your partner to come up with categories.”
- “Take a minute to look at the shapes and think about how you’ll sort them into categories.”
- 1 minute: quiet think time
- “Now, work with your partner to sort the shapes into categories in a way that makes sense to you.”
- 3–5 minutes: partner work time

MLR2 Collect and Display

- Circulate, listen for, and collect the language students use to describe the shapes and how they sort them into categories. Listen for: side, corner, square corner, triangle, hexagon, 3-sided, 4-sided, 5-sided, and 6-sided.
- Record students’ words and phrases on a visual display and update it throughout the lesson.
- If students sort shapes without discussing how they sort, consider asking:
 - “How did you sort these shapes?”
 - “What could you name each of your groups?”
- Monitor for students who explain how they

sort the shapes by counting the number of sides on each shape.

Synthesis

- Display the recorded words and phrases.
- As needed, ask students to clarify the meaning of words and phrases with examples from the cards.
- Invite previously selected groups to share how they sorted based on the number of sides of each shape.
- “Now work with your partner to sort your own shapes into categories based on the number of sides of each shape.”
- As needed: “If your shapes are already sorted based on the number of sides of each shape, talk with your partner about other names you know for the shapes in each of your groups.”
- 1 minute: partner work time
- “Now, work with your partner to sort your shapes based on the number of corners of each shape.”
- 1 minute: partner work time
- “What did you notice when you sorted the shapes by the number of corners?” (We didn’t have to do anything. The same shapes are in each group.)

Advancing Student Thinking

If students sort the shapes without discussing how they sort, consider asking:

- “Can you explain how you decided where to put each shape?”
 - “What could you name each of your groups?”
-

Activity 2

🕒 10 min

Penta-what?

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to recognize shapes as triangles, quadrilaterals, pentagons, and hexagons based on the number of sides and corners. Students gather clues about the defining attributes of each category by asking whether or not a shape belongs in the group ("Is Shape X a ____?"). After each group has had the opportunity to ask a question, students gather additional clues or attempt to confirm their understanding of a category by making statements using the frame "Shape X is a ____ because it has ____." In the synthesis, students define the terms based on the shared attributes of each group of shapes.

🕒 Access for Students with Disabilities

Representation: Develop Language and Symbols. Synthesis: Maintain a visible display to record new vocabulary. Invite students to suggest words, attributes, or pictures that will help them remember the different shapes.

Supports accessibility for: Memory, Attention

Materials to Gather

Materials from a previous activity

Required Preparation

- Each group of 2 needs the set of cards from the previous activity, including the shape name cards.

Student-facing Task Statement

Gather clues to find out what kind of shapes belong in each of these categories.

triangle pentagon hexagon quadrilateral

1. Ask the teacher whether a shape card belongs with one of these categories.

Use this question frame:

Launch

- Groups of 2
- Each group should have access to their cards from the previous activity.
- Give each group a set of category cards (triangle, pentagon, hexagon, quadrilateral) from the Shape Cards Instructional master.

Is Shape _____ a
_____?

- Use the clues you gathered to make a true statement.

Shape _____ is a
_____ because it has

- Would these shapes belong to any of these categories? Explain.

A



B



C



Student Responses

- Sample responses:
 - Students: Is Shape F a pentagon?
Teacher: Yes.
 - Students: Is Shape F a hexagon?
Teacher: No. It is not a hexagon because it has 5 sides and 5 corners.
- Sample responses:
 - Shape C is a hexagon because it has 6 sides and 6 corners.
 - Shape K is a quadrilateral because it has 4 sides and 4 corners.
- Sample responses:
 - A does not belong because it has 5 sides and 4 corners.
 - B does not belong because it has 5 corners and 6 sides.
 - C does not belong because it has 5 corners, 4 straight sides, and one curved side.

Activity

- “The groups of shapes we created in Activity 1 have names. You may already know some of these names. Some names you may not know.”
- As needed, read the category names with the class.
- “As a class, your job is to gather clues to figure out which shapes go with each category name.”
- “First, each group will ask me if a card at your table belongs with a category. If it does, I’ll say ‘Yes.’ If it does not belong, I’ll say ‘No’ and give you a clue.”
- “Choose a card with your partner. Try to pick a card that might give you a clue. If another group asks about your card, quickly choose a different card.”
- 30 seconds: partner discussion
- Select students to ask a question. If the card does not belong with the category, respond with:
 - “No. It is not a _____ because it has _____ sides and _____ corners.”
- “Now that you have some clues, use the sentence frame to tell the class a shape, the name of the category it belongs to, and why based on the number of sides or corners.”
- 1 minute: partner discussion
- Select groups to make a statement. As needed, consider asking:
 - “Can a group name a shape that is a _____ (pentagon, hexagon, quadrilateral)?”

Synthesis

- “Work with your partner to describe the four categories of shapes: triangles, quadrilaterals, pentagons, and hexagons.”

(A triangle is a shape with 3 sides and 3 corners. A **quadrilateral** is a shape with 4 sides and 4 corners. A **pentagon** is a shape with 5 sides and 5 corners. A **hexagon** is a shape with 6 sides and 6 corners.)

- Share and record responses.
- Display the shapes from the last question.
- “Would these belong to any of these categories? Explain.” (A does not belong because it has 5 sides and 4 corners. B does not belong because it has 5 corners and 6 sides. C does not belong because it has 5 corners, 4 straight sides, and one curved side.)

Activity 3

🕒 10 min

Compare Shapes

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to recognize and describe the attributes of triangles, quadrilaterals, pentagons, and hexagons. Students may describe many different attributes of the shapes, but connections to the shape names, number of sides, and number of corners are the most important points. As students work, encourage them to refine their descriptions of their shape using more precise language (MP6).

Materials to Gather

Materials from a previous activity

Required Preparation

- Each group of 2 needs a set of cards from the previous activity.

Student-facing Task Statement

Pick 1 shape card.

Be prepared to name and describe your shape to a partner.

Student Responses

Sample responses:

- Student 1: My shape has 6 sides and 6 corners. It is not shaded in.
Student 2: I think your shape is a hexagon because it has 6 sides and 6 corners.
- Student 1: My shape has 4 sides and 4 corners.
Student 2: Your shape is a quadrilateral. It has 4 sides and 4 corners.
- Student 1: Our shapes are both not shaded in.
Student 2: I agree. I think both of our shapes have short sides.

Launch

- Groups of 2
- Each group should have access to their cards from the previous activity.

Activity

- "Pick one shape card. Think about how you would describe your shape to a partner without naming it."
- 1 minute: quiet think time
- "You're going to find a partner and describe your shape without showing them your card. Your partner will guess the name of your shape using triangle, quadrilateral, pentagon, or hexagon."
- "After you both name the shapes, find one way your shapes are alike and one way they are different."
- Give a signal for students to find a partner.
- 2 minutes: partner discussion
- "Trade cards with your partner. Find a new partner and play again."
- Give a signal to find a partner.
- 2 minutes: partner discussion
- Monitor for students who describe how their shapes are alike and different based on the number of sides and corners.

Synthesis

- "What clues did your partner give you that made it easy to guess their shape?" (number of sides, number of corners)
- "Were there any clues that did not help you guess the name of the shape?" (color, size)

Advancing Student Thinking

If students describe their shape using words that don't make it clear to their partners, consider asking:

- “What are some vocabulary words you've learned to describe shapes?”
- “How can you describe your shape using some of these terms to help your partner name it?”

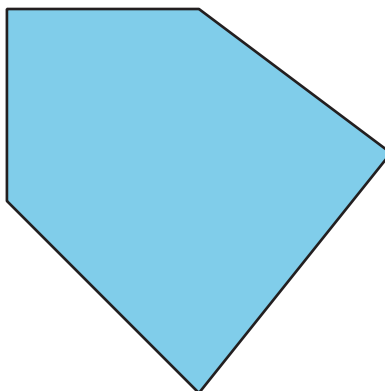
Lesson Synthesis

⌚ 10 min

“Today we learned we can name shapes based on the number of sides and corners they have.”

Display the shape names used in the lesson.

Display Shape X from the card sort.



“Diego told his partner that this shape is a hexagon because it has 5 sides.”

“Do you agree or disagree? Explain.” (I disagree. A hexagon has 6 sides and 6 corners. This shape has 5 sides and 5 corners. This shape is a pentagon.)

Suggested Centers

- Can You Draw It? (1–5), Stage 1: Grade 1 Shapes (Supporting)
- Which One? (K–5), Stage 2: Grade 1 Shapes (Supporting)

----- Complete Cool-Down -----

Response to Student Thinking

Students identify some, but not all of the pentagons or hexagons.

The work in this lesson builds on shape concepts developed in a prior unit.

Next Day Support

- Before the warm-up, pass back the cool down and work in small groups to make corrections.

Prior Unit Support

Grade 1, Unit 7, Section A: Flat and Solid Shapes

Lesson 2: Draw Shapes

Standards Alignments

Addressing 2.G.A.1

Teacher-facing Learning Goals

- Recognize and draw triangles, quadrilaterals, pentagons, and hexagons.

Student-facing Learning Goals

- Let's recognize and draw triangles, quadrilaterals, pentagons, and hexagons.

Lesson Purpose

The purpose of this lesson is for students to recognize and draw shapes that have a specified number of sides or corners.

In previous lessons, students sorted and identified two-dimensional shapes based on their sides and corners. In previous grades, students built and drew squares, circles, triangles, rectangles, and hexagons.

In this lesson, students recognize and draw shapes based on a given number of sides or corners. Students continue to practice shape vocabulary (quadrilateral, pentagon, hexagon) and describe shapes based on their defining attributes (MP6).

Access for:

Students with Disabilities

- Representation (Activity 2)

English Learners

- MLR2 (Activity 2)

Instructional Routines

Which One Doesn't Belong? (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min

Teacher Reflection Question

As students identified and drew shapes with given attributes, what evidence did you see that they are building an understanding of the defining attributes of quadrilaterals, pentagons, and hexagons?

Cool-down

5 min

Cool-down (to be completed at the end of the lesson)

🕒 5 min

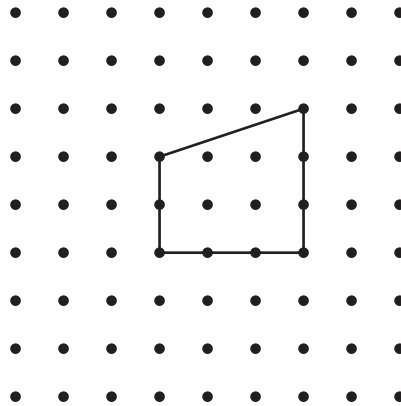
Name and Draw Shapes

Standards Alignments

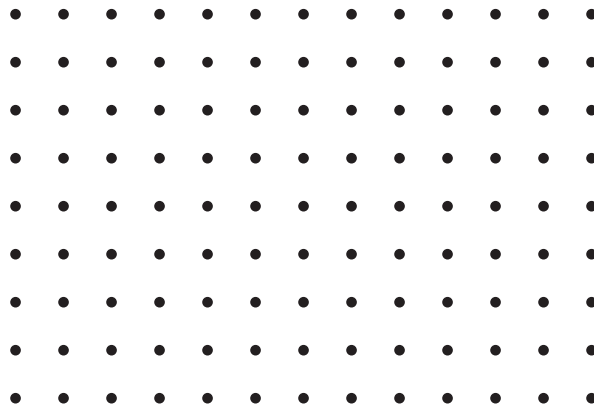
Addressing 2.G.A.1

Student-facing Task Statement

1. What is the name of this shape?



2. Draw a shape with 5 sides and 5 corners.

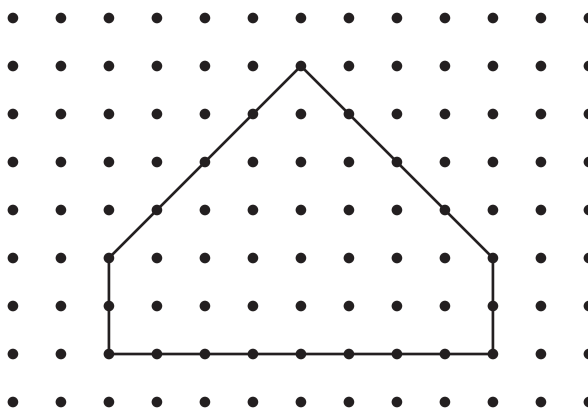


What is the name of the shape you drew?

Student Responses

1. quadrilateral
2. pentagon

Sample response:



Begin Lesson

Warm-up

🕒 10 min

Which One Doesn't Belong: Five-sided Shapes

Standards Alignments

Addressing 2.G.A.1

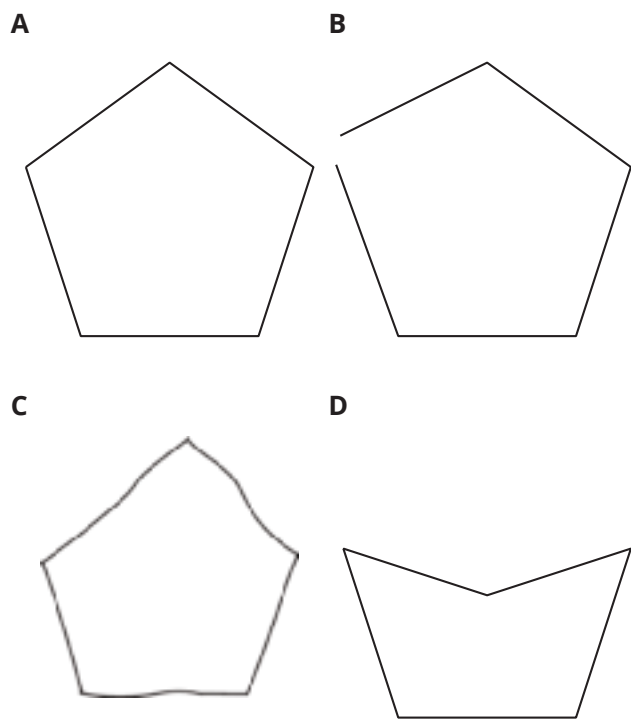
This warm-up prompts students to compare four shapes. It gives students a reason to use language precisely (MP6). It gives the teacher an opportunity to hear how students describe the attributes of shapes when comparing them. During the synthesis, ask students to explain the meaning of any terminology they use, especially regarding the use of “same” or “different” sides and corners.

Instructional Routines

Which One Doesn't Belong?

Student-facing Task Statement

Which one doesn't belong?



Student Responses

Sample responses:

- A doesn't belong because it's the only one that has sides and corners that all look the same.
- B doesn't belong because it's the only one that isn't closed. It's the only one that isn't a pentagon.
- C doesn't belong because it's the only one that looks like someone drew it. The lines aren't straight.
- D doesn't belong because it's the only one that doesn't have corners that all look the same.

Launch

- Groups of 2
- Display the image.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- 2-3 minutes: partner discussion
- Share and record responses.

Synthesis

- "Which of these shapes are pentagons? Explain." (A, C, and D, because they each have 5 sides and 5 corners.)
- "Why is B not a pentagon?" (It isn't closed. It only has 4 corners.)
 - Consider asking: "How many sides does it have? How many corners?"

Activity 1

 15 min

Draw Shapes

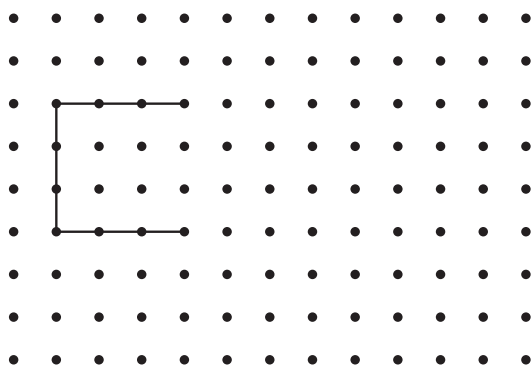
Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to draw quadrilaterals, pentagons, and hexagons and compare the attributes of different shapes that have the same number of sides. They continue to notice that shapes in these categories have the same number of sides and number of corners. They may describe differences in shapes that are in the same category based on the length of the sides and their orientation. They may also use informal language to describe differences in the corners of each shape (for example, square corners or “sharp” corners). Students learn to describe and measure angles formally in grade 4.

Student-facing Task Statement

1. Complete the shape to make a quadrilateral.
Then draw a different four-sided shape.



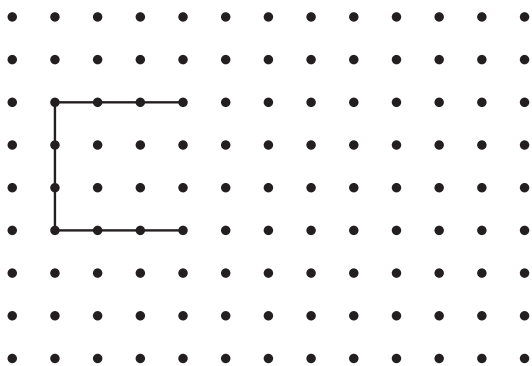
2. Complete the shape to make a pentagon.
Then draw a different five-sided shape.

Launch

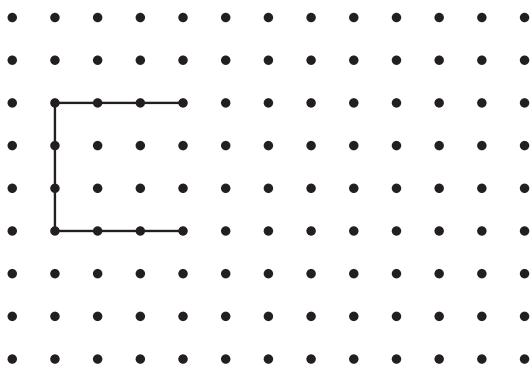
- Groups of 2

Activity

- “Today you are going to draw and compare shapes.”
- 5 minutes: independent work time
- Monitor for:
 - examples of shapes that have different side lengths, angles, and orientations to share in synthesis
 - non-examples of quadrilaterals, pentagons, or hexagons
- “Compare your shapes with your partner’s shapes. Find one way your shapes are the same and one way they are different.”
- 4 minutes: partner discussion



3. Complete the shape to make a hexagon. Then draw a different six-sided shape.

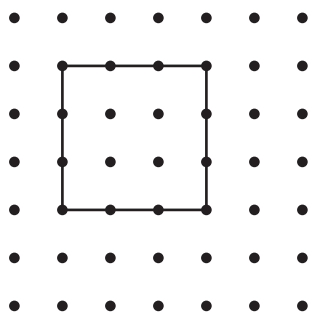


4. Compare your shapes with your partner's shapes. Find one way your shapes are the same and one way they are different.

Student Responses

1. Sample responses:

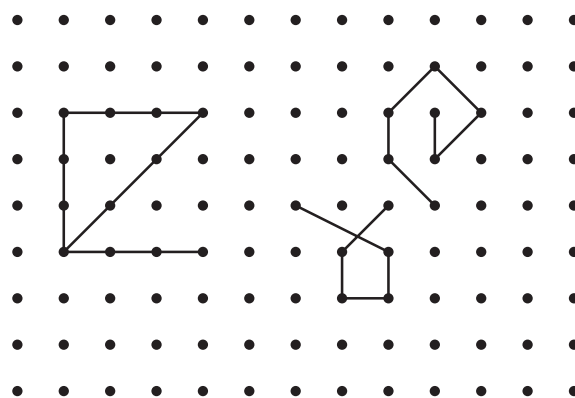
- Completed shape:



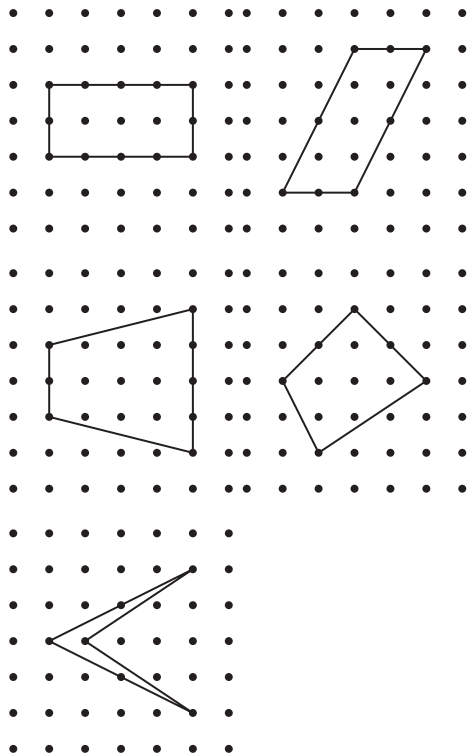
- Other sample quadrilaterals:

Synthesis

- Display 2–3 previously identified student examples of each shape.
- “What are the ways these shapes are different?” (different side lengths, different corners)
- If time, display non-examples of quadrilaterals, pentagons, or hexagons that students drew or display some examples, such as:

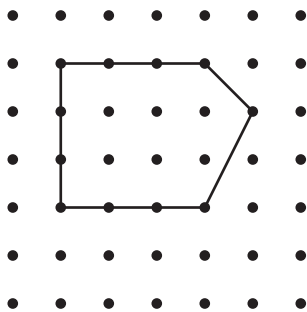


- “Would any of these shapes be a quadrilateral, pentagon, or hexagon? Why or why not?” (Sample response: No. The one on the far left has 4 sides and only 3 corners, so it's not a quadrilateral.)

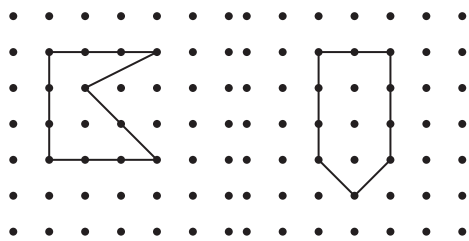


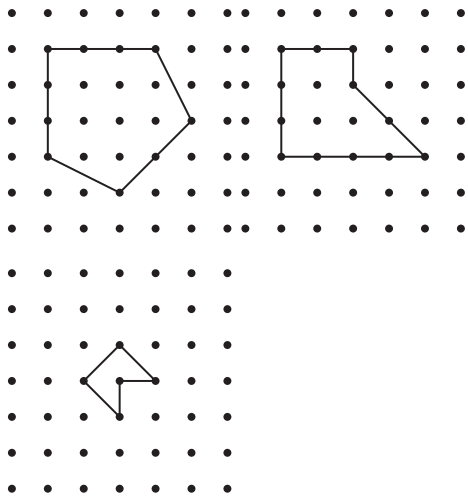
2. Sample responses:

- Completed pentagon:



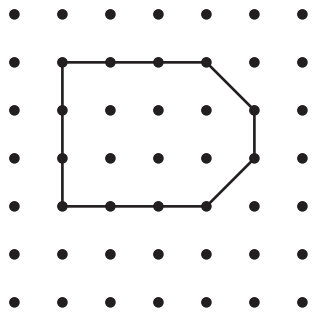
- Other sample pentagons:



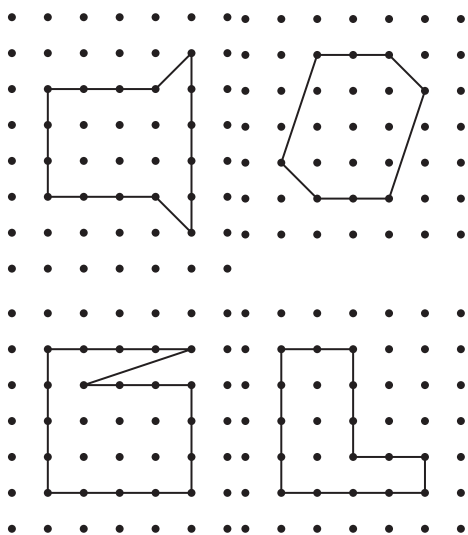


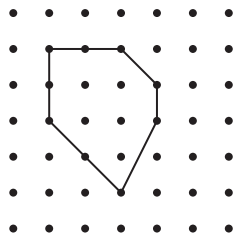
3. Sample responses:

- Completed hexagon:



- Other sample hexagons:





4. Sample responses:

- Both of the hexagons we drew have 6 sides.
- I used some diagonal lines in my hexagon and you did not use any diagonal lines.

Advancing Student Thinking

If students draw shapes with a number of sides other than the number of sides that define the named shape, consider asking:

- “How do you know this is a _____ (quadrilateral, pentagon or hexagon)?”
- “How could you use the completed shape to help you draw another _____ (quadrilateral, pentagon or hexagon)?”

Activity 2

20 min

What Shape Could It Be?

PLC Activity

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to draw shapes that have a given number of sides or corners. Students then compare shapes based on their number of sides and corners.

Access for English Learners

MLR2 Collect and Display. Synthesis: Direct attention to words collected and displayed from the previous lesson. Invite students to borrow language from the display as needed, and update it throughout the lesson with words such as attribute, quadrilateral, and pentagon.

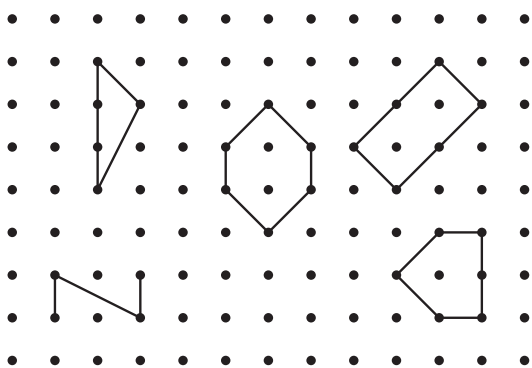
Advances: Conversing, Reading

Access for Students with Disabilities

Representation: Develop Language and Symbols. Activate or supply background knowledge. To help students recall the terms quadrilateral, pentagon, and hexagon, remind them of the previous lessons and connect visuals or charts previously made. If no visuals are available, help the student write out their thinking using words and/or pictures to assist with memory. *Supports accessibility for: Memory, Language.*

Student-facing Task Statement

1. Clare drew a shape that has fewer than 5 sides. Circle shapes that could be Clare's shape.



2. Draw a different shape that could be Clare's shape.

Launch

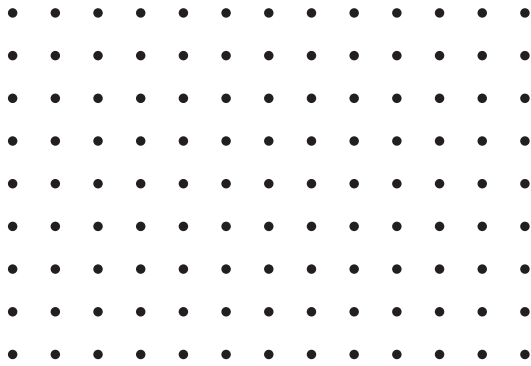
- Groups of 2

Activity

- "Clare, Andre, and Han drew shapes. Using the clues, see if you can figure out which shapes might belong to each student. Then draw a different shape based on the clues."
- 7 minutes: independent work time
- Monitor for examples of Han's shape that have different numbers of sides, number of corners, side lengths, and angles to share in the synthesis.
- "Compare the shapes you drew with your partner's shapes."
- 5 minutes: partner discussion

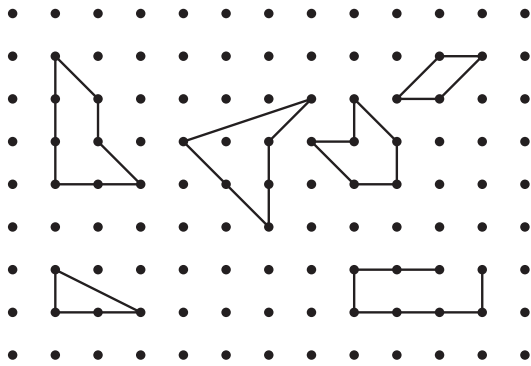
Synthesis

- Display 2–3 previously identified student examples for Han's shape.
- "How are these shapes different?" (different side lengths, different numbers of sides and corners)

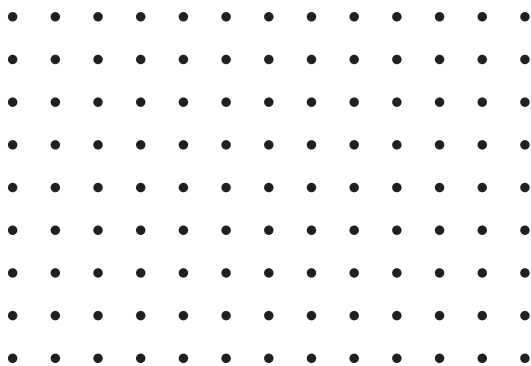


- “Could each of these shapes be Han’s shape? Explain.” (Andre’s shape has 4 sides and corners, so it could be any shape that has more than 4 sides and 4 corners. We could draw different shapes as long as they have more than 4 sides and 4 corners.)

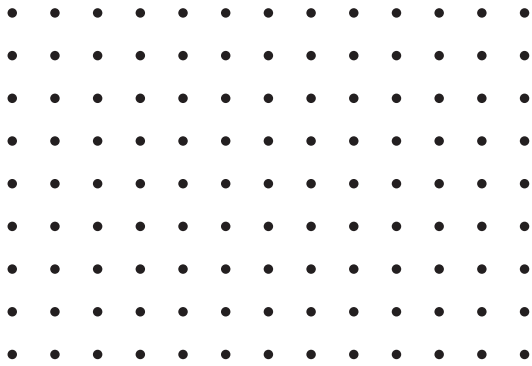
3. Andre drew a shape that has 4 corners.
Circle shapes that could be Andre’s shape.



4. Draw a different shape that could be Andre’s shape.

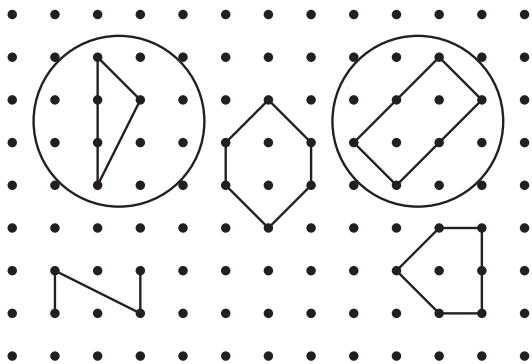


5. Han drew a shape that has more corners than Andre’s shape. Draw two shapes that could be Han’s shape.

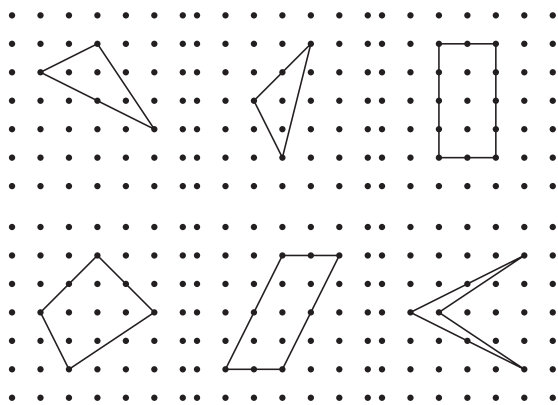


Student Responses

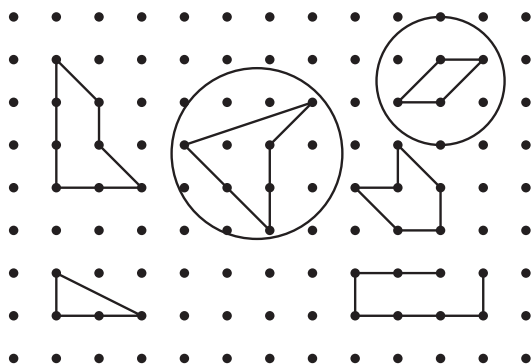
1.



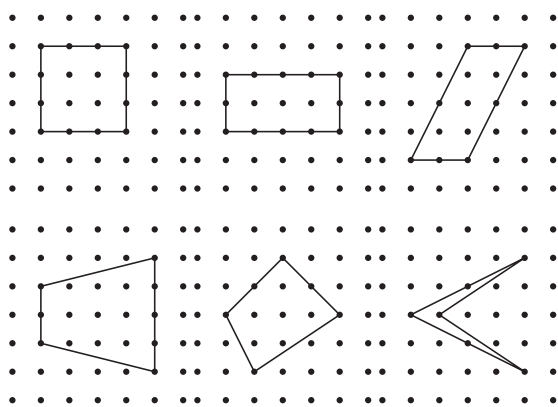
2. Sample responses:



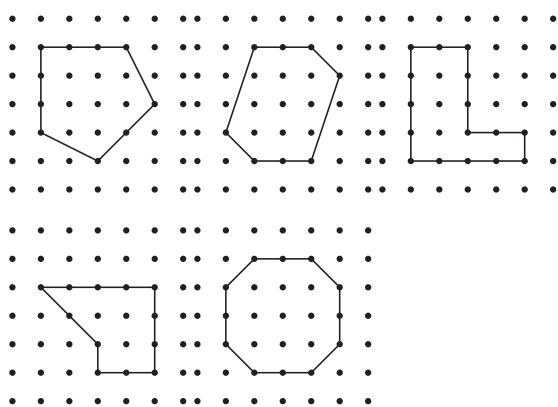
3.



4. Sample responses:



5. Sample responses:



Shapes with more than 6 sides are also acceptable responses.

Advancing Student Thinking

If students circle only one shape or draw a shape with a number of sides or corners not meeting

the criteria, consider asking:

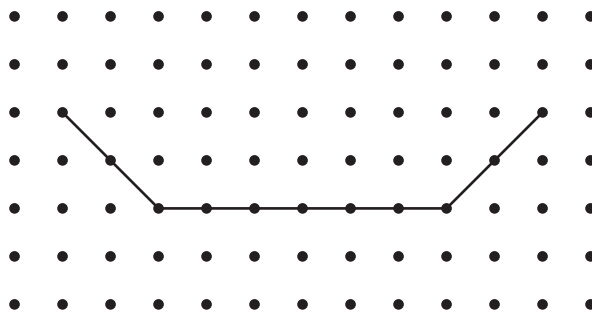
- “How do you know this shape could be ____ (Clare’s or Andre’s) shape?”
- “Are there any other shapes that could be ____ (Clare’s or Andre’s) shape?”
- “How can you change your shape so it has ____ (fewer than 5 sides, 4 corners, or more than 4 corners)?”

Lesson Synthesis

🕒 10 min

“Today you practiced drawing shapes based on the number of sides or corners. Mai started drawing a shape like this.”

Draw or display:



“Could she make a triangle from her drawing? Could she make a hexagon from her drawing?” (She could add 3 more lines to make it a hexagon, but she cannot make it into a triangle because it already has 3 lines.)

Share responses.

Invite students to demonstrate on the image as needed.

Suggested Centers

- Can You Draw It? (1–5), Stage 1: Grade 1 Shapes (Supporting)
- Which One? (K–5), Stage 2: Grade 1 Shapes (Supporting)

----- Complete Cool-Down -----

Response to Student Thinking

Students identify the shapes using names other than quadrilateral and pentagon.

Next Day Support

- Launch Activity 1 with a discussion about this cool-down.

Lesson 3: Specific Side Lengths

Standards Alignments

Addressing 2.G.A.1, 2.MD.A.1

Teacher-facing Learning Goals

- Use a ruler to draw shapes with specified side lengths, and identify the attributes of these shapes.

Student-facing Learning Goals

- Let's find and draw shapes with specific side lengths.

Lesson Purpose

The purpose of this lesson is for students to recognize and draw shapes that have sides with a given length. Students also revisit and practice measuring lengths.

In a previous unit, students measured and compared the length of the sides of triangles and rectangles with rulers. In previous lessons, students recognized and drew shapes on dot paper based on a given number of sides and corners. In this lesson, students measure sides with rulers to find shapes with specific attributes. Students use their rulers to draw shapes with given side lengths (MP6).

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

English Learners

- MLR8 (Activity 2)

Instructional Routines

Which One Doesn't Belong? (Warm-up)

Materials to Gather

- Rulers: Activity 1, Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min

Teacher Reflection Question

Which students came up with an unexpected shape or technique for drawing shapes in today's lesson? What are some ways you can be more open to the ideas of each and every student?

Lesson Synthesis	10 min
Cool-down	5 min

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Draw the Shape

Standards Alignments

Addressing 2.G.A.1, 2.MD.A.1

Student-facing Task Statement

1. Draw a quadrilateral that has two sides that are 2 inches long.
2. Explain how you know your shape is a quadrilateral.

Student Responses

1. Answers vary.
2. My shape is a quadrilateral because it has 4 sides and 4 corners.

Begin Lesson

Warm-up

🕒 10 min

Which One Doesn't Belong: Different Shapes

Standards Alignments

Addressing 2.G.A.1

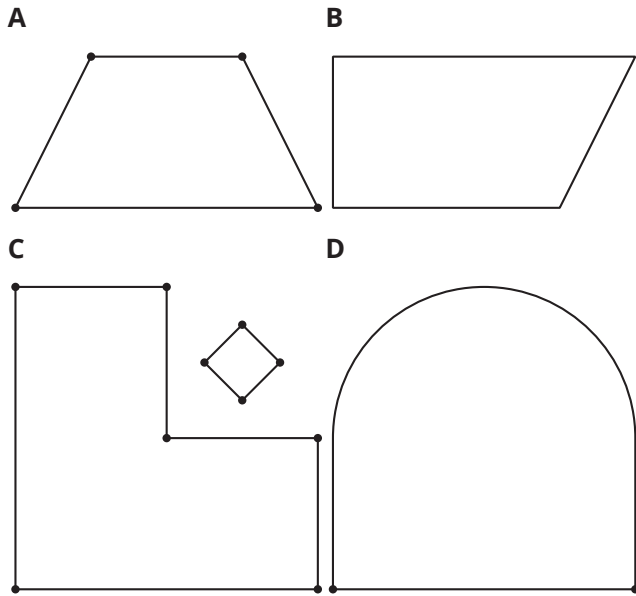
This warm-up prompts students to compare four images of shapes. It gives students a reason to use language precisely (MP6). It gives the teacher an opportunity to hear how students use terminology and talk about attributes of the shapes in comparison to one another. During the synthesis, ask students to explain the meaning of any terminology they used, and if it does not come up, remind them of the term “square corners.”

Instructional Routines

Which One Doesn't Belong?

Student-facing Task Statement

Which one doesn't belong?



Student Responses

Sample responses:

- A doesn't belong because it's the only one that doesn't have square corners.
- B doesn't belong because it's the only one that does not have dots (or points) on each corner.
- C doesn't belong because it's the only one that doesn't have only one shape.
- D doesn't belong because it's the only one that doesn't have all straight line segments.

Launch

- Groups of 2
- Display the image.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- 2-3 minutes: partner discussion
- Share and record responses.

Synthesis

- "What makes Shape A different from the others?" (It doesn't have square corners.)
- "How can you tell it does not have square corners?" (A square wouldn't fit in any of the corners in Shape A.)

Activity 1

🕒 15 min

Measure Twice, Draw Once

Standards Alignments

Addressing 2.G.A.1, 2.MD.A.1

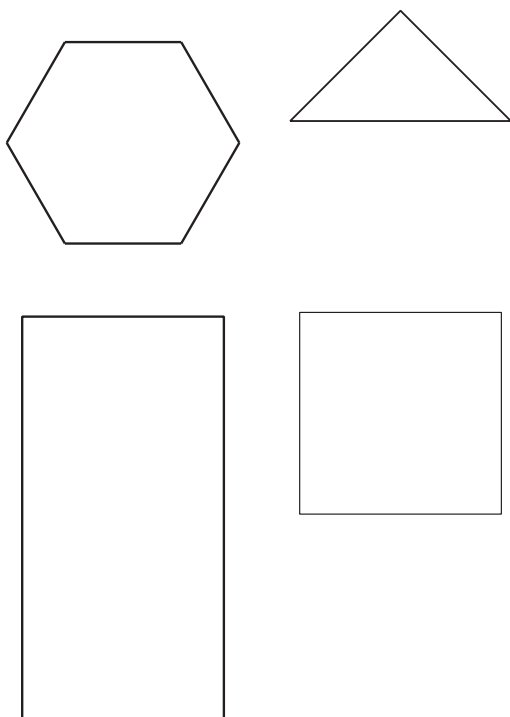
The purpose of this activity is for students to identify and draw shapes that have specific side lengths. Students practice measuring in inches and centimeters. Students recognize that triangles, quadrilaterals, pentagons, and hexagons may look different when only some sides are the same length.

Materials to Gather

Rulers

Student-facing Task Statement

1. Diego drew a shape that has fewer than 5 sides. Two sides are 3 centimeters long. Circle shapes that could be Diego's shape.



2. Tyler drew a shape that has 4 sides. Each side is 2 inches long.

Launch

- Groups of 2
- Give each student a ruler.

Activity

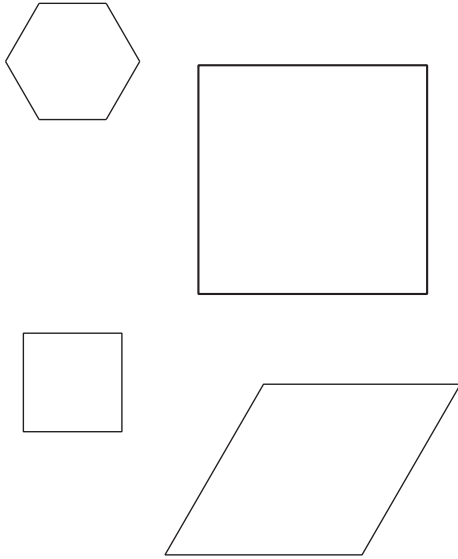
- "We are going to think more about shapes by measuring their sides. Use your ruler to identify and draw the shapes."
- 7 minutes: independent work time
- "Compare the shapes you drew with your partner's shapes."
- 5 minutes: partner discussion
- Monitor for a variety of examples of Priya's shape to share in the synthesis.

Synthesis

- Select 2–3 previously identified students to share, or draw some examples, such as:



- a. Circle shapes that could be Tyler's shape.



- b. Draw another shape that could be Tyler's shape.

3. Priya drew a shape that has more sides than Tyler's shape. Only one side of her shape is 2 inches long. Draw two shapes that could be Priya's shape.

Student Responses

1. Students circle the triangle and the 3 cm x 6 cm rectangle.
2.
 - a. Students circle the rhombus with 2 inch sides.
 - b. Students draw a square with 2 inch sides.
3. Sample response:



- Consider asking, "What is the same about these shapes? What is different?"
- "Why were we able to draw so many different shapes even though you had to use a certain length?" (Only one side had to be 2 inches. We could draw shapes with different numbers of sides.)

Advancing Student Thinking

If students' measurements are not the length of the given sides when measuring or drawing shapes, consider asking:

- “Can you show me how you measured the sides of this shape?”
- “How can you use the ruler to make sure the side is 2 inches long?”

Activity 2

🕒 20 min

Build a Shape

Standards Alignments

Addressing 2.G.A.1, 2.MD.A.1

The purpose of this activity is for students to recognize and draw shapes that have a specific number of sides and corners, and specific side lengths. Students deepen their understanding that shapes in the same category can share many attributes and look different. Students also notice that some attributes can't go together to form a shape (for example, a shape can't have 3 sides and 4 corners, or 3 sides and all square corners).

Students may persevere in problem solving if they look for or choose particular attributes that do not go together (MP1). In some cases, such as a shape with 3 sides and 4 corners, they may be able to see right away that no such shape exists. But in other cases, such as a shape with 3 sides and 2 square corners or 6 sides and all square corners, they will need to experiment and reason in order to predict that no such shape exists.

🌐 Access for English Learners

MLR8 Discussion Supports. Invite students to begin partner interactions by repeating the question, “Which attributes match the shape I drew?” This gives both students an opportunity to produce language.

Advances: Conversing

♿ Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to verbalize their strategy for the shape they will build before they begin. Students can share with their partner.

Supports accessibility for: Organization, Conceptual Processing, Language

Materials to Gather

Rulers

Student-facing Task Statement

1. Choose your own attributes. Circle an attribute from each row.

sides	3	4	5	6
corners	3	4	5	6
side length	1 side is 2 in.	2 sides are 2 in.	2 sides are 3 in.	4 sides are 2 in.
square corners	0	1	2	all square corners

Draw and name a shape with the attributes you chose. If you cannot draw the shape, explain why.

Shape:

Name: _____

2. Choose your own attributes. Circle an attribute from each row.

sides	3	4	5	6
corners	3	4	5	6
side length	1 side is 2 in.	2 sides are 2 in.	2 sides are 3 in.	4 sides are 2 in.
square corners	0	1	2	all square corners

Draw and name a shape with the attributes you chose. If you cannot draw the shape, explain why.

Shape:

Name: _____

3. Choose your own attributes. Circle an attribute from each row.

Launch

- Groups of 2
- Give students access to rulers.
- Display the attribute table.
- “We have been learning about attributes of shapes. This table shows some of the attributes of shapes we have been thinking about, such as number of sides, numbers or types of corners, and specific lengths of sides.”
- Draw or display a rectangle with two sides that are 3 inches long.
- “What attributes do you think were picked from this table to draw this shape?” (4 sides, 4 corners, all corners are square corners, 2 sides are the same length. It’s either 2 sides are 2 inches or 2 sides are 3 inches long.)
- Circle the attributes that students identify on the attribute table.

Activity

- “Now you will get a chance to pick your own attributes, draw your own shapes, and guess which attributes your partner picked.”
- “If you have time, work with your partner to answer the last problem.”
- 5 minutes: independent work time
- 5 minutes: partner work time
- Monitor for:
 - a variety of triangles, quadrilaterals, pentagons, and hexagons
 - students who attempt to combine attributes that do not result in a

sides	3	4	5	6
corners	3	4	5	6
side length	1 side is 2 in.	2 sides are 2 in.	2 sides are 3 in.	4 sides are 2 in.
square corners	0	1	2	all square corners

Draw and name a shape with the attributes you chose. If you cannot draw the shape, explain why.

Shape:

Name: _____

- Cover your attribute table and trade papers with your partner. Guess which attributes they used to draw their shape.
- If you have time:** Are there any attributes that are impossible to put together to make a shape? Show or explain.

Student Responses

- Sample response:
 - Chooses 4 sides, 4 corners, 2 sides are 2 inches, and all square corners.



-
- Quadrilateral or rectangle

- Sample response:
 - Chooses 5 sides, 5 corners, 1 side is 2 inches, and 2 square corners.

○



shape

Synthesis

- Invite previously selected students to share the shapes they drew.
- For each, ask, "What attributes do you think they used to make this shape?"
- 30 seconds: quiet think time
- Share responses.
- Display student work that shows attributes that do not make a shape, or share attributes and display an image like the following:
 - 4 sides, 3 corners, 2 sides are 2 inches, 1 square corner
 -

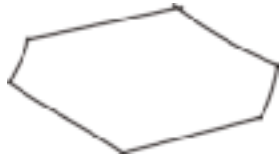


- "Why do you think ____ couldn't finish this shape?"

- pentagon

3. Sample response:

- Chooses 6 sides, 6 corners, 2 sides are 2 inches, and 0 square corners.
-



- hexagon

4. Sample response: I see your shape has 4 sides and 4 corners. All the corners look like square corners. I measured, and 2 sides are 2 inches long.
5. Sample response: You cannot pick sides and corners to be different if you want to make a triangle, quadrilateral, pentagon, or hexagon.

Lesson Synthesis

🕒 10 min

“Today, we used length measurements to identify and draw shapes.”

Display:

4 sides

4 square corners

Each side is 3 inches long.

“Clare drew a shape that has these attributes. Which shape did Clare draw? Describe to your partner what the shape would look like.” (Clare drew a quadrilateral. It should look like a square.)

Display:

6 sides

5 corners

“Diego wanted to draw a shape with these attributes. Is it possible? Explain.” (No. The shape would not be able to close without having the same number of sides and corners. The shape would need to have the same number of sides and corners.)

Suggested Centers

- Can You Draw It? (1–5), Stage 1: Grade 1 Shapes (Supporting)
- Which One? (K–5), Stage 2: Grade 1 Shapes (Supporting)

Complete Cool-Down

Response to Student Thinking

Students draw sides that are much shorter or longer than 2 in or draw 2 sides that are 2 cm long rather than 2 in long.

The work in this lesson builds on the measurement work of a prior unit.

Next Day Support

- Before the warm-up, pass back the cool down and work in small groups to make corrections.

Prior Unit Support

Grade 2, Unit 3, Section B: Customary Measurement

Lesson 4: Solid Shapes

Standards Alignments

Addressing 2.G.A.1

Teacher-facing Learning Goals

- Describe and identify three-dimensional shapes using visible attributes.

Student-facing Learning Goals

- Let's identify and describe solid shapes.

Lesson Purpose

The purpose of this lesson is for students to recognize and describe three-dimensional (solid) shapes based on their geometric attributes (faces).

In previous lessons, students identified, described, and drew two-dimensional (flat) shapes based on the number of sides and corners. In previous grades, students identified and described the attributes of three-dimensional (solid) shapes.

In this lesson, students identify and describe solid shapes based on their attributes. As students work, they may notice that some solid shapes have faces in common with others, and that some solid shapes can be identified by the number and shape of their faces. For example, students may learn that a cylinder can be identified by its two circular faces, and that cubes have 6 equal-sized square faces (MP7).

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 2)

Instructional Routines

Card Sort (Activity 2), MLR7 Compare and Connect (Activity 1), Notice and Wonder (Warm-up)

Materials to Gather

- Geoblocks: Activity 1
- Scissors: Activity 2

Materials to Copy

- Cube Pattern (groups of 2): Activity 2
- Shape Design Card Sort (groups of 2): Activity 2

- Tape: Activity 2
- Tools for creating a visual display: Activity 1

Required Preparation

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

As students worked in their small groups today, whose ideas were heard, valued, and accepted? How can you adjust the group structure in future lessons to ensure each student's ideas are part of the collective learning?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

What Shape is This?

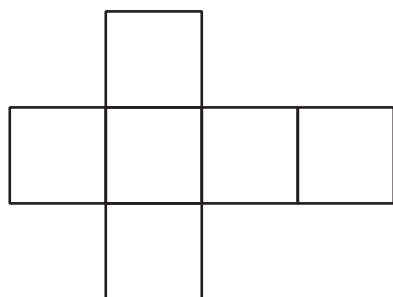
Standards Alignments

Addressing 2.G.A.1

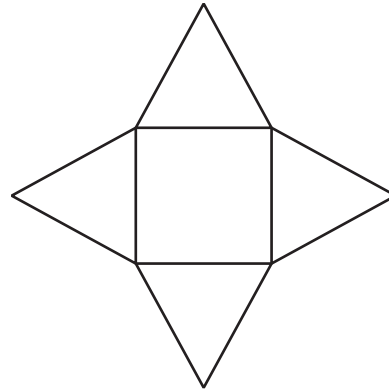
Student-facing Task Statement

1. Circle **all** the images that are composed of 6 shapes of equal size.

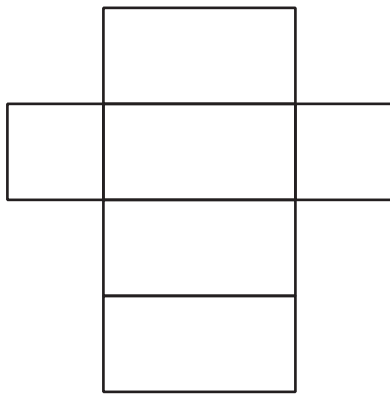
A



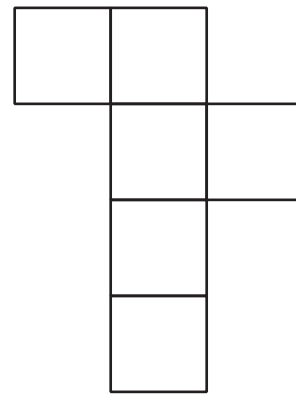
B



C



D



2. What is the name for a solid shape with 6 square faces?

Student Responses

1. A and D
2. cube

----- Begin Lesson -----

Warm-up

🕒 10 min

Notice and Wonder: What is That Shape?

Standards Alignments

Addressing 2.G.A.1

The purpose of this warm-up is to elicit the language students use to describe and identify shapes, which will be useful when students describe shapes and find shapes with given attributes in the lesson activities. While students may notice and wonder many things about these images, formal and informal descriptions of squares and cubes are the important discussion points.

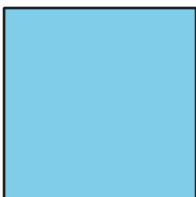
Instructional Routines

Notice and Wonder

Student-facing Task Statement

What do you notice? What do you wonder?

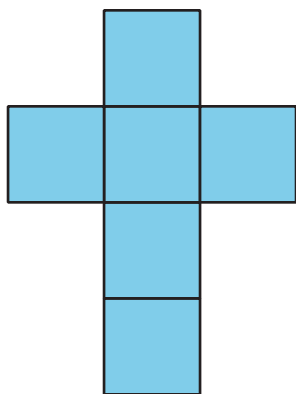
A



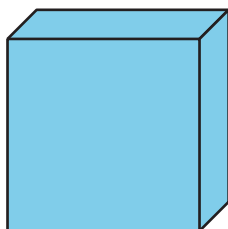
B



C



D



Student Responses

Students may notice:

- There are a lot of squares.

Launch

- Groups of 2
- Display the image.
- “What do you notice? What do you wonder?”
- 1 minute: quiet think time

Activity

- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Share and record responses.

Synthesis

- “How are these images alike? How are they different?” (All show squares in some way. They are different because they show different numbers of squares. Some are cubes and real cubes are solid.)
- If it does not come up, ask, “Which images show a cube? Explain.” (B because it looks like a box. The big cube has little cubes and it is made of all squares. D is like a drawing of a cube.)

- The cubes are made of squares.
- The T-shape is made of 6 squares.

Students may wonder:

- How many little cubes are in the big cube?
- Do all of these show squares?
- Are all of these cubes?
- Why does B have more colors than the others?

Activity 1

🕒 15 min

What is the Missing Shape?

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to describe the attributes of three-dimensional shapes and identify these shapes based on their attributes. The activity encourages students to build on their understanding of two-dimensional shapes to describe three-dimensional shapes. When students describe the attributes of solid shapes clearly to others, they use language precisely including making connections to the attributes of two-dimensional shapes (MP6).

In previous grades, students identified and named spheres, cylinders, cones, and cubes. Students may be able to recognize rectangular prisms and pyramids as solid shapes, but students are not expected to use these terms.

This activity uses *MLR7 Compare and Connect*. Advances: representing, conversing

Instructional Routines

MLR7 Compare and Connect

Materials to Gather

Geoblocks, Tools for creating a visual display

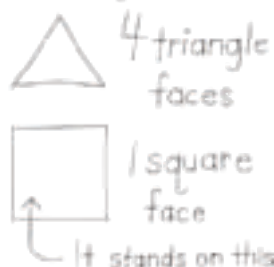
Required Preparation

- Each group of 4 needs a collection of solid shapes (sphere, cone, cylinder, cube, rectangular prism, square pyramid).
- Create two sample posters to display in the launch. One poster with a drawing of a triangle that can be used as a less precise example for student work during the activity. The second poster should include details that identify the number and shape of the solid shape's faces.

Missing Shape



Missing Shape



Student-facing Task Statement

Make a poster to describe your solid shape. Use words, numbers, and drawings to help other groups name your shape.

Student Responses

Sample responses:

- cone:
 - one face is a circle
 - one corner
 - looks like a party hat
- sphere:
 - no faces
 - looks like a baseball
- cylinder:
 - two faces that are circles
 - rolls
 - looks like a can or a tube
- rectangular prism:
 - 6 faces that are quadrilaterals

Launch

- Groups of 4
- Give each group a collection of solid shapes (sphere, cone, cylinder, cube, rectangular prism, square pyramid) and a piece of chart paper and markers.
- “Kiran is missing one of the solid shapes from his collection. He drew two posters to help find the shape.”
- Display the previously prepared poster or image:

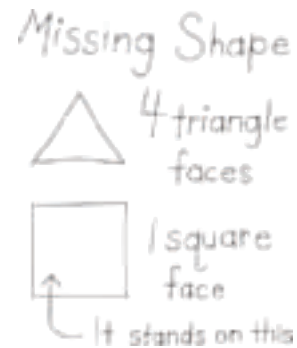
Missing Shape



- “Which solid shape could be Kiran’s shape?” (It’s hard to tell. It could be a cone or pyramid.)

- 4 faces are other rectangles
- looks like a box

- Display the previously prepared example poster or image:



- “Which solid shape could be Kiran’s shape?” (Students hold up or name the pyramid.)
- As needed, ask, “How would you describe the faces of a solid shape?” (It’s a flat part of the solid shape. It looks like a flat shape. The edges make up the sides of the shape.)
- “Which poster is more helpful? Explain.” (The poster that describes all the faces. The other poster could be lots of solid shapes.)

Activity

- “I’m going to assign each group a solid shape. Make a poster for your shape. You can use words, numbers, and pictures. Other groups should be able to figure out which shape you had by looking at your poster.”
- Assign each group either a cylinder, sphere, cone, or rectangular prism.
- 5 minutes: small-group work time
- Consider asking:
 - “What attributes will be most important to list?”
 - “What could you draw to illustrate your shape?”
 - “What is the name of your solid shape?”
- As groups finish, display the posters around the room.

Synthesis

MLR7 Compare and Connect

- “As you look at other groups’ posters, think about the details that help you imagine or name the shape.”
- 5 minutes: gallery walk
- “What is the same and what is different about the ways groups described their solid shape?” (Many groups gave details about the faces of the shapes, and some groups described objects that look like their shape.)

Advancing Student Thinking

If students use language that could be more mathematically precise, consider asking:

- “What flat shapes could you use to describe this shape to someone?”
- “What are some objects at school or at home that are this shape?”

Activity 2

🕒 20 min

Sort and Build Solid Shapes

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to recognize and describe the attributes of two-dimensional and three-dimensional shapes. Students are given cards containing figures composed of two-dimensional shapes. They sort these shape designs in the way that makes sense to them, which may include reasoning about how the shape designs relate to three-dimensional shapes.

After sorting, students come together to discuss how they sorted their shape designs before they

cut and fold two shape designs into cubes. Listen for the way students describe shape designs that are composed of equal-size shapes and solid shapes that have equal-size faces. They will continue to describe equal-size shapes in the next section.

Access for Students with Disabilities

Representation: Internalize Comprehension. Provide students with a sorting mat and one possible category to get started with. Allow students to create at least one other category.

Supports accessibility for: Organization

Instructional Routines

Card Sort

Materials to Gather

Scissors, Tape

Materials to Copy

Cube Pattern (groups of 2), Shape Design Card Sort (groups of 2)

Required Preparation

- Create a set of cards from the Instructional master for each group of 2.

Student-facing Task Statement

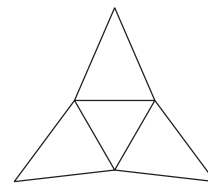
1. Sort your shape design cards into groups. Be prepared to describe how you sort the cards.
2. Match one of your cards to a solid shape. Explain your match.
3. Which shape designs could be folded to make cubes? Explain.
4. Your teacher will give you 2 shape designs. Fold the shape designs to make cubes. Compare your cube with your partner's cube.

Student Responses

1. Sample responses:
 - Same shapes (B, C, D, E, F, H) and different shapes (A, G)

Launch

- Groups of 2
- Give each group of 2 students a set of shape design cards and access to solid shapes.
- “We are going to describe and sort cards that show a design made up of different shapes.”
- Display Card D:



- “What do you notice? What do you wonder?” (I see 4 triangles. 3 triangles are the same. 1 triangle has shorter sides.)

- Equal shapes (B, E, H) and unequal shapes (A, C, D, F, G)
 - 6 shapes (B, C, E, F), 4 shapes (D, H), 3 shapes (A), 2 shapes (G)
 - Has quadrilaterals/4-sided shapes (A, B, C, E, F) and no quadrilaterals/4-sided shapes (D, G, H)
2. Sample response:
- Card G matches a cone. I think it matches because the circle would match the circle face. The other part would match the round part of the cone.
3. Shape B and Shape E. Sample response: The card shows 6 squares. All the squares are the same size.
4. Sample response: Both of our cubes have 6 sides and all the faces are squares. Our cubes are the same even though the designs we cut out were different.

What is the name of this shape? Would this shape make a solid shape?)

- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.

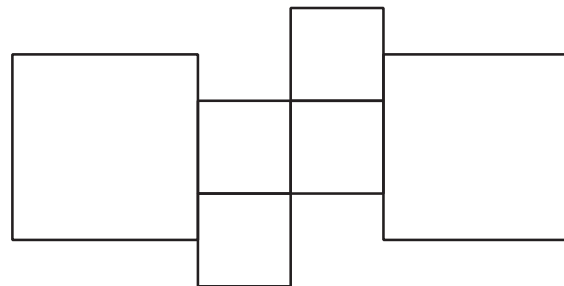
Activity

- “You are going to look at more shape designs and sort them in a way that makes sense to you.”
- 5 minutes: partner work time
- Consider asking:
 - “What shapes make up this design?”
 - “Which of the solid shapes have faces that match these shapes?”
 - “Why did you group these shape designs together?”
 - “What do the shape designs in your groups have in common?”
- Monitor for groups who sorted by:
 - category (all triangles, all quadrilaterals)
 - total number of shapes
 - presence or absence of one shape (has squares vs. no squares)
- Invite 2–3 groups to share the way they sorted their shapes.
- “Which shapes are made up of equal-size shapes? Explain how you know.” (B, E, and H. All the squares are the same size in B and E. All the triangles are the same size in H.)
- “Work with your partner to answer the questions. Give me a signal when you have discussed each question and are ready to make a cube.”
- 10 minutes: partner work time
- When students are ready, give the cube pattern handout, scissors, and tape to each

group of 2 students. Each student gets 1 page.

Synthesis

- “When you and your partner were folding, you started with different designs, but both made cubes.”
- Draw or display a design with different size squares, such as:



- “Some of you noticed that a cube has 6 square faces. Would this shape fold to make a cube?” (No. It has 6 squares, but some aren’t the same size.)

Lesson Synthesis

🕒 10 min

“In earlier lessons, we identified and drew shapes based on their sides and corners. Today we described solid shapes based on their faces. We also used the shapes we know to help us describe solid shapes.”

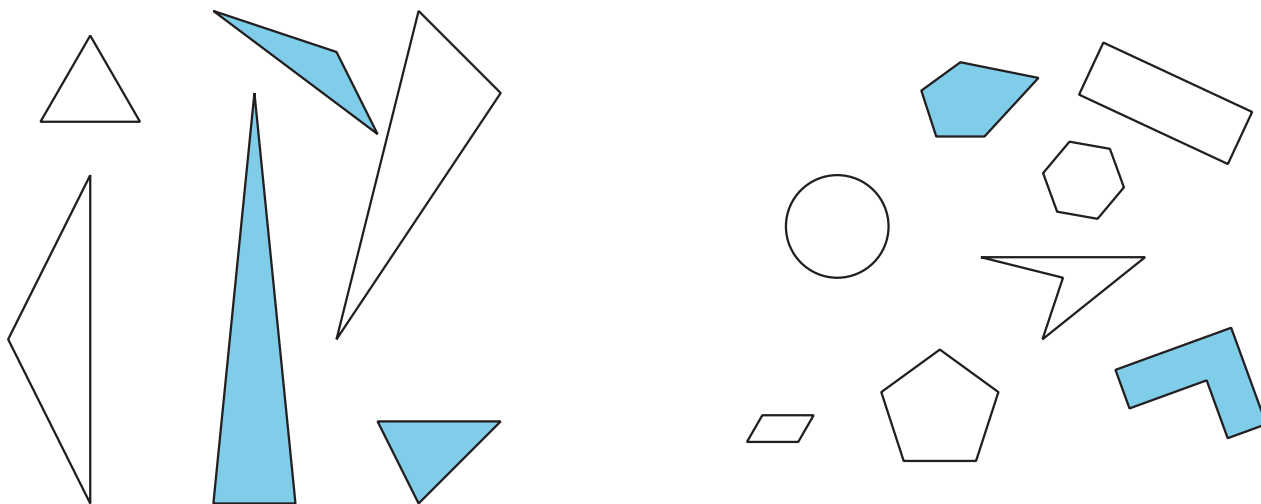
“In the first activity, you made posters that helped identify solid shapes. What would you put on a poster to identify a cube? What would you draw? What words would you use?” (I would draw 6 squares like we cut out. I would say it has 6 square faces. The faces are all the same size. It looks like number cubes.)

Suggested Centers

- Can You Draw It? (1–5), Stage 1: Grade 1 Shapes (Supporting)
- Which One? (K–5), Stage 2: Grade 1 Shapes (Supporting)

Student Section Summary

In this section, we named and drew shapes based on the number of sides and corners. We also drew shapes with different side lengths. We described solid shapes based on the number of faces and their shapes.



Complete Cool-Down

Response to Student Thinking

Students circle A or D, but not both.

Next Day Support

- Before the warm-up, have students practice making cubes using the designs from this lesson.

Lesson 5: Center Day 1 (Optional)

Standards Alignments

Addressing 2.G.A.1, 2.NBT.A.3, 2.NBT.B.5

Teacher-facing Learning Goals

- Describe shapes using defining attributes.
- Draw and name shapes based on defining attributes.

Student-facing Learning Goals

- Let's work with shapes.

Lesson Purpose

The purpose of this lesson is for students to practice describing, naming, and drawing triangles, quadrilaterals, and hexagons based on their defining attributes.

This lesson is optional because it is an opportunity for extra practice that not all classes may need. In Activity 1, students learn stage 3 of the Which One center, which was first introduced in Kindergarten. In this new stage, called Grade 2 Shapes, students work with triangles, quadrilaterals and hexagons as they ask their partner yes or no questions to figure out what shape they chose. In Activity 2, students learn stage 2 of the Can You Draw It? center, which was first introduced in Grade 1. In this new stage, also called Grade 2 Shapes, students continue to work with triangles, quadrilaterals and hexagons as they describe and draw two-dimensional shapes.

Instructional Routines

Number Talk (Warm-up)

Materials to Gather

- Materials from a previous activity: Activity 2
- Materials from a previous lesson: Activity 1

Materials to Copy

- Centimeter Dot Paper - Standard (groups of 1): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	20 min
Lesson Synthesis	10 min

Teacher Reflection Question

As students worked together today, where did you see evidence of the mathematical community established over the course of the school year?

----- Begin Lesson -----

Warm-up

🕒 10 min

Number Talk: Add 5

Standards Alignments

Addressing 2.NBT.A.3, 2.NBT.B.5

This Number Talk encourages students to think about place value and use the properties of operations to mentally find the value of sums. The strategies elicited here help students develop fluency with adding and understanding numbers within 1,000.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $5 + 30 + 5$
- $50 + 30 + 5$
- $50 + 5 + 30 + 5$
- $500 + 30 + 5$

Student Responses

- 40: I know $5 + 5 = 10$ and $10 + 30 = 40$.
- 85: I added 5 tens and 3 tens to get 8 tens. Then I added 5 ones. 8 tens and 5 ones is 85.
- 90: I added 50 and 30 first to get 80. Then I know $5 + 5 = 10$ and $80 + 10 = 90$.
- 535: It is the expanded form of 535.

Launch

- Display one expression.
- “Give me a signal when you have an answer and can explain how you got it.”
- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- Consider asking:
 - “Did anyone approach the problem in a different way?”
 - “Who can restate ____’s reasoning in a different way?”

- “What were some of the different values of 5 in the sums you found?” (5, 50, 500)

Activity 1

🕒 20 min

Introduce Which One?

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to learn stage 3 of the Which One center. Students lay out the shape cards face up in rows. One partner chooses a shape. The other partner asks yes or no questions to figure out what shape they chose. Students work with triangles, quadrilaterals, and hexagons.

Materials to Gather

Materials from a previous lesson

Required Preparation

- Each group of 2 needs a set of shape cards used in a previous lesson.

Launch

- Groups of 2
- Give each group a set of shape cards.
- “We are going to learn a new way to play the Which One center.”
- “Let’s play one round together. You can all be my partner. We’ll use the shape cards we used in an earlier lesson.”
- Lay the shape cards out in rows. Mentally choose a shape.
- “I’m going to choose a shape. I am not going to show or tell you which shape I choose. Then you will ask me yes or no questions to try to guess which shape I chose.”

- “Work with your partner to come up with a yes or no question you want to ask me.”
- 1 minute: partner discussion
- Invite a group to ask their question and answer it. Repeat until students think they know which shape you chose.
- Invite students to guess which shape you chose and how they know.
- “Now you will play with a partner.”

Activity

- 12 minutes: partner work time
- Monitor for different types of questions students ask.

Synthesis

- “Which types of questions were most useful to ask when you were trying to guess which shape your partner chose?”

Activity 2

🕒 20 min

Introduce Can You Draw It?

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to learn stage 2 of the Can You Draw It? center. Students describe and draw two-dimensional shapes. One partner chooses a shape card and describes it. The other partner draws the shape based on the description. If the student draws the shape correctly, they get to keep the card. Students work with triangles, quadrilaterals, and hexagons.

Materials to Gather

Materials from a previous activity

Materials to Copy

Centimeter Dot Paper - Standard (groups of 1)

Required Preparation

- Each group of 2 needs a set of cards from the previous activity.

Launch

- Groups of 2
- Give each group a set of shape cards and each student a piece of dot paper.
- “We are going to learn a new way to play the Can You Draw It? center.”
- “Let’s play one round together. You can all be my partner. We’ll use the shape cards we used in an earlier lesson.”
- Choose a card.
- “I’m going to describe the shape on my card. Then you will draw the shape.”
- Describe the shape on the card you chose and give students time to draw the shape.
- “Now let’s check to see if you drew the shape on my card.”
- Share responses.
- “Now you will play with a partner. If you do not draw the same shape that is on the card, discuss how the shapes are different, and whether or not both shapes match the description. If you draw the shape on the card, you get to keep the card.”

Activity

- 12 minutes: partner work time
- Monitor for shapes that are more complicated for students to describe.

Synthesis

- Display one of the shapes that was more challenging for students to describe.
- “How could we describe this shape?”

Lesson Synthesis

🕒 10 min

“Today we learned a new center, Can You Draw It?, in which we described and drew each shape. Tell your partner one thing you have to know about a shape in order to draw it correctly.”

Share and record responses.

“What did you like about the activities you worked on today?”

Section B: Halves, Thirds, and Fourths

Lesson 6: Compose and Decompose Shapes

Standards Alignments

Building On	1.G.A.2
Addressing	2.G.A.1
Building Towards	2.G.A.3

Teacher-facing Learning Goals

- Compose new shapes from equal-size smaller shapes, and identify the shapes.

Student-facing Learning Goals

- Let's make shapes with equal-size smaller shapes.

Lesson Purpose

The purpose of this lesson is for students to compose shapes and to recognize shapes that are made up of equal-size shapes.

In previous grades, students learned that shapes can be made up of other shapes. In previous lessons, students identified shapes based on the number of sides and corners and drew shapes having specific attributes.

In this lesson, students continue to practice identifying shapes based on their attributes using the vocabulary from previous lessons. They also extend their understanding of the attributes of shapes by considering how a shape may be composed of other shapes. In particular, this lesson focuses on composing a shape from the same equal-size shape. This lesson prepares students for partitioning shapes into equal-size pieces and naming equal-size pieces in upcoming lessons.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR8 (Activity 1)

Instructional Routines

Notice and Wonder (Warm-up)

Materials to Gather

- Pattern blocks: Activity 1, Activity 2

Materials to Copy

- Compose a Butterfly (groups of 2): Activity 1
- Centimeter Dot Paper - Standard (groups of 1): Activity 2
- Isometric Dot Paper - Standard (groups of 1): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

In the first section, students spent time describing and drawing shapes with given attributes. How did this work help prepare them for composing and decomposing shapes in this lesson?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Look for Equal-size Shapes

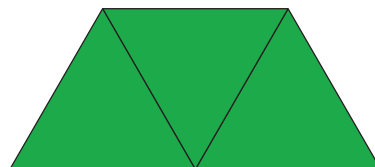
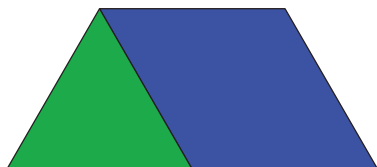
Standards Alignments

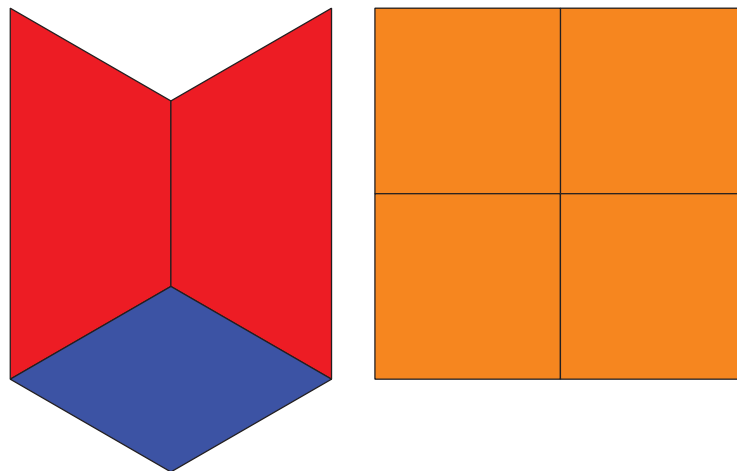
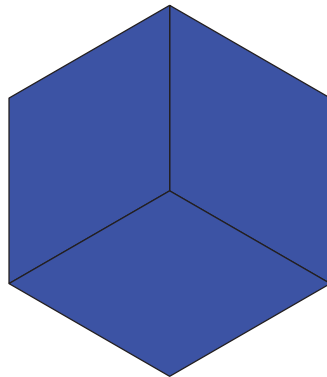
Building On 1.G.A.2

Addressing 2.G.A.1

Student-facing Task Statement

1. Circle the shapes that are composed of only equal-size smaller shapes.





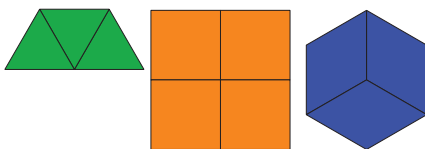
2. Choose 1 shape that you circled and describe the shapes that compose it.

The _____ is made up of

_____.

Student Responses

1.



2. Sample response: The hexagon is composed of 3 quadrilaterals or rhombuses.

 ----- Begin Lesson -----

Warm-up

 10 min

Notice and Wonder: A Picture of Shapes

Standards Alignments

Building On 1.G.A.2
Addressing 2.G.A.1

The purpose of this warm-up is to elicit the idea that shapes can be used to compose other shapes, which will be useful when students compose shapes from equal-size shapes in a later activity. While students may notice and wonder many things about this image, identifying the shapes within the picture and noticing how they work together to compose something larger are the important discussion points.

Consider recording the shapes students name as they describe the image on chart paper for students to reference during the lesson. In addition to the vocabulary students used in the previous section (triangle, quadrilateral, hexagon), it may be helpful to review trapezoid and rhombus or add these terms to the chart. It is not necessary to provide a mathematical definition for these terms.

Instructional Routines

Notice and Wonder

Student-facing Task Statement

What do you notice? What do you wonder?

Launch

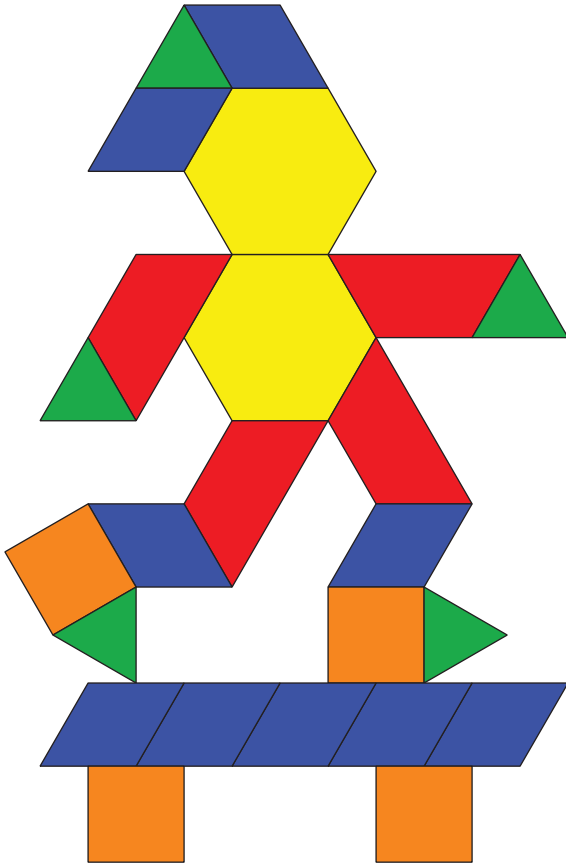
- Groups of 2
- Display the image.
- “What do you notice? What do you wonder?”
- 1 minute: quiet think time

Activity

- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Share and record responses.

Synthesis

- Review the shape names that were recorded.



- “What other shapes do you see in this picture? What other names do you know for these pattern blocks?”
- “Some of you said this looks like a person riding a skateboard.”
- Consider asking:
 - “What shapes make up the head and body of the person?”
 - “What shapes make up the person's arms?”
 - “What shapes make up the skateboard?”

Student Responses

Students may notice:

- There are a lot of shapes.
- There are 3 different kinds of quadrilaterals.
- There are 2 hexagons.
- It looks like a person riding a skateboard.

Students may wonder:

- Is it supposed to be a person?
- How many shapes are in the picture?
- How could I use shapes to make this image in a different way?

Activity 1

🕒 15 min

Many Ways to Compose Shapes

Standards Alignments

Building On	1.G.A.2
Addressing	2.G.A.1
Building Towards	2.G.A.3

The purpose of this activity is for students to compose the same shape in different ways. Students create a butterfly by composing hexagons using different pattern blocks. By composing hexagons with different combinations of shapes, students have the opportunity to see the shape composed of equal-size shapes and combinations of different shapes. Students are encouraged to explain how they composed their hexagons using the geometric language they've learned in previous lessons (MP6). For example, "I used 1 trapezoid and 3 triangles to make a hexagon." Throughout the activity, listen for the ways students notice describe how they can compose a shape from or decompose shape into smaller shapes (MP6).

In the lesson synthesis, students may share many different ways to compose the hexagon, but the focus shifts to hexagons that are composed of equal-size pieces.

Access for English Learners

MLR8 Discussion Supports. Before students begin composing hexagons, remind students to use the name of each shape rather than the color of the pattern block. Invite students to chorally repeat the shape of each block.

Advances: Speaking

Access for Students with Disabilities

Representation: Develop Language and Symbols. Provide students with access to the definitions of the shapes they will be using, so they can have conversations using the correct vocabulary terms.
Supports accessibility for: Language, Memory

Materials to Gather

Pattern blocks

Materials to Copy

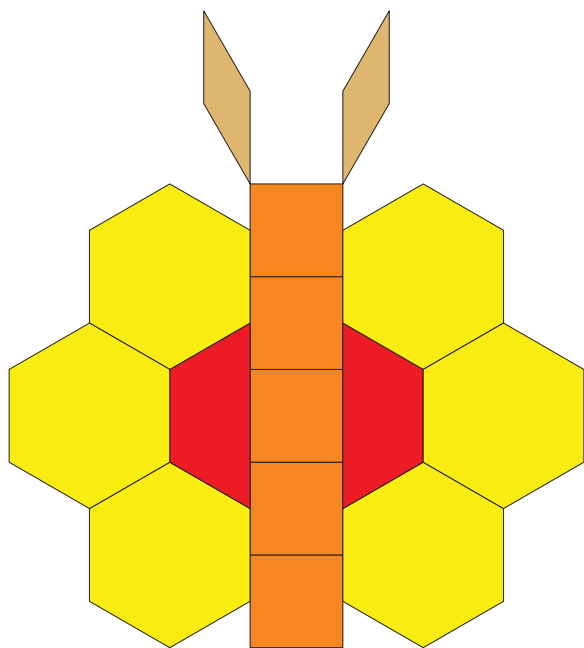
Compose a Butterfly (groups of 2)

Student-facing Task Statement

Mai used pattern blocks to make this design. Work with a partner to make the same design without using any yellow hexagons.

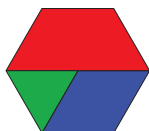
Launch

- Groups of 2
- Give students pattern blocks and a copy of the Instructional master.
- Display the pattern block butterfly image.



Student Responses

Sample response:



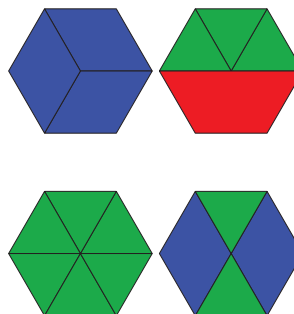
I used 1 triangle, 1 quadrilateral, and 1 trapezoid to compose a hexagon.

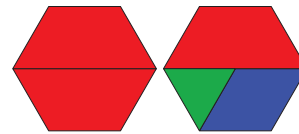
Activity

- “Mai used pattern blocks to make this design. Work with a partner to make the same design without using any yellow hexagons.”
- “Try to use as many different shape combinations as you can to make each hexagon.”
- “For each hexagon, draw the lines inside the shape to show how you composed it.”
- “Pick one of your hexagons. Use words and numbers to explain how you composed it.”
- 10 minutes: partner work time
- Monitor for students who:
 - compose a hexagon using equal-size shapes: 2 trapezoids, 6 triangles, or 3 blue rhombuses
 - compose hexagons using different shapes

Synthesis

- Invite previously identified students to display their hexagons. Begin with the examples of hexagons composed of the same shape. Then select students to share other examples of hexagons composed of different shapes.
- If possible, display student hexagons as they share. Keep the hexagons displayed into two groups like the following:





- “You found a lot of different ways to compose a butterfly design without using hexagons. What do you notice about these two groups of hexagons?” (In the first group, they are made using the same shape. 6 triangles, 2 trapezoids, or 3 rhombuses. Each hexagon in the second group is made using more than 1 shape.)

Advancing Student Thinking

If students make a hexagon using the same shapes multiple times, consider asking:

- “How do you know these shapes make a hexagon?”
- “How could you use different blocks to make the same shape?”

Activity 2

🕒 20 min

Compose Shapes with Equal-size Pieces

Standards Alignments

Addressing 2.G.A.1

Building Towards 2.G.A.3

The purpose of this activity is for students to compose shapes with 2, 3, or 4 equal-size shapes. The work of this activity lays the foundation for partitioning shapes into halves, thirds, or fourths.

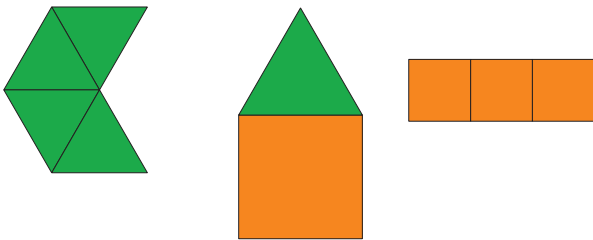
Students make three different shapes using 2, 3, or 4 pattern blocks of the same shape. They record their compositions on either the triangle or square grid paper. The structure of the grids helps students make sure that each of the parts of their shapes are equal.

Materials to Gather

Pattern blocks

Student-facing Task Statement

What is the same? What is different?

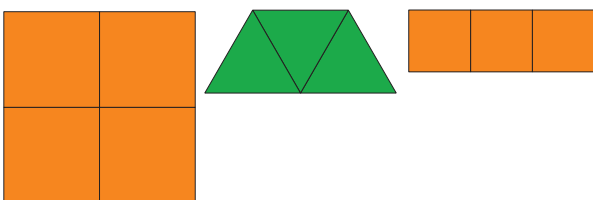


- Compose 3 different shapes using 2, 3, or 4 of the same equal-size shape.
- Show the outline of each block on the grid paper.
- Name each shape and explain how you composed it.

1. I used _____
to compose a _____.
2. I used _____
to compose a _____.
3. I used _____
to compose a _____.

Student Responses

Sample responses:



Materials to Copy

Centimeter Dot Paper - Standard (groups of 1), Isometric Dot Paper - Standard (groups of 1)

Launch

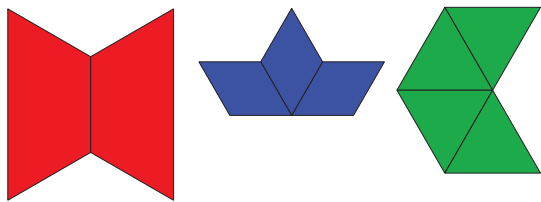
- Give each student pattern blocks.
- Give students access to triangle and square grid paper.
- Display the 3 shape images.
- “What is the same? What is different?”
- 30 seconds: quiet think time
- Share responses.

Activity

- “In this activity, you are going to make shapes that only use the same equal-size shape, like the first and third shapes.”
- “Compose three different shapes using 2, 3, or 4 of the same equal-size shape. Show the outline of each block on the grid paper. Name each shape and explain how you composed it.”
- “You can use the triangle or square grid paper to help you record.”
- As needed, demonstrate drawing the outline and naming the hexagon formed from 6 triangles from the launch on dot or grid paper.
- 8 minutes: independent work time
- Monitor for a student who composes a shape out of 2 blocks and one who composes a shape out of 4 blocks.

Synthesis

- Display selected students’ shapes.
- “Describe how these shapes are composed.” (They used 2 trapezoids to



compose a hexagon. They used 4 small squares to compose a larger square.)

Lesson Synthesis

🕒 10 min

“Today we thought about how shapes could be made using other shapes. We composed shapes from equal-size smaller shapes.”

“Tell your partner 2 different shapes you made today. Describe what shapes you used to compose your shapes.” (I made a larger square out of 4 smaller squares. I made a hexagon with 2 trapezoids. I composed a pentagon with a square and a triangle.)

Share and record responses.

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

----- Complete Cool-Down -----

Response to Student Thinking

Students circle shapes that composed of some, but not all, equal-size shapes or they circle fewer than 3 shapes that are made of equal-size shapes.

The work in this lesson builds from the geometry concepts developed in a prior unit.

Next Day Support

- Launch Activity 1 with a discussion about this cool-down.

Prior Unit Support

Grade 1, Unit 7, Section A: Flat and Solid Shapes

Lesson 7: Make Halves, Thirds, and Fourths

Standards Alignments

Addressing 2.G.A.3

Teacher-facing Learning Goals

- Partition circles and rectangles into halves, thirds, and fourths, and describe the pieces.

Student-facing Learning Goals

- Let's make halves, thirds, and fourths or quarters.

Lesson Purpose

The purpose of this lesson is for students to recognize halves, thirds, and fourths, understanding that these terms describe equal pieces of the same whole.

In grade 1, students learned that when a shape is partitioned into 2 equal pieces, the pieces are called halves. They learned that when a shape is partitioned into 4 equal pieces, each piece is called a fourth or a quarter.

In this lesson, students learn that when a shape is partitioned into 3 equal pieces, the pieces are called **thirds**. They partition shapes into halves, thirds, and fourths. Fourths and quarters should be used interchangeably when discussing 4 equal pieces, so that students are comfortable with both terms.

Access for:

Students with Disabilities

- Engagement (Activity 1)

English Learners

- MLR8 (Activity 2)

Instructional Routines

Which One Doesn't Belong? (Warm-up)

Materials to Gather

- Construction paper: Activity 1
- Rulers: Activity 1, Activity 2
- Scissors: Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

In grade 2, students used halves, fourths, and quarters to describe equal pieces of a shape. How did you see students use this vocabulary in today's lesson? What support can you offer to students to help them use math vocabulary to describe equal pieces of a shape.

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Name Equal Pieces

Standards Alignments

Addressing 2.G.A.3

Student-facing Task Statement

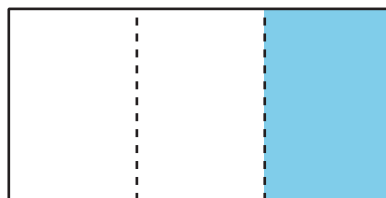
1. Split the rectangle into 3 equal pieces. Shade in 1 piece.



2. Each piece of the rectangle is called a _____.
3. A _____ of the rectangle is shaded.

Student Responses

1. Answers vary. Sample response:



2. Each piece of the rectangle is called a third.
3. A third of the rectangle is shaded.

Begin Lesson

Warm-up

🕒 10 min

Which One Doesn't Belong: Compare Equal Pieces

Standards Alignments

Addressing 2.G.A.3

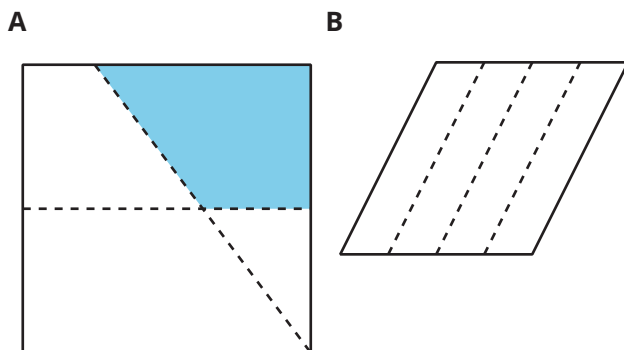
This warm-up prompts students to compare four shapes. It gives students a reason to use language precisely (MP6). It gives the teacher an opportunity to hear how students use terminology and talk about characteristics of the shapes in comparison to one another. During the synthesis, ask students to explain the meaning of any terminology they use, such as the words students use to describe shapes as composed of other shapes, split into multiple pieces, or split into equal pieces.

Instructional Routines

Which One Doesn't Belong?

Student-facing Task Statement

Which one doesn't belong?



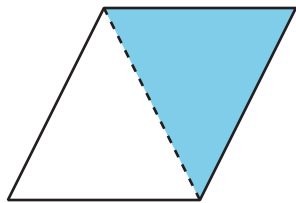
Launch

- Groups of 2
- Display the image.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."
- 1 minute: quiet think time

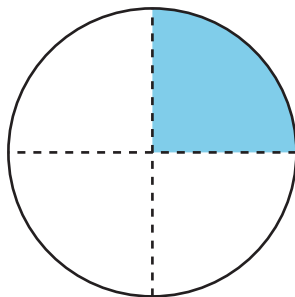
Activity

- 2-3 minutes: partner discussion
- Share and record responses.

C



D



Synthesis

- “Let’s find at least one reason why each one doesn’t belong.”

Student Responses

- A doesn’t belong because it is the only one that does not have equal pieces.
- B doesn’t belong because it is the only one that does not have one part shaded.
- C doesn’t belong because it is the only one that is not split into 4 pieces.
- D doesn’t belong because it is the only one that is not a quadrilateral.

Activity 1

⌚ 20 min

Fold Equal Pieces

Standards Alignments

Addressing 2.G.A.3

The purpose of this activity is for students to partition rectangles into halves, thirds, and fourths. Students fold paper shapes to guide their partitioning. Like the previous lesson with pattern blocks, students may determine that the pieces formed by the creases of their folds are equal by visual inspection. They are also encouraged to cut out the equal pieces to check whether they are close to being equal.

Most students will likely lay the pieces on top of each other to compare them. The expectation is not that they will be exact, but very close. Monitor as students fold the paper, and if students’ partitions are noticeably inaccurate, have them fold a new paper before they cut.

Access for Students with Disabilities

Engagement: Provide Access by Recruiting Interest. Invite students to generate a list of examples of food items they may cut and share with multiple people (ex: sandwich, candy bar, brownie, cake, etc.) that connect to their personal backgrounds and interests. Let the paper rectangles represent one of the items they could share. Discuss that halves are when two people share the item, thirds are for three people sharing, and fourths/quarters are when four people share the item.

Supports accessibility for: Conceptual Processing, Memory, Attention

Materials to Gather

Construction paper, Rulers, Scissors

Required Preparation

- Each student needs 3 identical paper rectangles.
- Students could use 3 sheets of construction paper as their 3 rectangles. To save paper, construction paper could also be pre-cut into equal-size rectangles.

Student-facing Task Statement

1. Fold the rectangle to make 2 equal pieces and cut them out.

Each piece is called a _____.

Compare with your partner. Tell how you know the pieces are equal.

2. Fold the rectangle to make 4 equal pieces and cut them out.

Each piece is called a _____.

Compare with your partner. Tell how you know the pieces are equal.

3. Fold the rectangle to make 3 equal pieces and cut them out.

Each piece is called a _____.

Compare with your partner. Tell how you know the pieces are equal.

Launch

- Groups of 2
- Give each student 3 paper rectangles and access to scissors and rulers.
- “In an earlier lesson, we thought about how shapes could be composed using equal-size smaller shapes.”
- “Today, we are going to decompose shapes into equal pieces and name the pieces.”
- “Each of you has 3 rectangles. First, cut out each rectangle.”
- “Next, fold each rectangle in different ways. You can use a ruler to draw lines first, if it is helpful.”
- “Let’s try the first one together.”
- Read the first problem.
- 4 minutes: group work time
- “You each have 2 pieces. How can you check to see if they are equal?” (If you lay them on top of each other, they are the

Student Responses

1. half
2. fourth
3. third

same size.)

- Make sure students know the pieces may not be exact, but should be close to the same size.
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.
- “When you split something into two equal pieces, what is each equal piece called?” (Each piece is a half.)
- Share responses.

Activity

- “Now try the others on your own.”
- “After making each shape, check to see if your pieces are equal and compare with your partner.”
- Have extra paper on hand if students want to try again when making thirds.
- 10 minutes: partner work time

Synthesis

- Invite students to share examples of the rectangle split into fourths.
- “What is the name of the equal pieces when you cut a rectangle into 4 equal pieces?” (fourths)
- “Do you know another name for each of these pieces?”(quarters)
- Invite students to share examples of their rectangle split into thirds.
- “What do you think each of these pieces may be called?”
- Share and record responses.
- “When a shape is split into three equal pieces, each piece is called **a third.**”
- Fold a rectangle to create a non-example of thirds, in which the pieces are not equal.

- Display the non-example.
- “What went wrong when I tried to partition this rectangle into thirds?” (It was hard to fold thirds because you can’t just fold it in the middle.)
- “When making thirds, I know the pieces are smaller than halves. I can check to see if I am on the right track before I make the crease.”
- Fold a rectangle to create thirds, demonstrating testing before making the hard creases. Display the example.
- “Sometimes it will take a few tries.”

Advancing Student Thinking

If students fold the rectangles into parts other than thirds, encourage them to first draw lines to make equal pieces. Consider asking:

- “How could using a ruler help you plan before you fold?”

Activity 2

🕒 15 min

That’s Not It

👤 ↔ 👤 PLC Activity

Standards Alignments

Addressing 2.G.A.3

The purpose of this activity is to determine whether or not circles are partitioned into halves, thirds, or fourths. Students explain why some circles are not examples of halves, thirds, and fourths and demonstrate their understanding that it’s not just the number of pieces that help determine whether to use halves, thirds, or fourths, but whether they are equal pieces of the same whole (MP3, MP6).

Access for English Learners

MLR8 Discussion Supports. Synthesis: Create a visual display for fractions. After students share their reasoning with the class, annotate the display to illustrate connections. For example, next to halves, write “2 equal pieces” and draw examples of shapes partitioned into 2 equal pieces.

Advances: Speaking, Representing

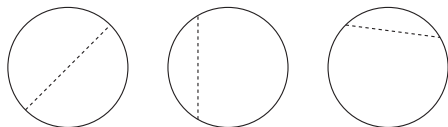
Materials to Gather

Rulers

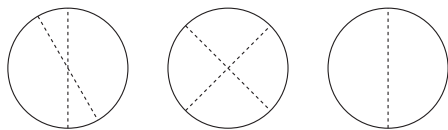
Student-facing Task Statement

1. Noah is looking for examples of circles that have been partitioned into halves, thirds, or fourths.
 - a. Put an X on the **2** circles in each row that are *not* examples.

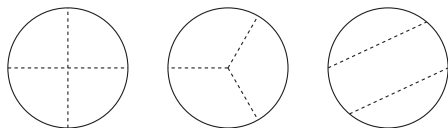
halves



fourths



thirds



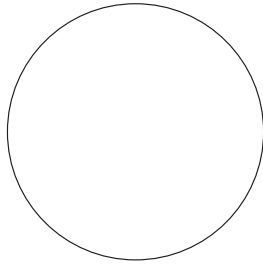
- b. Explain why each of the shapes you marked is not an example of halves, fourths, or thirds.
2. Partition this circle into thirds.

Launch

- Groups of 2
- Give students access to rulers.

Activity

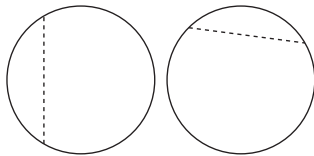
- “In the first activity, we looked at examples and some non-examples of rectangles that were decomposed, or partitioned, into halves, fourths, and thirds.”
- “These circles have been partitioned into smaller pieces.”
- “Some pieces show examples of halves, thirds, and fourths, and some do not.”
- “Mark the circles that have not been partitioned into halves, thirds, or fourths with an X. Be ready to explain your choices to your partner.”
- 3 minutes: independent work time
- 4 minutes: partner work time
- Monitor for students who understand why this circle is not partitioned into thirds.



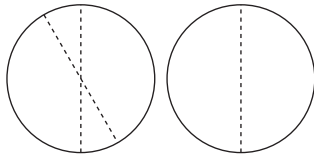
Student Responses

1. a. Students place an X on the following shapes:

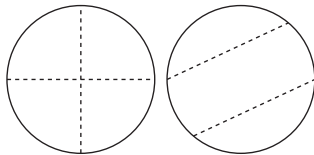
halves



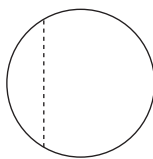
fourths



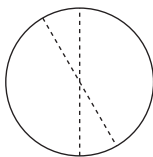
thirds



- b. Sample responses:

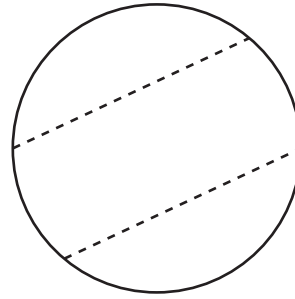


The pieces are not halves because 1 piece is very small and the other is most of the circle.



The pieces are not fourths because they not all the same size. 2 are smaller and 2 are bigger.

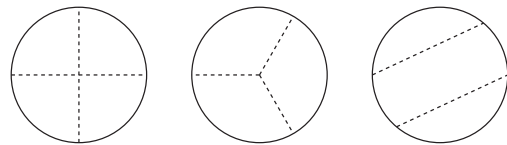
The pieces are not fourths because there



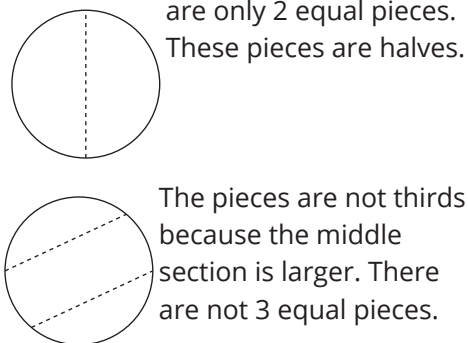
- "Now try on your own to partition the circle into thirds."
- 3 minutes: independent work time

Synthesis

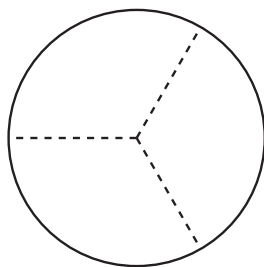
- Display the images of circles from the row labeled thirds.



- "You had to decide which of these circles is partitioned into thirds. Which of these circles did you believe were not showing thirds? Explain."
- Invite previously identified students to explain their reasoning.
- As time permits, invite students to share their responses for halves and fourths.



2. Sample response:



Lesson Synthesis

🕒 10 min

“Today you learned about making and identifying shapes that were decomposed, or partitioned, into halves, thirds, and fourths.”

“What is something you did to try to make the pieces equal when you decomposed shapes by cutting?”
(I drew lines first. I folded carefully. I didn’t do a hard crease until I was sure.)

“What is something you did to try to make the pieces equal when you partitioned shapes by drawing lines?” (I made very light lines and then traced them.)

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

----- Complete Cool-Down -----

Response to Student Thinking

Students partition the rectangle into more than or fewer than 3 pieces or label the shaded piece a term other than a third.

The work in this lesson builds from the geometry concepts developed in a prior unit.

Next Day Support

- Before the warm-up, share and discuss examples and non-examples of thirds.

Prior Unit Support

Grade 1, Unit 7, Section B: Halves and Quarters

Lesson 8: Are All Pieces Created Equal?

Standards Alignments

Addressing 2.G.A.3, 2.NBT.A.2

Teacher-facing Learning Goals

- Partition circles and rectangles into halves, thirds, and fourths in different ways.
- Recognize halves, thirds, and fourths of rectangles and circles.

Student-facing Learning Goals

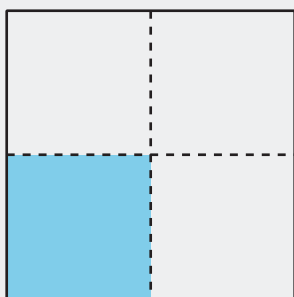
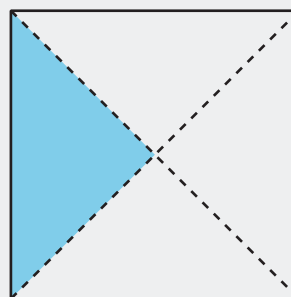
- Let's make halves, thirds, and fourths in different ways.

Lesson Purpose

The purpose of this lesson is for students to understand that equal pieces of an identical whole do not need to be the same shape.

In previous lessons, students learned that when they partition circles and rectangles into halves, thirds, or fourths, each piece must be equal. To this point, they have determined whether the pieces are equal by cutting out pieces and physically matching them and by visually inspecting whether the pieces appear to be the same equal-size shape.

In this lesson, students learn that halves, thirds, and fourths of the same whole can be different shapes or have different attributes. For example, they recognize that a square is partitioned into fourths, whether it is partitioned into equal-size triangles or equal-size squares.

A**B**

By the end of the lesson, students realize that as long as the shapes are partitioned into the same number of equal pieces, the pieces will have the same name and have the same size.

Access for:**🇺🇸 Students with Disabilities**

- Representation (Activity 2)

🌐 English Learners

- MLR2 (Activity 1)

Instructional Routines

Number Talk (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

What did you say, do, or ask during the lesson synthesis that helped students be clear on the learning of the day? How did previewing the cool-down of the lesson before you started teaching today allow you to help students synthesize their learning?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Paint a Picture

Standards Alignments

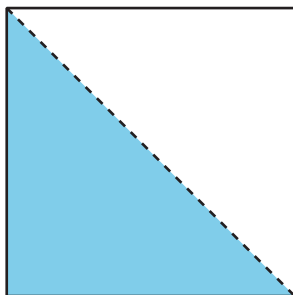
Addressing 2.G.A.3

Student-facing Task Statement

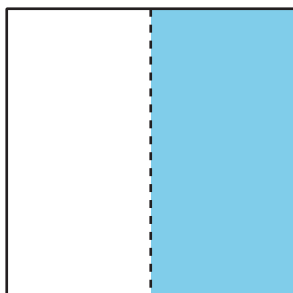
Andre and Noah each had a sheet of paper that was the same size.

They each painted part of their paper.

Andre:



Noah:



Andre says he painted more than Noah. Do you agree? Explain.

Student Responses

Sample response: No. Andre and Noah painted the same amount. They both painted a half of the page because each page is split into 2 equal parts and the pages are the same size.

Begin Lesson

Warm-up

🕒 10 min

Number Talk: 5 Ones

Standards Alignments

Addressing 2.NBT.A.2

The purpose of this Number Talk is to elicit strategies and understandings students have for subtracting multiples of 5 from multiples of 5. These understandings help students develop fluency and will be helpful later in this unit when students will learn to tell time to the nearest 5 minutes. Monitor for the different ways students use the relationship between the numbers in each expression

to choose their strategy. For example, students may subtract by place when both numbers have a 5 in the ones place or look for ways to count on by 5 and 10 (MP7).

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $25 - 15$
- $40 - 15$
- $65 - 25$
- $60 - 35$

Student Responses

- 10: $15 + 10 = 25$
- 25: $40 - 10 = 30$, $30 - 5 = 25$
- 40: $5 - 5 = 0$, $60 - 20 = 40$
- 25: $35 + 5 = 40$, $40 + 20 = 60$, $5 + 20 = 25$

Launch

- Display one expression.
- “Give me a signal when you have an answer and can explain how you got it.”
- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- “What patterns did you notice when finding the value of these expressions?” (All the expressions were subtracting a number that had a 5 in the ones place. All the numbers are numbers we say when we count by 5, so we can count by 5 and 10 to find the values. When both numbers had a 5 in the ones place, I just subtracted the tens and knew there would be 0 ones. When only one number had a 5 in the ones place, I thought about adding on to make it easier.)

Activity 1

 20 min

Make Quarters and Halves

Standards Alignments

Addressing 2.G.A.3

The purpose of this activity is for students to explore different ways to partition rectangles into halves and fourths. They notice that when they partition two equal-size rectangles into fourths or halves in different ways the resulting pieces may have different attributes. In the synthesis, students explain why the equal pieces of the same whole could look very different even though they have the same size, so long as the original shape was split into the same number of equal pieces (MP3, MP7).

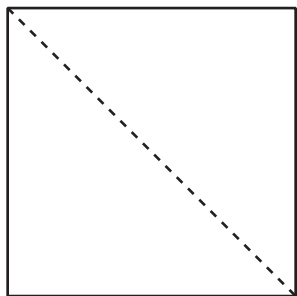
Access for English Learners

MLR2 Collect and Display. Synthesis: Direct attention to words collected and displayed from the previous lesson. Invite students to borrow language from the display as needed, and update it throughout the lesson.

Advances: Conversing, Reading

Student-facing Task Statement

Lin wanted to partition this square into quarters. She started by splitting the square into halves.



After she drew the first line, she tried 3 different ways to make fourths.

1. Which of these shows fourths or quarters?
Explain and share with your partner.

A

B

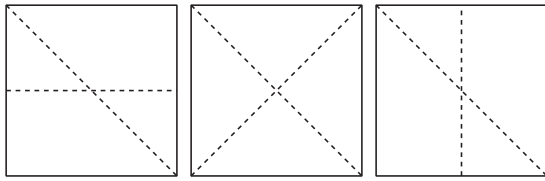
C

Launch

- Groups of 2
- “Lin wanted to partition this square into quarters. She started by splitting the square into halves.”
- Display the square partitioned into halves.
- “After she drew the first line, she tried 3 different ways to make fourths.”
- Display the 3 squares split into 4 pieces.
- “Which of these shows fourths or quarters? Explain.” (B is the only one that shows four equal pieces, so they are fourths. The other 2 show 4 parts, but they are not equal.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.

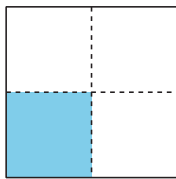
Activity

- “Now you will have a chance to explore different ways to partition shapes to make



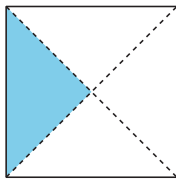
2. Name the shaded piece.

A



Shape A has a _____ shaded.

B



Shape B has a _____ shaded.

3. Show 2 different ways to partition the rectangle into quarters or fourths. Shade in a fourth of each rectangle.



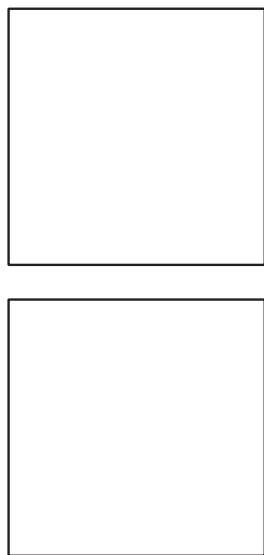
4. Show 2 different ways to partition the square into halves. Shade in a half of each square.

fourths or quarters and halves.”

- “Work on your own to partition your shapes and answer the questions about the pieces. Then compare your work with your partner.”
- 6 minutes: independent work time
- 4 minutes: partner discussion
- Monitor for students who show different ways to partition the rectangle into fourths (see Student Responses).

Synthesis

- Invite previously identified students to share their rectangles partitioned to make fourths.
- Display students’ work.
- “Each of these students believe they have split the rectangle into fourths or quarters. Who do you agree with? Explain.” (The pieces look different in each rectangle, but they all show fourths because each rectangle is split into 4 equal pieces.)

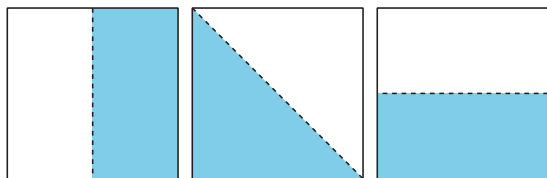


Student Responses

1. Sample response: B is the only one that shows four equal pieces, so they are fourths or quarters. The other 2 show 4 pieces, but they are not equal.
2. Shape A has a fourth or a quarter shaded.
Shape B has a fourth or a quarter shaded.
3. Sample responses:



4. Sample responses:



Activity 2

🕒 15 min

Make Equal Pieces

Standards Alignments

Addressing 2.G.A.3

The purpose of this activity is for students to consider different ways to partition a circle or rectangle into thirds. They continue to deepen their understanding that equal pieces of the same whole can look different. Monitor for the ways students reason that the equal pieces of the same whole may look different, but they are the same size to share in the lesson synthesis (MP3, MP7).

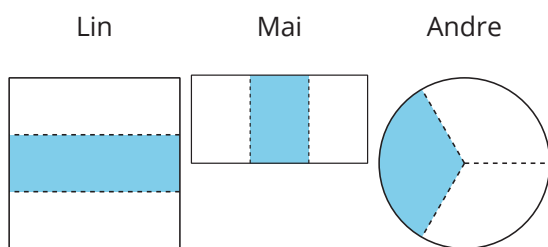
🕒 Access for Students with Disabilities

Representation: Develop Language and Symbols. Synthesis: Maintain a visible display to record images of ways to make thirds (also add fourths and halves) to reiterate that fractions have equal parts and can be made in certain ways. Invite students to suggest details (words or pictures) that will help them remember the meaning of the fractions.

Supports accessibility for: Memory, Language, Organization

Student-facing Task Statement

1. Lin, Mai, and Andre were asked to shade in a third of a shape.



Do all their shapes show a third shaded?
Explain and share with a partner.

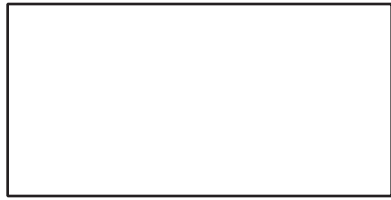
2. Partition the rectangle into thirds and shade a third of the shape.

Launch

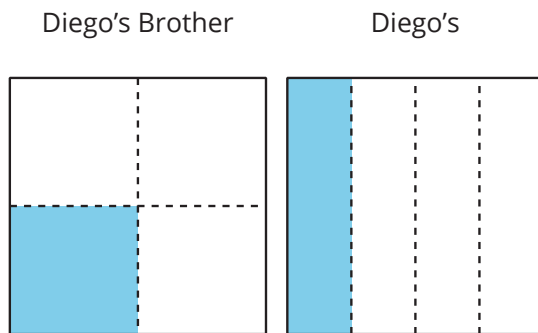
- Groups of 2

Activity

- “Lin, Mai, and Andre were asked to shade in one third of a shape. Look at their images and choose the ones that show one third shaded. Explain how you know or if you disagree.”
- 2 minutes: partner discussion
- “Now work independently to complete the last 2 problems.”
- 6 minutes: independent work time
- Monitor for students who have a clear explanation for Diego’s brother to share in the lesson synthesis.



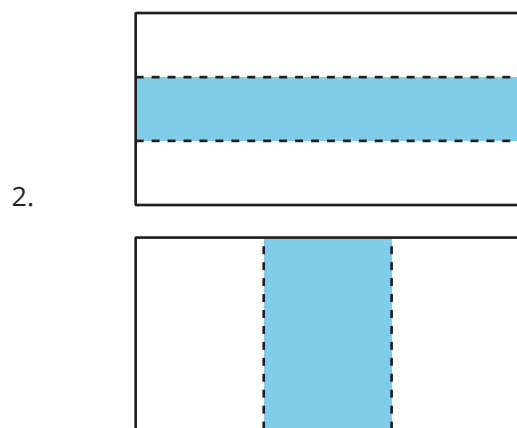
3. Diego's dad made 2 square pans of cornbread and sliced them up for the family.



Diego's little brother was upset because he thought his piece of cornbread was smaller than Diego's. What would you tell him?

Student Responses

1. All of the students' shapes are partitioned into thirds. They look different, but they all show 3 equal pieces.



3. Sample response: Both pans are split into four equal pieces, so both of you got a quarter of the pan. Since the pans are the same size, you both got the same amount of corn bread.

Synthesis

- Invite previously selected students to share.
- "How is it possible that both students have shaded a third if they don't look the same?" (Their thirds might not look the same when compared to each other, but they each partitioned the rectangle into 3 equal parts and shaded one part.)

Advancing Student Thinking

If students agree that both Diego and Diego's brother each got a fourth, but disagree that they got the same amount because the shape of their pieces is different, consider asking:

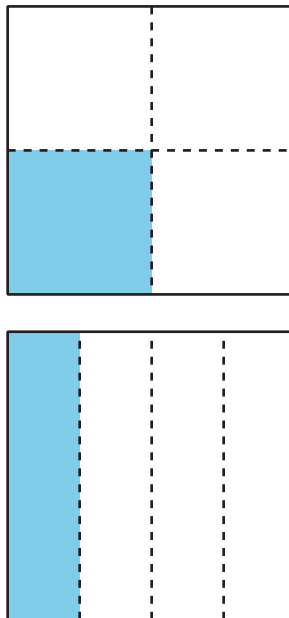
- "How are the pieces of cornbread Diego and his brother have the same and different?"
- "Do you see a way you could break apart Diego's brother's piece and put it back together so it's the same shape as Diego's piece?"

Lesson Synthesis

🕒 10 min

"Today, you learned that if a shape is partitioned into the same number of equal pieces, but in different ways, the pieces of the shapes will have the same name, even though they look different."

Display or draw:



"Diego's brother was upset about his piece of cornbread. How could we help Diego's little brother?"

Invite previously selected students to share their reasoning.

"Since both pans are the same size, we know that both brothers got a fourth of the pan even though it looks different. The pieces look different, but it's the same amount."

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

Complete Cool-Down

Response to Student Thinking

Students write that either Andre or Noah painted more.

Next Day Support

- After the warm-up in the next lesson, pair students up to discuss their responses.

Lesson 9: You Ate the Whole Thing

Standards Alignments

Addressing 2.G.A.3, 2.NBT.A.2
Building Towards 2.MD.C.7

Teacher-facing Learning Goals

- Describe two halves, three thirds, and four fourths as one whole.
- Use “half of,” “a third of,” and “a quarter of” to describe parts of a shape.

Student-facing Learning Goals

- Let’s talk about the whole.

Lesson Purpose

The purpose of this lesson is for students to recognize 2 halves, 3 thirds, and 4 fourths as one whole.

In previous lessons, students partitioned circles and rectangles into halves, thirds, and fourths and identified an equal piece of different shapes as a half of, third, of, or fourth of the shape.

In this lesson, students continue to practice partitioning circles and describe halves, thirds, and quarters of circles using the language a half of, a third of, and a quarter of to describe a piece of the shape. They also use this language to describe the whole shape as a number of equal pieces. Students recognize that a whole shape can be described as 2 halves, 3 thirds, or 4 fourths. This understanding is the foundation for students' work with a whole and fraction equivalency in grade 3.

The activities encourage students to use quarters and a quarter of when describing fourths of a circle. This word choice is used to help students connect to the language used when telling time to the half and quarter hour in upcoming lessons.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 2)

Instructional Routines

MLR5 Co-craft Questions (Activity 1), Number Talk (Warm-up)

Materials to Gather

- Colored pencils: Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

In an upcoming lesson, students will learn to tell time to the half hour and quarter hour. What do you notice in their work from today's lesson that you might leverage in that lesson?

Cool-down (to be completed at the end of the lesson)

 5 min

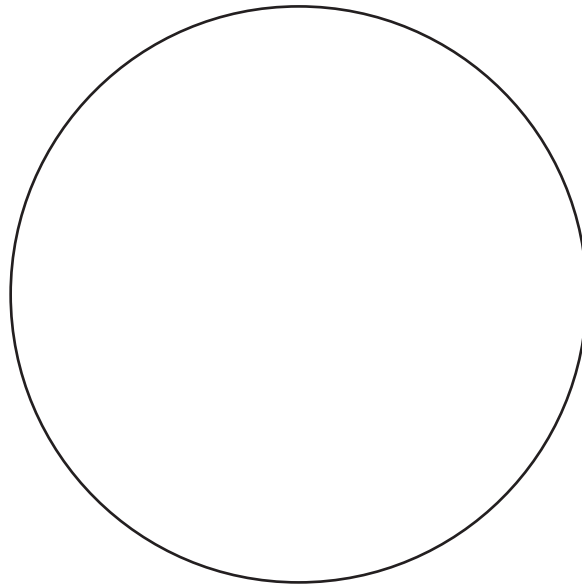
Partition a Circle

Standards Alignments

Addressing 2.G.A.3

Student-facing Task Statement

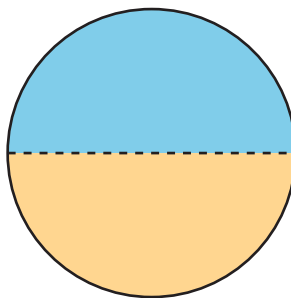
1. Partition this circle into 2 equal parts. Shade each part of the circle in different colors.



2. How much of the circle did you shade in?

Student Responses

1. Sample response:



2. Sample response: I shaded two halves of the circle, or I shaded the whole circle.

Begin Lesson

Warm-up

🕒 10 min

Number Talk: What's the Sum?

Standards Alignments

Addressing 2.NBT.A.2

The purpose of this Number Talk is to elicit strategies and understandings students have for adding multiples of 5 to multiples of 5. These understandings help students develop fluency and will be helpful later in this unit when students will learn to tell time to the nearest 5 minutes.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $20 + 10 + 10 + 5$
- $30 + 25$
- $35 + 15$
- $15 + 25 + 15$

Student Responses

- 45: 20, 30, 40, 45
- 55: $30 + 20 = 50$, $50 + 5 = 55$, It was 10 more than the first problem.
- 50: $35 + 5 = 40$, $40 + 10 = 50$
- 55: $15 + 15 = 30$, $30 + 25 = 55$

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- "What patterns did you notice working with these numbers?"
- "How could the second problem help you think about the last one?" (I know that $15 + 15 = 30$, so it was the same problem.)

Activity 1

🕒 15 min

Pizza to Share

Standards Alignments

Addressing 2.G.A.3

The purpose of this activity is for students to learn that when you partition a shape into 2, 3, or 4 equal pieces, the whole shape can be named as 2 halves, 3 thirds, 4 fourths respectively. This activity uses the context of pizza to intentionally elicit “whole” from students to describe the situation. They will continue to deepen their understanding of a whole as a mathematical term during their study of fractions in grade 3. Students observe regularity in repeated reasoning (MP8) when they see that however many equal pieces the whole pizza is cut into, that number of pieces makes the whole.

Students begin the activity by looking at the problem displayed, rather than in their books. At the end of the launch, students open their books and work on the problem.

This activity uses *MLR5 Co-craft Questions*. *Advances: writing, reading, representing.*

Instructional Routines

MLR5 Co-craft Questions

Student-facing Task Statement

Clare’s friends were going to share a pizza. The image shows how they cut the pizza.



1. Clare ate 3 slices and her friends got upset with her.
 - a. Why are her friends upset?
 - b. How many thirds did Clare eat?
 - c. How much of the pizza was left?

2. **Pizza Parts** **Group**

Launch

- Groups of 2

MLR5 Co-Craft Questions

- Display only the problem stem and image for Clare’s pizza, without revealing the questions.
- “Clare’s friends were going to share a pizza. The image shows how they cut the pizza.”
- “Write a list of mathematical questions that could be asked about this situation.” (How many friends does she have? How much pizza can each friend get? Can they slice the pizza a different way? What would be a fair way to share the pizza with her friends?)
- 2 minutes: independent work time
- 2–3 minutes: partner discussion



Priya
Han
Diego

- a. Priya will eat _____ of the pizza.
- b. Together they will eat _____ of the pizza.

3. **Pizza Parts** **Group**



Jada
Mai

- a. Each girl will eat _____ of the pizza.
- b. Together they will eat _____ of the pizza.

4. **Pizza Parts** **Group**



Elena
Tyler
Lin
Kiran

- a. How much pizza will each child eat?

- b. How much pizza will they eat in all?

Student Responses

1.
 - a. Clare ate three thirds, which was the whole pizza.
 - b. She ate 3 thirds.
 - c. There isn't any pizza left.

- Invite several students to share one question with the class. Record responses.
- “What do these questions have in common? How are they different?”
- Reveal the additional context and questions for Clare’s pizza (students open books), and invite additional connections.
- “Why do you believe her friends are upset?” (The pizza is cut into thirds, so 3 slices would be the whole pizza. 3 thirds is the same as the whole thing.)

Activity

- “Now you and your partner will discuss what happened in each problem when students share a pizza.”
- 10 minutes: partner work time

Synthesis

- Invite students to share how much of the pizza each group of friends ate using halves, thirds, fourths, and quarters.
- Record responses.
- “Each group had the same-size pizza. Of all the students, which group of students will have the largest slices? Why do you think that is?” (Jada and Mai only have to share the pizza with 2 people, so they have the largest pieces.)
- “What do you notice about the size of the slices and the number of students?” (The slices get smaller if there are more students.)
- Share and record responses.

2.
 - a. Priya will eat a third of the pizza.
 - b. Together they will eat 3 thirds or the whole pizza.
3.
 - a. Each girl will eat a half of the pizza.
 - b. Together they will eat 2 halves or the whole pizza.
4.
 - a. Each child will have a fourth of the pizza.
 - b. In all, they will eat 4 fourths or the whole pizza.

Advancing Student Thinking

If students disagree that 2 halves, 3 thirds, or 4 fourths is the same as the whole pizza, consider asking:

- “If Jada ate this piece (one half) and Mai ate this piece (one half), how much of the pizza is left?”
- “How could you show how much of the pizza each student ate?”

Activity 2

🕒 20 min

Equal Shares of the Pie

Standards Alignments

Addressing 2.G.A.3
Building Towards 2.MD.C.7

The purpose of this activity is for students to recognize and describe pieces of circles using the words half of, a third of, and a quarter of. Students match shapes partitioned into halves and quarters to stories and partition shapes into quarters and halves based on directions. Students can continue to use one fourth when describing a piece, but encourage the use of a quarter as a way to describe the same piece.

Access for Students with Disabilities

Representation: Access for Perception. To support access for students with color blindness, label the colors on visual displays and student tasks. Provide access to colored pencils, crayons, or markers that have labels to indicate color.

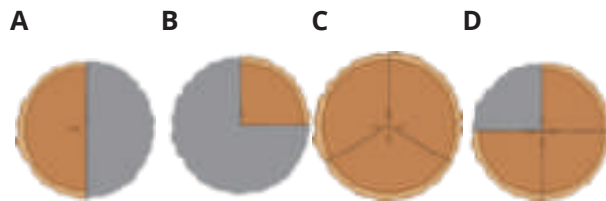
Supports accessibility for: Visual-Spatial Processing

Materials to Gather

Colored pencils

Student-facing Task Statement

Write the letter of each image next to the matching story.



- Noah ate most of the pie. He left a quarter of the pie for Diego. _____
- Lin gave away a half of her pie and kept a half of the pie for herself. _____
- Tyler cut a pie into four equal pieces. He ate a quarter of the pie. _____
- Mai sliced the pie to share it equally with Clare and Priya. _____
 - How much of the pie will they each get? a _____
 - How much of the pie will they eat in all? _____
- Now you try.
 - Partition the circle into four equal pieces.
 - Shade in a quarter of the circle red.
 - Shade in the rest of the circle blue.

Launch

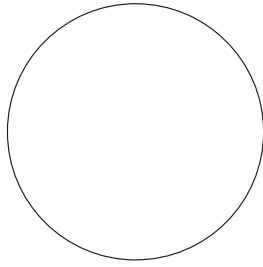
- Groups of 2
- Give students access to colored pencils.

Activity

- "You are going to read some stories with a partner about students sharing pies."
- "Then you will partition and color shapes on your own."
- 5 minutes: partner work time
- As students work, encourage them to use precise language when talking with their partners.
- Consider asking: "Is there another way you could say how much of the circle is shaded?"
- 10 minutes: independent work time
- Monitor for students who accurately shade the circles to share in the synthesis.

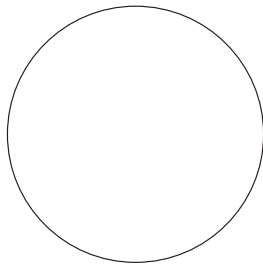
Synthesis

- Invite previously selected students to display their partitioned circles. Share at least one example of a circle partitioned into halves and one example of a circle partitioned into fourths.
- "How are the circles you partitioned and



How much of the circle is shaded?

6. Partition the circle into 2 equal pieces.
- Shade one half of the circle blue.
- Color the other piece yellow.



How much of the circle is yellow?

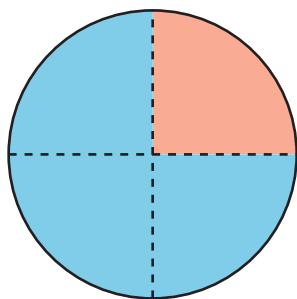
How much of the circle is shaded?

Student Responses

1. B
2. A
3. D
4. C
 - a. a third or one third
 - b. Three thirds or the whole circle is shaded.
- 5.

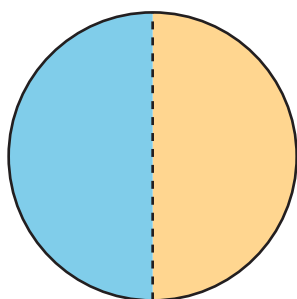
shaded the same? How are they different?" (They are both circles. They are shaded with different colors. They are partitioned differently. The whole circle is shaded in both. All of the pieces are shaded in both.)

- "How much of each circle is shaded?" (4 fourths, 2 halves, the whole circle)



4 fourths or the whole circle is shaded

6.



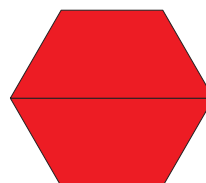
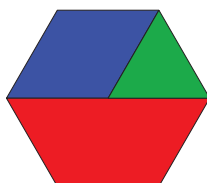
- A half of the circle is yellow.
- Two halves are shaded. The whole circle is shaded.

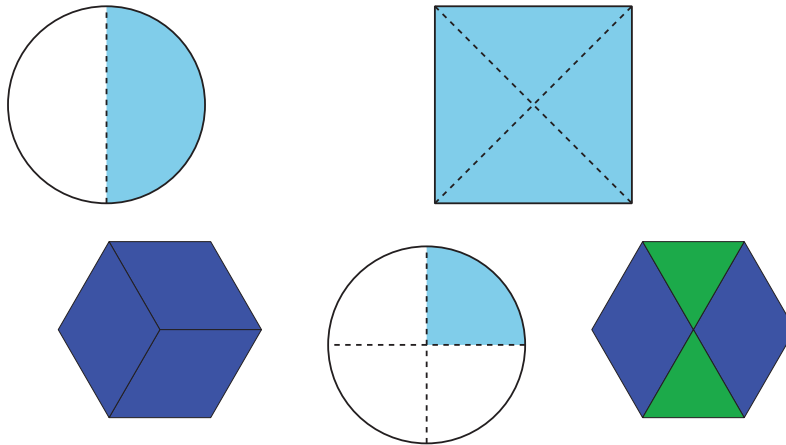
Lesson Synthesis

🕒 10 min

“We have learned a lot about composing and decomposing shapes. Sometimes different-size pieces can make up a whole shape. Sometimes the whole shape is made up of equal-size pieces. We learned that these equal-size pieces of a whole have special names.”

“Each of these shapes has pieces shaded. How would you name each one? Are there any pieces that you are not sure how to name? Explain.” (The first circle shows 2 halves because there are two equal pieces. The first hexagon has some pieces that are not thirds because each piece is a different size. I think the red trapezoid is half because you could use another trapezoid that's the same size to make the whole hexagon, but I'm not sure.)





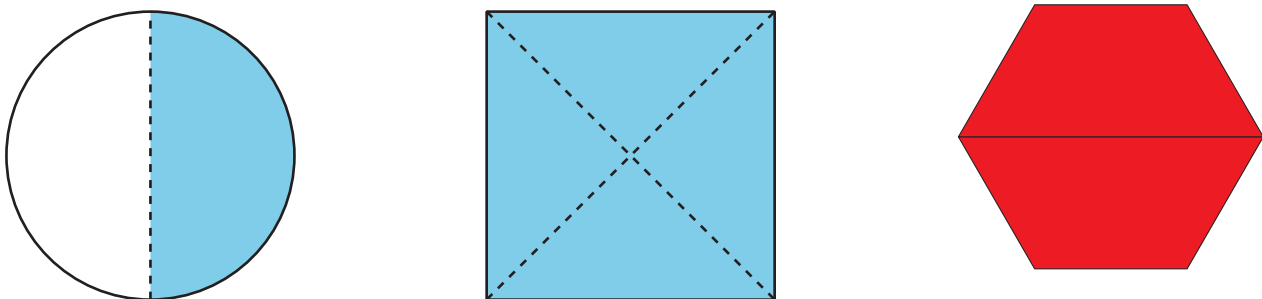
Suggested Centers

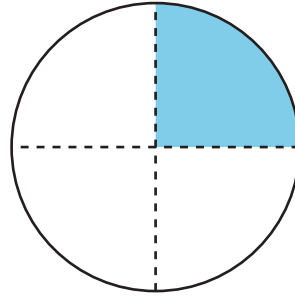
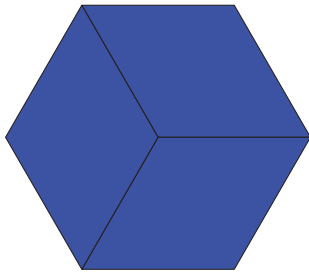
- How Are They the Same? (1-5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K-5), Stage 3: Grade 2 Shapes (Addressing)

Student Section Summary

We have learned a lot about composing and decomposing shapes. Sometimes the pieces make up a whole shape, but all of the pieces are not the same size. Sometimes the whole is partitioned into equal pieces and they have special names. We practiced partitioning shapes into halves, thirds, and fourths. We learned that halves, thirds, and fourths of the same shape can look different. We learned that we can say the whole shape is 2 halves, 3 thirds, 4 fourths, or 4 quarters.

How can you use halves, thirds, fourths, or quarters to describe the pieces of these shapes? How can you use halves, thirds, fourths, or quarters to describe the whole shape?





----- Complete Cool-Down -----

Response to Student Thinking

Students partition the circle into two pieces but do not write that two halves or the whole circle is shaded.

Next Day Support

- After the warm-up in the next lesson, pair students up to discuss their responses.

Lesson 10: Center Day 2 (Optional)

Standards Alignments

Addressing 2.G.A.1, 2.NBT.A.1

Teacher-facing Learning Goals

- Describe shapes using defining attributes.
- Draw and name shapes based on defining attributes.

Student-facing Learning Goals

- Let's work with shapes.

Lesson Purpose

The purpose of this lesson is for students to work with shapes.

This lesson is optional because it is an opportunity for extra practice that not all classes may need. In Activity 1, students learn stage 2 of the How Are They the Same? center, which was first introduced in grade 1. In this new stage, called Grade 2 Shapes, students develop their understanding of shapes by finding shared attributes. In Activity 2, students choose to continue working on How Are They the Same?, or choose between two previously introduced centers focused on shapes.

Instructional Routines

How Many Do You See? (Warm-up)

Materials to Gather

- Materials from a previous lesson: Activity 1
- Materials from previous centers: Activity 2
- Paper: Activity 1

Materials to Copy

- Shape Cards Grade 2 (groups of 2): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	25 min
Lesson Synthesis	10 min

Teacher Reflection Question

When do your students feel successful in math?
How do you know?

Begin Lesson

Warm-up

🕒 10 min

How Many Do You See: Base-Ten Blocks

Standards Alignments

Addressing 2.NBT.A.1

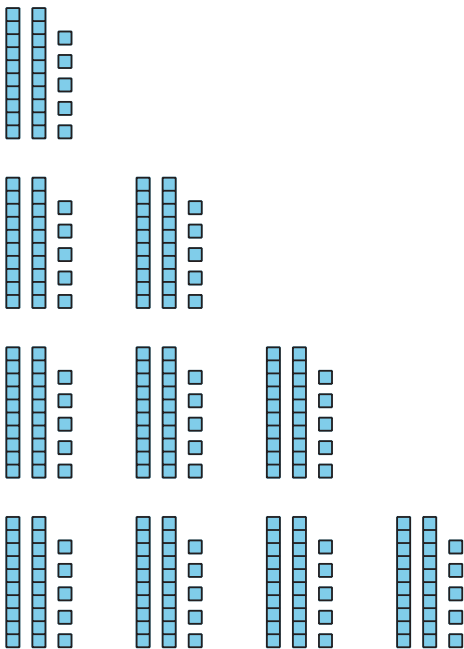
The purpose of this How Many Do You See is to build on what students know about place value to make 100 using tens and ones in groups of 25. The progression of the 4 images demonstrates counting by 25. This work will be important in upcoming lessons where students combine coins to make 100 cents or 1 dollar.

Instructional Routines

How Many Do You See?

Student-facing Task Statement

How many do you see? How do you see them?

**Launch**

- Groups of 2
- “How many do you see? How do you see them?”
- Flash the image.
- 30 seconds: quiet think time

Activity

- Display the image.
- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Record responses as an expression using hundreds, tens, and ones.
- Repeat for each image.

Synthesis

- “Let’s say the value represented by the images in order.” (25, 50, 75, 100)
- “What pattern did you notice when combining the groups of the blocks and the value the

Student Responses

1. 25: I saw 2 tens and 5 ones.
2. 50: I saw 25 and 25 and I knew that was 50.
3. 75: I saw 50 and 25 more, so I did
 $50 + 20 + 5 = 75$.
4. 100: I knew it was 50 and 50, so I knew it was 100.

blocks represent?" (When there were 2 groups of 25 it made a new ten with no ones left over, but when it was 3 groups of 25 there was a new ten and an extra 5.)

Activity 1

🕒 15 min

Introduce How Are They the Same?

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to learn stage 2 of the How Are They the Same? center. Students lay 6 shape cards face up. One student picks two cards that have an attribute in common. All students draw a shape that has a shared attribute with the two shapes. Students get a point if they draw a shape that no other student drew. It is possible that students will draw a shape with a different shared attribute than what the original student chose. This can be an interesting discussion for students to have.

Materials to Gather

Materials from a previous lesson, Paper

Materials to Copy

Shape Cards Grade 2 (groups of 2)

Required Preparation

- Each group of 2 needs the shape cards used in previous lessons.

Launch

- Groups of 4
- Give each group a set of cards and access to scratch paper.
- "We are going to learn a new way to play the How Are They the Same center."

- “You will lay 6 shape cards face up. One member of your group will pick two cards that have an attribute in common.”
- “Then, all members of the group will draw a shape that has a shared attribute with those two shapes. You get a point if you draw a shape that no other person in your group drew.”
- If needed, play a round with the class.

Activity

- 10 minutes: partner work time
- Monitor for shared attributes that are more challenging for students to notice.

Synthesis

- Display two shape cards.
- “What shared attributes do you notice about these two shapes? Draw a shape that also has that attribute.”

Activity 2

🕒 25 min

Centers: Choice Time

Standards Alignments

Addressing 2.G.A.1

The purpose of this activity is for students to choose from activities that focus on working with shapes.

Students choose from any stage of previously introduced centers.

- How Are They the Same?
- Which One?

- Can You Draw It?

Materials to Gather

Materials from previous centers

Required Preparation

Gather materials from:

- How Are They the Same?, Stage 2
- Which One?, Stage 3
- Can You Draw It?, Stage 2

Student-facing Task Statement

Choose a center:

How Are They the Same?



Which One?



Can You Draw It?



Launch

- “Now you will choose from centers we have already learned. One of the choices is to continue with How Are They the Same.”
- Display the center choices in the student book.
- “Think about what you would like to do first.”
- 30 seconds: quiet think time

Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- “Choose what you would like to do next.”
- 10 minutes: center work time

Synthesis

- “What did you like about the activities you worked on today?”

Lesson Synthesis

🕒 10 min

"Today we drew shapes with shared attributes. What shared attributes could you identify more easily? What shared attributes were more challenging for you to notice?"

Section C: Time on the Clock

Lesson 11: Tell Time with Halves and Quarters

Standards Alignments

Building On	1.MD.B.3
Addressing	2.MD.C.7
Building Towards	2.MD.C.7

Teacher-facing Learning Goals

- Tell time from an analog clock using the words half past, quarter past, and quarter till.

Student-facing Learning Goals

- Let's tell time with halves and quarters.

Lesson Purpose

The purpose of this lesson is for students to tell time with an analog clock using the words half past, quarter past, and quarter till.

In grade 1, students learned to tell and write time to the hour and half-hour. They related representations of time to the half-hour on analog clocks to circles partitioned into halves. In previous lessons, students partitioned shapes, including circles, into halves and quarters.

In this lesson, students connect their understanding of partitioning a circle into equal pieces to using the words “half past,” “quarter past,” and “quarter till” to tell time (MP2). Some students may already be familiar with telling time to the nearest 5-minute increments. If they read a clock as 4:15 rather than quarter past 4, ask if they can find another way to state the time using these phrases.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR8 (Activity 2)

Instructional Routines

Card Sort (Activity 2), What Do You Know About ____? (Warm-up)

Materials to Gather

- Chart paper: Warm-up

Materials to Copy

- Halves and Quarters Clock Sort (groups of 2): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

What connections did students make between partitioning circles into halves and quarters and identifying halves and quarters of the clock? How did these connections allow students to more easily tell time using “half past,” “quarter after,” and “quarter till?”

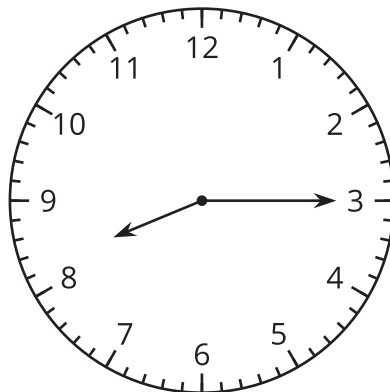
Cool-down (to be completed at the end of the lesson)

🕒 5 min

Tell Time with Halves and Quarters

Standards Alignments

Addressing 2.MD.C.7

Student-facing Task Statement

Circle the time shown on the clock.

half past 8

quarter past 8

quarter till 8

Student Responses

quarter past 8

Begin Lesson

Warm-up

🕒 10 min

What Do You Know About Ways to Tell Time?

Standards Alignments

Building Towards 2.MD.C.7

The purpose of this What Do You Know About ____? is to invite students to share what they know about telling time. Listen for the words and phrases students use that reveal what they know about the tools used to measure and display time (digital and analog clocks), the features of these tools (clock hands), the units used to discuss time (hours, minutes), and common phrases used to talk about time (o'clock, half past). Record these words and phrases on chart paper and add to the chart throughout the section.

During the synthesis, encourage students to describe ways to create illustrations or diagrams of words and phrases they use to describe how time is represented using clocks. For example, encourage students to describe how to draw a clock face and label minute and hour hands. Label a digital representation of time to indicate how hours and minutes are represented.

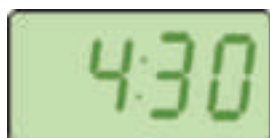
Instructional Routines

What Do You Know About ____?

Materials to Gather

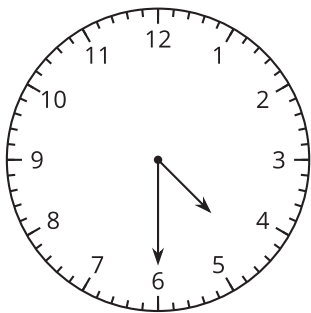
Chart paper

Student-facing Task Statement



Launch

- “What do you know about ways to tell time?”
- 1 minute: quiet think time



What do you know about ways to tell time? What words do you use to talk about time?

Student Responses

Sample responses:

- Clocks measure and show time.
- We measure time in hours and minutes.
- Some clocks look like a circle with the numbers 1 to 12 around it. They show time with an hour hand and a minute hand.
- Some clocks just use numbers. Some of the numbers show the hours and the others show the minutes.
- You say o'clock when it's a new hour, like 3 o'clock.
- You can say half past when it's 30 minutes after the hour, like 3:30 is half past 3.

Activity

- 2 minutes: partner discussion
- Circulate, listen for, and collect the language students use to describe clocks and other time measurement tools, units for measuring time, and common words and phrases. Listen for: clock, hour, minute, hour hand, minute hand, o'clock, half past.
- Record students' words and phrases on a visual display and update it throughout the lesson.
- "What words do you use to talk about time?"
- Record responses.

Synthesis

- "Are there any other words or phrases that are important to include on our display?"
- As students share responses, update the display, by adding (or replacing) language, diagrams, or annotations.
- Remind students to borrow language from the display as needed.

Activity 1

🕒 15 min

Tell Time to the Hour and Half-hour

Standards Alignments

Building On	1.MD.B.3
Building Towards	2.MD.C.7

The purpose of this activity is for students to revisit the conventions of telling time learned in grade 1. Students discuss the difference between the hour and minute hands as well as where each hand will be on the clock when showing time to the hour or half-hour. They are reminded that the hour hand moves as the minute hand moves around the circle.

Access for Students with Disabilities

Representation: Access for Perception. Use two different colored markers, one for the hour hand and one for the minute hand, to consistently show the difference between the two hands and focus on their lengths.

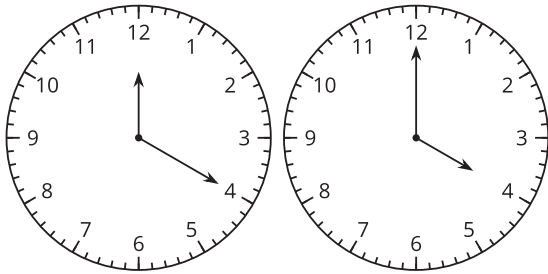
Supports accessibility for: Memory, Attention

Required Preparation

- Gather an analog clock (large wall clock or a Judy clock) or video of an analog clock that can be used to demonstrate the movement of the hour hand as the minute hand moves round the clock face in the activity synthesis. Video: <https://vimeo.com/454805326>

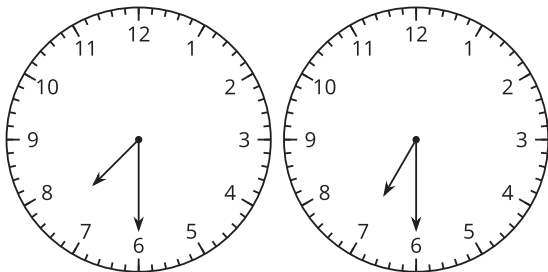
Student-facing Task Statement

1. Circle the clock that shows 4 o'clock.



Why doesn't the other clock show 4 o'clock?

2. Circle the clock that shows half past 7.



Launch

- Groups of 2

Activity

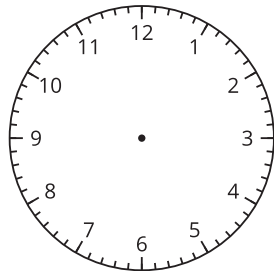
- "You are going to look at some analog clocks and think about how they work to show different times."
- As needed, review how to read time presented in a digital format.
- 5 minutes: partner work time
- When representing 1:30, monitor for students who:
 - draw the hour hand pointing to the 1
 - draw the hour hand pointing between 1 and 2

Synthesis

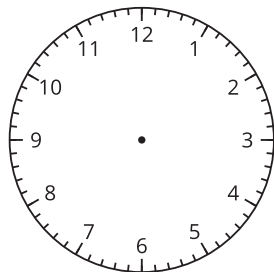
- Display two student clocks for 1:30 or draw and label clocks like these images:

Why doesn't the other clock show half past 7?

3. Draw the hands on the clock to show 10:00.



4. Draw the hands on the clock to show 1:30.



Student Responses

- Students circle the clock on the right.
Sample response: The other clock doesn't show 4:00 because the hour hand is pointing to the 12 and the minute hand is pointing to the 4. The short hand tells us the hour.
- Students circle the clock on the left. Sample response: The other clock doesn't show 7:30 because the hour hand is supposed to be between the 7 and the 8.
- Students draw the hour hand toward 10 and the minute hand toward 12.
- Students draw the minute hand toward 6 and the hour hand between 1 and 2. The hour hand may not be exactly between 1 and 2.

Tyler



Mai



- “Tyler and Mai both draw hands on the clock to show 1:30. Which clock shows 1:30? Explain.” (Tyler’s clock shows 1:30 because he drew the hour hand halfway between the 1 and the 2. The minute hand points to 6. It has traveled halfway around the clock, so the hour hand has traveled halfway to the next hour.)
- If possible, demonstrate the movement of both hands with a Judy Clock or use the demonstration video.

Advancing Student Thinking

In the first two problems, if students say both clocks show the same time, consider asking:

- “What is the same and different between these two clocks?”
- “How does the hour hand show half past 7? How does the minute hand show half past 7?”

Activity 2

🕒 20 min

Card Sort: Halves and Quarters

Standards Alignments

Addressing 2.MD.C.7

The purpose of this activity is for students to make connections between circles that are partitioned into halves and fourths and telling time with halves and quarters of the clock. Students use their understanding of halves and quarters of circles to match clock faces, partitioned circles, and the phrases “quarter past,” “half past,” and “quarter till” (MP7).

🌐 Access for English Learners

MLR8 Discussion Supports. Students should take turns finding a match and explaining their reasoning to their partner. Display the following sentence frames for all to see: “I noticed ___, so I matched . . .” Encourage students to challenge each other when they disagree.

Advances: Speaking, Conversing

Instructional Routines

Card Sort

Materials to Copy

Halves and Quarters Clock Sort (groups of 2)

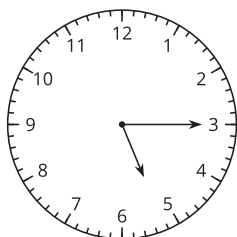
Required Preparation

- Create a set of cards from the Instructional master for each group of 2.

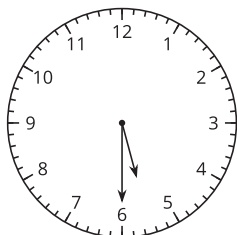
Student-facing Task Statement

- Find matching sets of cards. Each set should have 3 cards. Be prepared to explain why they match.
- Write the time shown on each clock using the words half past, quarter past, or quarter till.

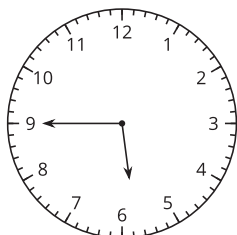
a.



b.



c.



d.

Launch

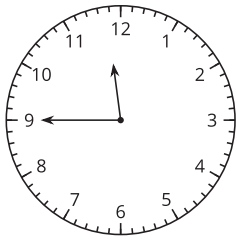
- Groups of 2
- Give each group a set of cards.
- “Sometimes we talk about time using words like half and quarter to talk about the time to the hour. Use what you know about partitioning circles into halves and quarters to match the cards.”
- “Each set of cards you make should include a clock face, a partitioned circle, and a phrase.”
- 6 minutes: partner work time
- Monitor for students who:
 - explain the clock and circle that show a quarter past the hour
 - reason that quarter till might mean 1 quarter until the next hour
 - use the phrases with the hour shown on the clock face (for example, Clock C as a quarter past 2)
- Invite previously identified students to share their matches. Add any phrases to the chart from the warm-up.

Activity

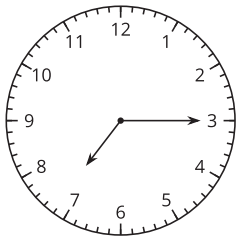
- “Write the time shown on each clock using the words half past, quarter past, or quarter till.”
- 3 minutes: independent work time
- 2 minutes: partner discussion

Synthesis

- Display the clock faces for 5:15, 5:30, and 5:45.
- “What times do these clocks show?”
- Share and record responses. (quarter past 5, half past 5, quarter till 6)



e.



- “Look at the hour hand on these 3 clocks. What do you notice about how it moves as the minute hand moves?” (The hour hand moves away from the 5 and closer to the 6.)
- “While the minute hand moves around the whole clock, the hour hand moves from one number to the next. At quarter past, the hour hand has moved a little past one number and toward the next number. At half past, the hour hand is halfway to the next number, and at quarter till, the hour hand is getting close to the next number.”

Student Responses

1. Card sets:
 - A, H, I
 - B, G, L
 - C, F, K
 - D, E, J
2.
 - a. quarter past 5
 - b. half past 5
 - c. quarter till 6
 - d. quarter till 12
 - e. quarter past 7

Advancing Student Thinking

If students use phrases other than half past, quarter past, or quarter till to tell the time, consider asking:

- “How could you use the cards you sorted to help you check the phrases you chose for telling the time?”

Lesson Synthesis

🕒 10 min

“Today we practiced reading analog clocks and using phrases to tell the time.”

Display the chart created in the warm-up.

“Are there any new words or phrases that are important to include on our display?” (We should add quarter past and quarter till.)

“Describe how you can tell if a clock shows a quarter past or a quarter till. Use your shape cards to help explain if it helps.”

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Can You Draw It? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

Complete Cool-Down

Response to Student Thinking

Students circle quarter till 8.

The work in this lesson builds from the measurement and time concepts developed in a prior unit.

Next Day Support

- Launch activity 1 with a discussion about this cool-down.

Prior Unit Support

Grade 1, Unit 7, Section C: Tell Time in Hours and Half Hours

Lesson 12: Count by 5 to Tell Time

Standards Alignments

Addressing 2.MD.C.7, 2.NBT.A.2
 Building Towards 2.MD.C.7

Teacher-facing Learning Goals

- Tell time on analog clocks.
- Understand that the numbers on an analog clock represent 5-minute intervals.

Student-facing Learning Goals

- Let's tell time.

Lesson Purpose

The purpose of this lesson is for students to tell time to the nearest 5 minutes on an analog clock.

In grade 1, students learned to tell time to the hour and half-hour. In a previous lesson, students learned to tell time using the phrases “half past,” “quarter past,” and “quarter till,” and described the relative position of the hour hand.

In this lesson, students make connections between a number line with intervals of 5 and the distance between the numbers on the clock, which represents 5 minute intervals. Students skip count by 5 in order to tell time.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR8 (Activity 2)

Instructional Routines

Notice and Wonder (Warm-up)

Materials to Copy

- Count on the Clock Card Sort (groups of 2):
Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

What unfinished learning or misunderstandings do your students have about telling time? How did you leverage those misconceptions in a positive way to further understanding of the class?

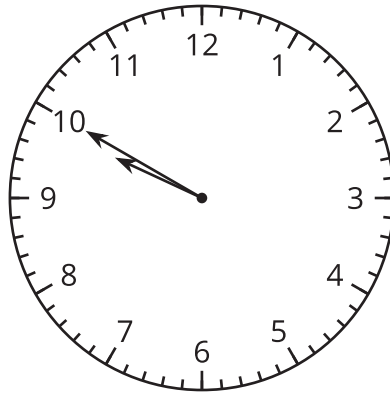
Cool-down (to be completed at the end of the lesson)

🕒 5 min

Which Time Is It?

Standards Alignments

Addressing 2.MD.C.7

Student-facing Task Statement

Does the clock show 9:50 or 10:50? Explain.

Student Responses

9:50. Sample response: The hour hand looks like it is pointing to the 10, but it is really just very close but not there yet. If the time was 10:50 the hour hand would have to be past the 10 and closer to the 11.

----- **Begin Lesson** -----

Warm-up

 10 min

Notice and Wonder: Number Line and Clock

Standards Alignments

Building Towards 2.MD.C.7

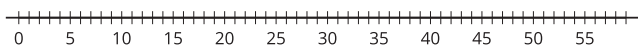
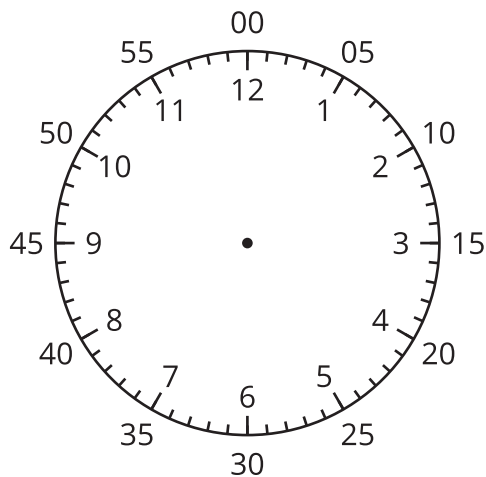
The purpose of this warm-up is for students to notice that they can use the structure of the analog clock to count by 5. They compare what they know about number lines that label intervals of 5 to the labeled numbers on a clock. This will be useful when students tell time in a later activity. While students may notice and wonder many things about these images, the important discussion points are that the number of minutes are increasing by 5 as they move around the labeled numbers on an analog clock.

Instructional Routines

Notice and Wonder

Student-facing Task Statement

What do you notice? What do you wonder?



Student Responses

Students may notice:

- The same numbers are on the number line and the clock.
- There are no hands on the clock.

Launch

- Groups of 2
- Display the image.
- “What do you notice? What do you wonder?”
- 1 minute: quiet think time

Activity

- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Share and record responses.

Synthesis

- “How are these images alike?” (They both show counting by 5.)
- “What is different about the way 0 and 5 are represented?” (The clock shows two zeros and “05” instead of just 5.)
- “The numbers around the clock show how we write minutes on a digital clock. We always use two digits on the minute side of a digital clock even when the number of minutes is

- There are lots of little tick marks between the numbers.

Students may wonder:

- Why are there numbers on the outside of the clock?
- Why are the numbers counting by 5?
- Why is 5 written with a 0 in front?

less than ten.”

- “Let’s count by 5 together as we look at each image.”
- Point to the numbers on the number line as you count from 0 to 55. Repeat with the numbers on the outside of the clock.

Activity 1

🕒 20 min

Count by 5 on the Clock

Standards Alignments

Addressing 2.MD.C.7, 2.NBT.A.2

The purpose of this activity is for students to practice counting by 5 in order to tell time on an analog clock. In the launch, students practice using what they notice in the warm-up to tell time to the nearest 5 minutes on an analog clock. Then they work in partners to tell the time on analog clocks and sequence their cards in time order. During the synthesis, students discuss how they use the labeled numbers on the clock to determine the time and discuss what they notice about how the hour hand moves as more time passes in minutes.

🕒 Access for Students with Disabilities

Representation: Internalize Comprehension. Provide students with a clock that is partially marked with the minutes, either by 15 minutes or 5 minutes (like the one in the Launch). This can be used as a reference when telling the times on the cards.

Supports accessibility for: Organization, Conceptual Processing, Memory

Materials to Copy

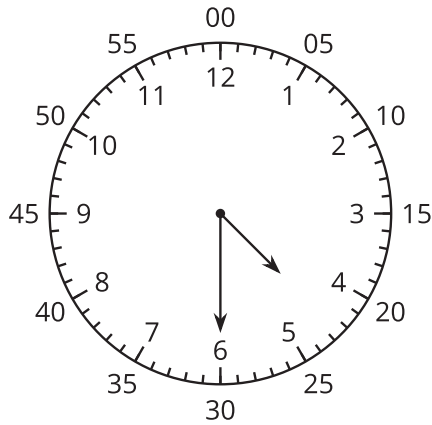
Count on the Clock Card Sort (groups of 2)

Required Preparation

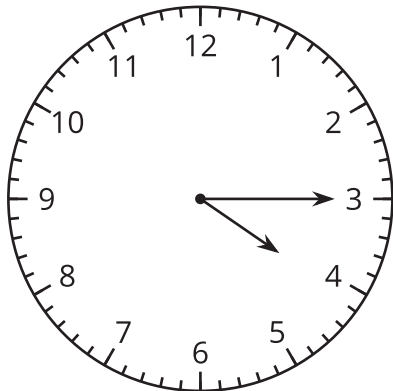
- Create a set of cards from the Instructional master for each group of 2.

Student-facing Task Statement

1. Discuss 2 ways to read the time on this clock.



2. What time does this clock show?



3. Read the time on each clock card with your partner. Put the clocks in order based on the times they show.

Student Responses

1. Sample responses:
 - It's 4:30. The hour hand is between 4 and 5 and I counted by 5 to get 30 minutes.
 - It's half past 4. I can tell because the minute hand has moved halfway around the clock.
2. Sample responses:
 - It's a quarter past 4.

Launch

- Groups of 2
- Display the image of the clock that shows 4:30 with the minutes labeled on the outside.
- "Tell your partner 2 ways to read this time." (4:30 or half past 4)
- 30 seconds: partner discussion
- "How could you prove that the time is 4:30?" (Each tick mark shows one minute. You could count by 1 to 30. You can count the minutes by 5. Start at the 12 and count by 5 for each number until you get to 6. 5, 10, 15, 20, 25, 30. So it is 4:30.)
- 1 minute: partner discussion
- Share responses.
- Display the image of the clock that shows 4:15.
- "What time does this clock show?" (4:15 or quarter past 4)
- 1 minute: partner discussion
- Share responses.
- "When telling time, we can count by 5 to determine how many minutes have passed since the hour."
- Use a clock to demonstrate starting at 4:00 and moving the minute hand to the 1, 2, then 3, as you say, "4:00, 4:05, 4:10, 4:15."
- Give each group a set of cards.

Activity

- "You are going to continue counting by 5 to tell time. Take turns telling the time on your cards. Work together to put the cards in order based on the times they show."
- 8 minutes: partner work time

- 4:15
3. Students put cards in order C, G, E, A, H, B, F, D.

Synthesis

- Invite students to share the correct card sequence.
- Display the cards as students name which card would go next.
- As students share, consider asking:
 - “How did you know what hour the clock shows?”
 - “How did you know how many minutes the clock shows?”
- “What do you notice about the hour hand when you look at the clocks in order?” (It moves a little toward the next hour each time. It is getting closer and closer to 9.)

Advancing Student Thinking

If students sequence the clocks in any order other than the expected sequence, consider asking:

- “How did you decide where to place each clock?”
- “How can you use the position of the hour hand to tell if your clocks are in the right order?”

Activity 2

 15 min

Write the Time

Standards Alignments

Addressing 2.MD.C.7

The purpose of this activity is for students to practice telling and writing time using an analog clock. They count by 5 to identify the minutes and pay close attention to the hour hand as it approaches the next hour. Students complete a digital clock to show the time. When students look for shortcuts to tell the time (for example, counting on from 30 rather than 0 or counting back from 60), they are looking for and expressing regularity in repeated reasoning (MP8).

Access for English Learners

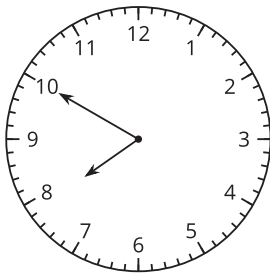
MLR8 Discussion Supports. Display sentence frames to support small group discussion as they compare their answers: "I agree because . . ." "I disagree because . . ."

Advances: Speaking, Conversing

Student-facing Task Statement

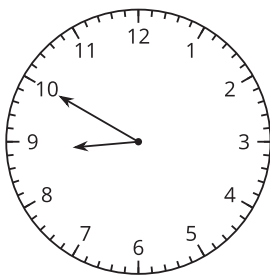
Write the time shown on each clock.

1.



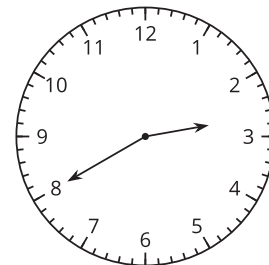
.	.
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2.



.	.
—	—

3.



Launch

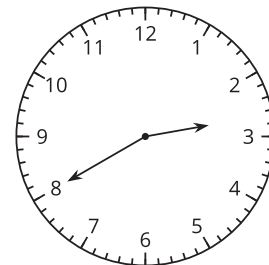
- Groups of 2

Activity

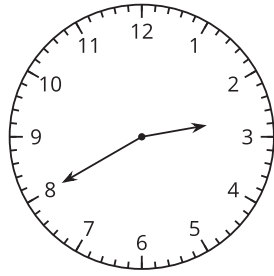
- "Now you will tell and write the time shown on an analog clock. Remember to pay close attention to the hour hand as the minute hand gets closer to the 12."
- "After writing the times, compare with a partner."
- 3 minutes: independent work time
- 3 minutes: partner work time
- Monitor for a student who counts on from 30 to tell time when the minute hand is past the 6.

Synthesis

- Display the image of the clock that shows 2:40.

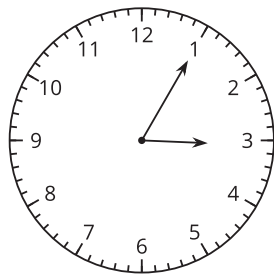


- Invite previously identified students to share their strategy for finding the time.
- "How did ____ know you could start counting at 30? Why does this work?" (They



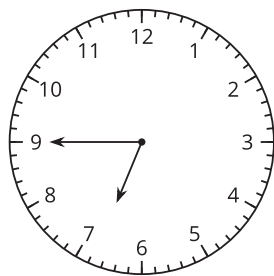
____ : ____

4.



____ : ____

5.

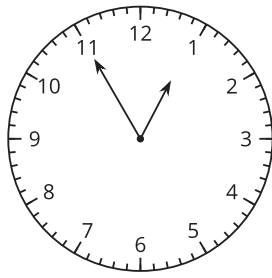


____ : ____

6.

know it is 2:30 when the minute hand points to 6, so they can just start there. It works because you will still count the same numbers. If you start at 30 you still say 35, 40. It is just faster.)

- Display the clock that shows 3:05 and write 3:5, 3:05, 3:50.
- “Which is the correct way to show the time on the clock using digits? Explain.” (3:05 because it’s five minutes after 3. You have to use 2 digits to show the minutes. It can’t be 3:50 because the minute hand would be closer to the 12 and the hour hand would be closer to the 4.)



•
•
— • —

Student Responses

1. 7:50
2. 8:50
3. 2:40
4. 3:05
5. 6:45
6. 12:55

Advancing Student Thinking

If students start counting by 5 at 12 or lose track when starting from a number on the clock other than 1, consider asking:

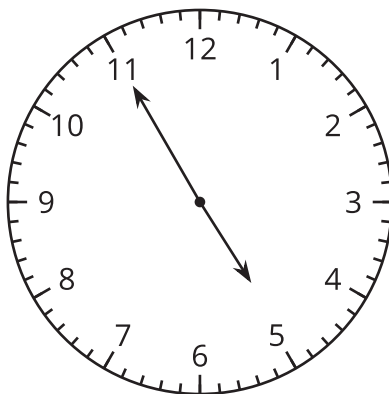
- “Can you explain how you got ___?”
- “How could you use what you know about half past ___ to count on to find the time?”

Lesson Synthesis

🕒 10 min

“Today we learned that each time the minute hand moves between the labeled numbers, 5 minutes have passed. This is why counting by 5 can help us tell time.”

Draw a clock that shows 4:55:



“Tell your partner what time is shown on the clock and how you know.” (It is almost 5:00, so it is 4:55.)

Share responses.

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Can You Draw It? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

Complete Cool-Down

Response to Student Thinking

Students say the clock shows 10:50 because the hour hand is closer to 10.

Next Day Support

- Before the warm-up, have students work in partners to practice reading times close to the next hour.

Lesson 13: Is It a.m. or p.m.?

Standards Alignments

Addressing 2.MD.C.7

Teacher-facing Learning Goals

- Label times using a.m. and p.m.
- Read and write time to the nearest 5-minute interval on analog and digital clocks.

Student-facing Learning Goals

- Let's read and write times using a.m. or p.m.

Lesson Purpose

The purpose of this lesson is for students to read and write time with analog and digital clocks, using a.m. and p.m.

In previous lessons, students learned to tell time to the nearest 5 minutes using analog clocks.

In this lesson, students practice telling time to the nearest 5 minutes. Students recognize that the hour hand goes around the clock twice each day, so a.m. and p.m. are used to distinguish between morning and night. Students relate a.m. and p.m. to specific times and activities during the day.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 2)

Instructional Routines

Choral Count (Warm-up), MLR8 Discussion Supports (Activity 1)

Materials to Gather

- Glue: Activity 1
- Scissors: Activity 1

Materials to Copy

- Hours in a Day Timeline (groups of 1): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How helpful is the linear representation of 1 day for developing an understanding of the repeating 12-hour cycle? What more do students need to build an understanding of the hours that make up a.m. versus the hours that make up p.m.?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Represent the Time

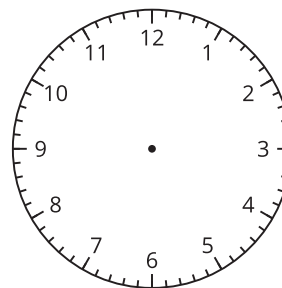
Standards Alignments

Addressing 2.MD.C.7

Student-facing Task Statement

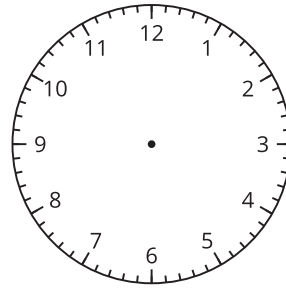
Draw the hands on the clock to show the time and circle a.m. or p.m.

1. The alarm clock wakes me up at 6:20.



a.m. or p.m.

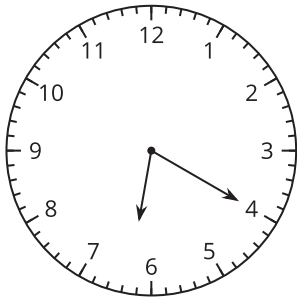
2. I watch TV at 4:45.



a.m. or p.m.

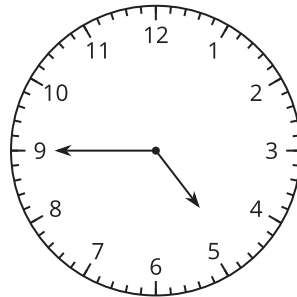
Student Responses

1.



a.m.

2.



p.m.

----- Begin Lesson -----

Warm-up

🕒 10 min

Choral Count: Count Around the Clock

Standards Alignments

Addressing 2.MD.C.7

The purpose of this Choral Count is for students to practice counting by 5-minute intervals. This will be helpful later in this lesson when students tell time to the nearest 5 minutes. It is important to note that after 3:55, the count switches to the next hour, 4:00, and begins again. Students may continue with 3:60. If this happens, use a demonstration clock to show the minute hand moving around the clock as students count. Students have been telling time to the hour since grade 1 and will likely realize it is __

o'clock, not __:60. Students may also be unsure of what to say for 4:05. Stop to discuss how students may have heard this time. Explain that we often say "O-5" when it is 5 minutes after the hour.

Instructional Routines

Choral Count

Student Responses

- Record the count.

	4:00	5:00
	4:05	
	4:10	
	4:15	
	4:20	
	4:25	
	4:30	
	4:35	
	4:40	
3:45	4:45	
3:50	4:50	
3:55	4:55	

- Sample responses:
 - Each column starts with a different hour. There's a 3 o'clock column, a 4 o'clock column, and a 5 o'clock column.
 - In the 4 o'clock column, the minutes start at 0 and count by 5 to 55.
 - The biggest minute number is 55. It starts a new hour after that.

Launch

- "Count on by 5 minutes, starting at 3:45."
- Record as students count.
- Stop counting and recording at 5:00.

Activity

- "Digital clocks represent time using digits. What patterns do you see?"
- 1-2 minutes: quiet think time
- Record responses.

Synthesis

- "Where do you see a change in the pattern of counting by 5?" (After 55, we go back to 0, or o'clock, instead of 60.)

Activity 1

What is the Time of Day?

 20 min

 PLC Activity

Standards Alignments

Addressing 2.MD.C.7

The purpose of this activity is for students to make sense of a visual representation of the hours in 1 day. This visual is designed to help students see the hours that make up a.m. and p.m. Since this is a linear representation, students might mention that the visual looks like a number line. It would be helpful to point out ways the 2 visuals are alike and ways they are different. For example, students may notice that the same 12 hours are repeated in each part of the day, but numbers do not repeat on a number line. Students have opportunities to develop logical arguments for why an event may happen during a.m. or p.m. hours and critique the arguments of others (MP3).

This activity uses *MLR8 Discussion Supports*. Advances: listening, conversing

Instructional Routines

MLR8 Discussion Supports

Materials to Gather

Glue, Scissors

Materials to Copy

Hours in a Day Timeline (groups of 1)

Required Preparation

- Create the Hours in a Day Timeline to display to students in the launch.
- Label the representation as “1 day.”



Student-facing Task Statement

1. Use the materials your teacher gives you to create your own representation for the hours in a day.
 - Circle and label when you eat breakfast, lunch, and dinner on the diagram.
 - Shade in when you might be sleeping.
2. Fill in the blank with a.m. or p.m. to show the time of day for each activity. Explain your thinking to your partner.

Launch

- Groups of 2
- “Clare starts school at 8:00.”
- “Clare’s bedtime is 8:00.”
- “How could both of these statements be true?” (School starts in the morning and bedtime is at night. There is an 8:00 in the morning and another 8:00 at night.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.
- Display a prepared timeline.

- a. Diego goes to baseball practice at 3:00 _____.
- b. Mai eats breakfast at 7:00 _____.
- c. Tyler eats lunch at 12:00 _____.
- d. Elena walks her dog at 2:00 _____.
- e. Han gets on the bus to go to school at 8:00 _____.
- f. The second-grade class has a snack at 10:00 _____.

Student Responses

1. Sample responses. Students identify different times for breakfast, lunch, dinner, and sleep showing a general understanding of a.m. and p.m.
2.
 - a. 3:00 p.m.
 - b. 7:00 a.m.
 - c. 12:00 p.m.
 - d. 2:00 p.m.
 - e. 8:00 a.m.
 - f. 10:00 a.m.

- “What do you notice? What do you wonder?” (It represents 1 day. Half is a.m. and half is p.m. Noon and midnight are labeled.)
- 1 minute: partner discussion
- Share responses.
- “Each day is broken up into 2 parts, called a.m. and p.m. We think of a.m. as morning and p.m. as afternoon and night.”
- Give each student a timeline, scissors, and access to glue.

Activity

- “Cut out the two parts of the day and glue them together. Circle and label when you eat breakfast, lunch, and dinner on the diagram. Then shade in all the times you might be sleeping.”
- 5 minutes: independent work time
- Share responses.
- “Now you are going to think about what part of a day different things might happen. Decide whether they would happen in the a.m. (morning) or p.m. (afternoon or night).”
- “When you make your choice, explain your thinking to your partner.”

MLR8 Discussion Supports

- Display sentence frames to support students when they discuss why an event would happen in the a.m. or p.m.:
 - “This would happen in the a.m./pm. because ...”
 - “I agree because ...”
 - “I disagree because ...”
- 5 minutes: partner work time

Synthesis

- “You had to decide if Elena walks her dog at 2:00 a.m. or p.m.”
- “Explain your reasoning for your answer.” (2:00 p.m. because 2 a.m. is in the middle of the night. Most people would not walk their dog in the middle of the night.)
- Point to the timeline display to show where 2:00 a.m. is on the diagram and explain that it is morning, but that we sleep during the early morning hours.
- “Since the hours repeat twice a day, we need to say a.m. or p.m. to be clear about the time we mean.”

Advancing Student Thinking

If students choose a.m. instead of p.m. or p.m. instead of a.m., consider asking:

- “Would this activity happen before or after noon?”
- “Would this activity happen in the morning, afternoon, or evening?”

Activity 2

🕒 15 min

Tell Time with a.m. and p.m.

Standards Alignments

Addressing 2.MD.C.7

The purpose of this activity is for students to practice telling and writing time from an analog clock, using a.m. and p.m. Students are not expected to draw the hands on the clock precisely, but it is important that they think about the relative position of the hour hand based on the hour and the minutes that have passed. When students explain whether the time is a.m. or p.m. and how they draw the hour hand on the analog clock, they attend to precision (MP6).

Access for Students with Disabilities

Representation: Internalize Comprehension. Begin by having students recall the a.m. and p.m. linear representation from Activity 1 where breakfast, lunch and dinner were marked, and sleep time was shaded. Allow this to be used as a reference for students in this activity.

Supports accessibility for: Conceptual Processing, Memory

Student-facing Task Statement

- Label each activity with a.m. or p.m.
- Draw a line to the time when the activity could take place.
- Draw the hands on the clock to show the time.

activity	time
do homework _____	1:50
get ready for bed _____	12:05
eat lunch _____	4:35
on the way to school _____	8:10
in bed sleeping _____	7:55

Launch

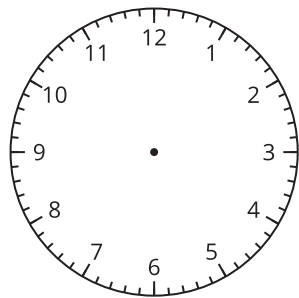
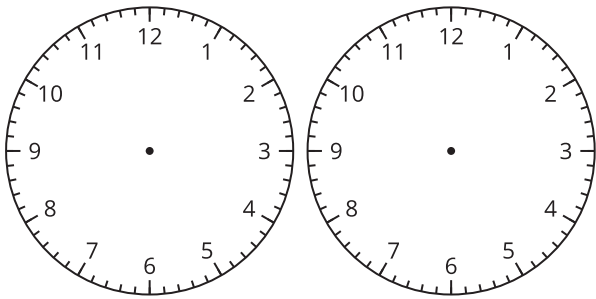
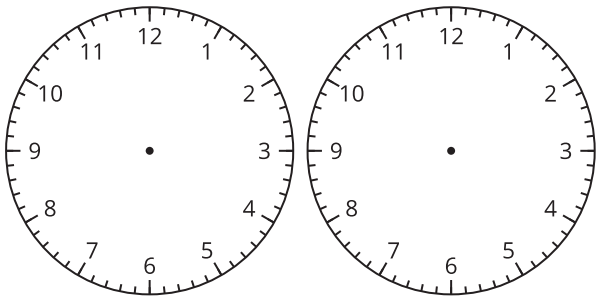
- Groups of 2

Activity

- “We have been looking at analog clocks and telling time based on where the hands are on the clock.”
- “Now you are going to label activities with a.m. or p.m. Then draw a line to the digital clock that shows the time the activity could take place.”
- “Then you will draw the hands on the clock to show the same time as the digital clock.”
- “Use each clock only once.”
- 3 minutes: independent work time
- 5 minutes: partner work time

Synthesis

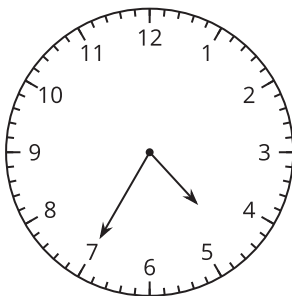
- Invite students to share whether each activity would be a.m. or p.m.
- Invite students to share the hour they chose and how they showed the time on the analog clock.
- Consider asking:
 - “Why did you choose this time?”
 - “How did you decide where to draw the minute hand?”
 - “How did you decide where to draw the hour hand?”



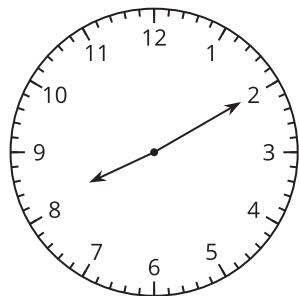
Student Responses

do homework
4:35 p.m.

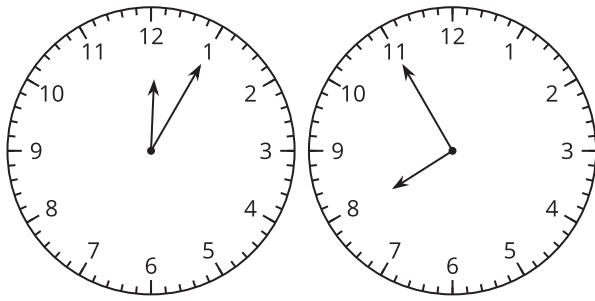
get ready for bed
8:10 p.m.



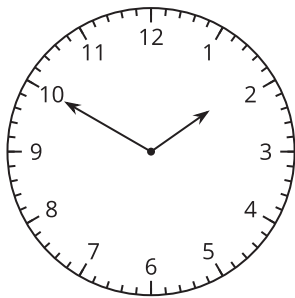
eat lunch
12:05 p.m.



on the way to school
7:55 a.m.



in bed sleeping
1:50 a.m.



Advancing Student Thinking

If students do not explain their choices to their partner or give feedback on how they show the time, consider asking:

- “Do you agree that this activity would happen in an a.m. time or p.m. time? Why or why not?”
- “Do you agree or disagree with how your partner drew the hour and minute hand? Explain.”
- “Do you have any suggestions for how your partner could draw the minute and hour hands to make it easier to read the time?”

Lesson Synthesis

🕒 10 min

“Today we learned that the hours in a day are split into 2 groups called a.m. and p.m. We learned that a.m. is usually thought of as morning and p.m. is thought of as afternoon and night.”

Display:

- wake up

- eat lunch
- read a book before bed
- brush teeth

“Tell your partner what time you might do each of these activities. Include a.m. or p.m. with the time.”

Share responses.

Suggested Centers

- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Can You Draw It? (1–5), Stage 2: Grade 2 Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)

Student Section Summary

In this section, we learned to read clocks to tell and write time to the nearest 5 minutes. By counting by 5 starting at the number 1, we can tell the time in hours and minutes. We can also use half past, quarter past, or quarter till to tell time when the minute hand is in certain positions. To show the time of day, we use a.m. and p.m. when we tell and write time.



----- Complete Cool-Down -----

Response to Student Thinking

Students choose p.m. instead of a.m or a.m. instead of p.m.

Next Day Support

- Before the warm-up, have students work in groups of 2 to discuss a correct response to this cool-down.

Lesson 14: Center Day 3 (Optional)

Standards Alignments

Addressing 2.G.A, 2.G.A.1, 2.NBT.B.5, 2.NBT.B.6

Teacher-facing Learning Goals

- Practice addition and subtraction within 100.
- Recognize and describe shapes seen in picture books.

Student-facing Learning Goals

- Let's notice shapes in books and practice adding and subtracting.

Lesson Purpose

The purpose of this lesson is for students to recognize shapes, describe the attributes of shapes, and practice adding and subtracting within 100.

This lesson is optional because it is an opportunity for extra practice that not all classes may need. In Activity 1, students revisit stage 3 of the Picture Books center. This center was first introduced in Kindergarten, and this stage in grade 1. In this stage, called Find Shapes, students describe, draw, and name shapes. As students learn more ways to describe shapes and their attributes, the shapes they notice and how they describe and name them may change. In Activity 2, students choose to continue working on Picture Books, or choose between two previously introduced centers focused on adding and subtracting within 100.

Instructional Routines

Number Talk (Warm-up)

Materials to Gather

- Materials from previous centers: Activity 2
- Picture books: Activity 1

Materials to Copy

- Picture Books Stage 3 Recording Sheet (groups of 1): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	25 min

Teacher Reflection Question

Think about which students haven't shared their strategies in class lately. Were there missed opportunities to highlight their thinking during recent lessons? How can you take advantage of those opportunities when they arise?

Lesson Synthesis

10 min

 Begin Lesson

Warm-up

🕒 10 min

Number Talk: Adding Up to 4 Two-digit Numbers

Standards Alignments

Addressing 2.NBT.B.5, 2.NBT.B.6

This Number Talk encourages students to think about adding multiples of 5 to other multiples of 5 and to look for ways to use the structure of the base-ten system and the properties of operations to mentally solve problems (MP7). The strategies elicited here help students develop fluency with addition within 1,000.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $10 + 15 + 20 + 10$
- $5 + 30 + 20$
- $15 + 20 + 30$
- $25 + 15 + 5 + 15$

Student Responses

- 55: I counted on all the tens first 10, 20, 40, 50, then I added the 5 ones and got 55.
- 55: $30 + 20 = 50$ and $50 + 5 = 55$
- 65: it is just 10 more than the last sum.

Launch

- Display one expression.
- “Give me a signal when you have an answer and can explain how you got it.”
- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- “How can you tell which sums will have 0 ones

- 60: $25 + 15 = 40$ and $5 + 15 = 20$ and $40 + 20 = 60$

and which sums will have 5 ones?"

Activity 1

🕒 15 min

Introduce Picture Books, Find Shapes

Standards Alignments

Addressing 2.G.A

The purpose of this activity is for students to learn stage 3 of the Picture Books center. Students look through picture books and notice and describe shapes they see in the pictures.

Materials to Gather

Picture books

Materials to Copy

Picture Books Stage 3 Recording Sheet
(groups of 1)

Required Preparation

Each group of 2–4 needs at least one picture book that shows a variety of shapes throughout the book.

Launch

- Groups of 2
- Give each student a recording sheet and each group 2–4 picture books.
- “We are going to learn a new way to do the Picture Books center.”
- “Your group will look through picture books and notice and describe shapes you see in the pictures. On your recording sheet, you will each sketch the shape you see, describe it, and name it.”

Activity

- 10 minutes: partner work time

- Monitor for different shapes students notice.

Synthesis

- “What shapes did you find most often?”

Activity 2

🕒 25 min

Centers: Choice Time

Standards Alignments

Addressing 2.G.A, 2.G.A.1

The purpose of this activity is for students to choose from activities that focus on adding and subtracting within 100. Students may also choose to continue working on Picture Books as one of their choices.

Students choose from any stage of previously introduced centers.

- Capture Squares
- Number Puzzles
- Picture Books

Materials to Gather

Materials from previous centers

Required Preparation

Gather materials from:

- Capture Squares, Stages 3–4
- Number Puzzles, Stages 2–4
- Picture Books, Stage 3

Student-facing Task Statement

Choose a center.

Capture Squares



Number Puzzles

$$14 = 8 + \square$$

Picture Books



Launch

- “Now you will choose from centers we have already learned. One of the choices is to continue with Picture Books.”
- Display the center choices in the student book.
- “Think about what you would like to do first.”
- 30 seconds: quiet think time

Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- “Choose what you would like to do next.”
- 10 minutes: center work time

Synthesis

- “What did you like about the activities you worked on today?”

Lesson Synthesis

🕒 10 min

“Today we looked for shapes in books and our classroom. What is something you noticed as you looked for shapes?”

Section D: The Value of Money

Lesson 15: Identify Pennies, Nickels, and Dimes

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.A.2, 2.NBT.B.5, 2.NBT.B.6, 2.NBT.B.8

Building Towards 2.MD.C.8

Teacher-facing Learning Goals

- Identify pennies, nickels, and dimes and know their values.
- Use skip counting and counting on by 5 and 10 to find the value of a set of coins.

Student-facing Learning Goals

- Let's learn about coins and their values.

Lesson Purpose

The purpose of this lesson is for students to identify pennies, nickels, and dimes and find the total value of a set of coins.

In previous units, students learned to use a ten when adding or subtracting within 100. They also used counting on or counting back as a strategy when adding or subtracting, including counting on or counting back by 5 and 10.

In this lesson, students recognize dimes, nickels, and pennies and learn their values. Students find the value of a set of coins by adding within 100. They may also use skip counting or counting on to find the value of a set of coins. When finding total values of a mixed combination of coins, students may group like coins, use multiples of 10 to add within 100, or count on. Students use the cent symbol when writing total values of coin collections.

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

English Learners

- MLR2 (Activity 2)

Instructional Routines

What Do You Know About ____? (Warm-up)

Materials to Gather

- Scissors: Activity 2

Materials to Copy

- Money Poster Images (groups of 0): Activity 1
- Coins to Cut and Count (groups of 1): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

What did you learn about your students' understanding of money during this lesson? What did you notice in their work from today's lesson that you might leverage in that future lesson?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Do I Have Enough?

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

Student-facing Task Statement

Jada has a group of coins.



1. How many **pennies** does Jada have? _____

2. How many **nickels** does Jada have? _____
3. How many **dimes** does Jada have? _____
4. What is the value of her coins? Show your thinking using numbers, words, drawings, or equations.

Student Responses

1. 7 pennies
2. 3 nickels
3. 4 dimes
4. Jada has 62¢. Sample response: $40 + 15 + 7 = 55 + 5 + 2 = 60 + 2 = 62$

Begin Lesson

Warm-up

🕒 10 min

What Do You Know About Money?

Standards Alignments

Building Towards 2.MD.C.8

The purpose of this warm-up is to invite students to share what they know about money. Students did not work with money in grade 1, but may be familiar with coins and dollars from their experiences outside of school. This warm-up allows teachers to hear the language students use to talk about money and how much they know about coins and their values.

Instructional Routines

What Do You Know About ____?

Student-facing Task Statement

What do you know about money?

Launch

- “What do you know about money?”
- 1 minute: quiet think time

Student Responses

Sample responses:

- You use it to buy things.
- Some money is made out of paper.
- There are different coins.
- Coins are different sizes and colors.
- Most coins are silver.
- You can have dollars.
- A quarter is 25 cents.

Activity

- Record responses.

Synthesis

- "Today we are going to learn more about money."

Activity 1

🕒 20 min

Show Me the Money

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.A.2

The purpose of this activity is for students to identify pennies, nickels, and dimes. Students find the total value of a set of like coins by counting on or skip counting by five or ten.

Materials to Copy

Money Poster Images (groups of 0)

Required Preparation

- Create a money poster to display during the activity launch and throughout the section.
- Cut out money images from the Instructional master and tape the dollar bill images.
- (optional) Gather collections of real or plastic coins.

Student-facing Task Statement

Name the coins in each group and find the value in cents. Show your thinking using numbers, words, drawings, or equations.

Launch

- Groups of 2
- Display the pre-made poster to show front and back images of pennies, nickels, and dimes. See sample below.

1. Andre's coins:



a. Circle the name of the coins in this collection:

dimes nickels pennies

b. What is the value of the coins?

2. Clare's coins:



a. Circle the name of the coins in this collection:

dimes nickels pennies

b. What is the value of the coins?

3. Han's coins:



a. Circle the name of the coins in this collection:







dimes nickels pennies

b. What is the value of the coins?

4. Show 2 different ways to make 10¢ using numbers, words, or drawings.

Student Responses

1. a. dimes
b. 70¢
2. a. pennies
b. 7¢
3. a. nickels
b. 35¢
4. Sample responses: 1 dime, 2 nickels, 10 pennies, or 1 nickel and 5 pennies

name	front	back	value
			
			
			

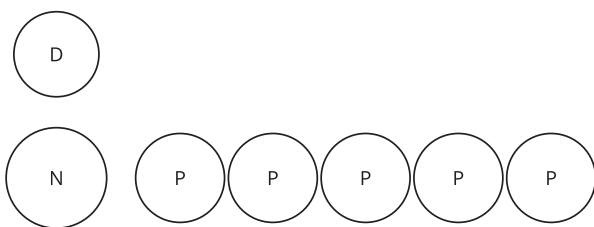
- "Each coin has a value in cents. Does anyone know the names or values of these coins?"
- Share and record responses.
- Write the name and value of each coin on the poster.
- "When we write the total value we use the cent symbol after the number to show that it represents cents."
- Demonstrate writing the ¢ symbol next to the amount.

Activity

- "Now you are going to find the value of 3 coin collections."
- "Don't forget to use the cent symbol when writing your answer."
- 5 minutes: independent work time
- 3 minutes: partner discussion

Synthesis

- Display Han's coins.
- "What do you notice about Han's coins?" (They're nickels. They're all the same size. Some show a head and some show a building. One side says "five cents.")
- "How did you find the value of Han's coins?"
- Share responses.
- As needed, summarize the responses: "All coins have a front and a back. Coins of the



same type, like nickels, all have the same size. When you count coins that have the same value, you can skip count or count on by that value.”

- If time, review other student responses.

Activity 2

🕒 15 min

Compare Coins

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.NBT.B.6, 2.NBT.B.8

The purpose of this activity is for students to find the total value of a set of coins that contain different denominations. Students first identify each coin and confirm they have the right value assigned to the coins. They need to know the value of each coin before doing the calculations, so it is okay if they need to refer to the chart. Students find the value of a mixed set of coins by counting on, adding, or grouping like coins and then adding their total values. For example, a student might explain their thinking by saying, “I put all the dimes together, nickels together, and pennies together first, and then added $30 + 20 + 6$.” When students group the coins in order to find their value efficiently they strategically use base-ten structure (MP7).

🌐 Access for English Learners

MLR2 Collect and Display. Synthesis: Direct attention to words, values, and images of coins from the previous activity. Invite students to borrow language from the display as needed, and update it throughout the lesson.

Advances: Conversing, Reading

♿ Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Check for understanding by inviting students to verbally name each coin, and write the value on or above the coins. Keep a display of the coin poster from Activity 1 throughout the lesson.

Supports accessibility for: Memory; Organization

Materials to Gather

Scissors

Materials to Copy

Coins to Cut and Count (groups of 1)

Required Preparation

- Each group of 2 needs access to the Instructional master to cut out coins as needed (color-printing recommended) or a collection of real or plastic coins.

Student-facing Task Statement

Name the coins in each group and find the value in cents. Show your thinking using numbers, words, drawings, or equations.

1. Mai's coins:



a. Circle the names of the coins in this collection:

dimes nickels pennies

b. What is the value of the coins?

2. Andre's coins:



a. Circle the names of the coins in this collection:

dimes nickels pennies

b. What is the value of the coins?

3. Clare's coins:

Launch

- Groups of 2
- Give students access to coins or a copy of the coins to cut out the nickels, dimes, and pennies.

Activity

- "When all the coins are the same, we can use skip counting to find the total value."
- "Sometimes we have to try different methods to find the value of coins when there are different coins together."
- "Work on your own to name the coins and find the value of each collection."
- 8 minutes: independent work time
- "Compare with your partner and work together to answer the questions to compare the value of the different groups of coins."
- 3 minutes: partner discussion
- Monitor for students who:
 - group like coins to skip count, count on, or add
 - look for ways to count by ten or make ten

Synthesis

- Invite selected students who added or skip counted in various orders or share their reasoning. Highlight the use of 10 in the



a. Circle the names of the coins in this collection:

dimes nickels pennies

b. What is the value of the coins?

4. Priya's coins:



a. Circle the names of the coins in this collection:

dimes nickels pennies

b. What is the value of the coins?

5. Compare your coin names and how you found the values with your partner.
6. Whose group of coins has the least value?
7. Who has the most coins? Does this group of coins have the greatest value? Explain.

Student Responses

1. a. nickels and pennies
b. 17¢
2. a. dimes and pennies
b. 26¢
3. a. dimes and nickels
b. 75¢
4. a. dimes, nickels, and pennies
b. 56¢
5. Sample responses:

methods.

- "How did you organize the coins to find the total value of Priya's coins? Why did you choose to organize them this way?" (First I counted all the dimes, then nickels, then pennies, and then I added it all up.)
- Share and record student thinking and equations.

- Clare has nickels and dimes. I counted the first row and got 40 and the second row and got 35. $40 + 35 = 75$. She has 75 cents.
 - Clare has nickels and dimes. I got 75 cents too, but I counted differently than you. I counted all the dimes by ten first and got 50 cents. Then I counted the nickels by 5 and got 25 cents. $50 + 25 = 75$
6. Mai's coins have the least value.
7. Priya has the most coins. Her coins only have a value of 56¢. I think Clare's are worth more because she has a lot of dimes and dimes are worth more.

Advancing Student Thinking

If students find a value other than the value of each coin collection, consider asking:

- "Explain how you found the total value of the collection?"
- "What is the value of each coin in the collection?"
- "How could you organize the coins to help find the value?"

Lesson Synthesis

🕒 10 min

"Today we found the value of sets of coins and used the cent sign to show the unit. Just like when we added within 100, there are different methods we can use to find the total."

Display Clare's and Priya's groups of coins from the previous activity.

Clare's Coins



Priya's Coins



“Priya has the most coins, but her coins were not worth the most. How is that possible?” (Pennies are only worth 1 cent, and Priya has more pennies. Clare has 5 dimes which is 50 cents. It is not how many coins you have, it’s how much they are worth that matters.)

Suggested Centers

- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)

----- Complete Cool-Down -----

Response to Student Thinking

Students find a value for the coins other than 62¢.

Next Day Support

- Before the warm-up, have students practice counting coin values using nickels, dimes, and pennies.

Lesson 16: Identify Quarters

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.A.2, 2.NBT.B.5

Teacher-facing Learning Goals

- Find the value of a set of coins including all combinations.
- Identify and know the value of quarters.

Student-facing Learning Goals

- Let's learn about quarters and find the value of different sets of coins.

Lesson Purpose

The purpose of this lesson is for students to identify quarters and find the total value of a set of coins including quarters.

In a previous lesson, students recognized dimes, nickels, and pennies and learned their values. They used different strategies to find the value of a mixed set of coins.

In this lesson, students recognize the quarter and learn its value. They find the value of groups of coins and look for ways to represent the same value with different coins. Throughout the lesson, students make connections between quarters and combinations of other coins and notice that if they look for ways to use coins with a larger value first, they can be more certain they are using the fewest amount of coins (MP8).

In both activities, students continue to practice finding the values of coin collections using methods for adding within 100. Throughout the lesson, look for the different ways students find the value of coins collections and organize their thinking. While some students will continue to group like coins and add to find the total value, others will count on from the largest value (25, 35, 45, 50, 55, 56, 57, 58) or look for other ways to use ten (25, 30, 40, 50, 55, 56, 57, 58).

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

Instructional Routines

Choral Count (Warm-up), MLR7 Compare and Connect (Activity 1)

Materials to Copy

- Coins to Cut and Count (groups of 1): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

Which students surprised you with their ways of organizing coins and finding total values? How can you leverage what these students know to ensure they develop strategies to solve story problems in the context of money in the upcoming lessons?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Tyler's Pocket Change

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

Student-facing Task Statement

Tyler had 6 pennies, 2 dimes, 2 quarters, and 2 nickels in his pocket.



How many cents does Tyler have? Show your thinking using drawings, numbers, words, or an equation.

Student Responses

Tyler has 86¢. Sample responses:

- $25 + 25 = 50$, 50, 60, 70, 75, 80, 81, 82, 83, 84, 85, 86
- $25 + 25 = 50$, $10 + 10 = 20$, $5 + 5 = 10$, and 6 pennies, so $50 + 20 + 10 + 6 = 86$

Begin Lesson

Warm-up

🕒 10 min

Choral Count: Counting on by 5

Standards Alignments

Addressing 2.NBT.A.2

The purpose of this Choral Count is for students to practice counting on by 5 and to notice patterns in the count. These understandings help students develop fluency and will be helpful later in this lesson and future lessons when students show their thinking when finding total values of sets of coins.

Instructional Routines

Choral Count

Student Responses

- Record 15–85 in a single row.
- Record 40–100 in a single row directly below the first row starting with 40 directly under 20.

Sample responses:

- Every other column has a zero in the ones place and the other columns have a five in the ones place.
- When you could by 5, the digit in the ones

Launch

- “Count by 5, starting at 15.”
- Record in a single row as students count.
- Stop counting and recording at 85.
- “Count by 5, starting at 40.”
- Record in a single row directly below the first count as students count. Put 40 directly below 20, so that the fives and zeros in the ones place of each number are aligned.
- Stop counting and recording at 100.

places changes from 0 to 5 and back again.

- The number in the tens place in each row stays the same for two numbers and then changes. Like 20 and 25 both have 2 tens, but then it changes to 3 tens for two numbers.

Activity

- “What patterns do you see?”
- 1–2 minutes: quiet think time
- Record responses.

Synthesis

- “Who can restate the pattern in different words?”
- “Does anyone want to add an observation as to why that pattern is happening here?”

Activity 1

 20 min

How Much is a Quarter Worth?

 PLC Activity

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

The purpose of this activity is for students to learn the value of a quarter and find combinations of coins that have the same value as a set of quarters. Look for ways students use what they know about tens and ones and counting by 10 and 5 as they reason about different ways to represent the same value in cents. Listen for ways students make connections between the value of a coin and the number of coins needed to represent the same value (MP8).

It would be helpful for students to have access to real coins or plastic coins, but if they are not available students can cut out coins using the money Instructional master.

This activity uses *MLR7 Compare and Connect*. Advances: representing, conversing

Instructional Routines

MLR7 Compare and Connect

Materials to Copy







Coins to Cut and Count (groups of 1)

Required Preparation

- Take down or cover the coin poster before the launch.
- Add a quarter to the money chart showing the front and back.
- Each group of 2 needs access to a copy of the Instructional master or a collection of real or plastic coins.

Student-facing Task Statement









Write the names and values of the coins you know.

name	front	back	value
			
			
			
			







Complete the table so each row shows a value in cents and two different groups of coins that have that value.

Launch

- Groups of 2
- Take down or cover the coin poster.
- Give students access to coins or a copy of the coins to cut out the quarters, nickels, dimes, and pennies.
- “Take a few minutes to fill in the chart based on what you know. Don’t forget to use the cent symbol when writing the values.”
- 2 minutes: partner work time
- Display coin poster with quarter added.

name	front	back	value
			
			
			
			

- “Now compare with the poster to see if you named them all correctly.”
- Point to the quarter.
- “Does anyone know the name and value of this coin?” (It’s a quarter and it’s worth 25 cents.)
- “A quarter is worth 25 cents. The coin is larger than a nickel. It usually says ‘quarter dollar’ on the front. Quarters have many different things on the back, but they are

	coins	value in cents	coins with same value
1.			
2.		50¢	
3.			
4.			
5.			
6.		80¢	

Student Responses

- 25¢
- Sample responses: 5 dimes or quarter, 2 dimes, and 1 nickel
- 50¢. Sample responses: 2 quarters or 4 dimes and 2 nickels
- 75¢. Sample responses: 2 quarters, 2 dimes, and 1 nickel or 7 dimes and 1 nickel
- 45¢. Sample responses: 1 quarter and 2 dimes or 3 dimes and 3 nickels
- Sample responses: 3 quarters and 1 nickel, 8 dimes, 7 dimes and 2 nickels, 2 quarters and 3 dimes

always the same size.”

Activity

- “Today, you will find the value of a few sets of coins and find another way to make the same amount using different coins.”
- “You can represent coins with drawings or you can glue the coins you have cut out onto the page.”
- As needed:
 - Show students how to draw and label circles to represent coin values.
 - Instruct students to use coins or cut out coins to help them.
- “Try to use quarters when possible.”
- 10 minutes: independent work time
- “Compare with a partner.”
- 5 minutes: partner discussion
- Monitor for students who:
 - use only dimes or a combination of different coins to show 80¢
 - use the least amount of coins to show 80¢
 - find ways to include a quarter each time that quarters are not given

Synthesis

MLR7 Compare and Connect

- Share and display the different ways students used coins to show a value of 80¢.
- “What is the same and what is different between the groups of coins?”
- “What is helpful about using quarters to make a certain value?” (You can use fewer coins.)
- Invite previously identified students to show how they used quarters each time to find values using fewer coins.

Advancing Student Thinking

If students try to use the same coins each time, consider asking:

- “Is there another way to make this amount using all the different coins?”
- “How can you use a quarter to help you find the same amount?”

Activity 2

🕒 15 min

More Coins to Compare

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

The purpose of this activity is for students to find the value of sets of coins that include a quarter and to make connections between the value of a coin and the number of coins needed to represent a given value. As students reason about how to represent a given value with coins, listen for the language they use to describe the value of the coins they use. Some students may consider starting with a coin with the largest value because they can reach the total faster. Others may also show what they know about place value to use dimes and pennies to show a number of ten cents and one cents (MP7).

🕒 Access for Students with Disabilities

Action and Expression: Internalize Executive Functions . Invite students to plan a strategy (including the possible use of a number line to add, what order they will add the coins in, and so on) for finding the total value of their coin collections. If time allows, invite students to share their plan with a partner before they begin.

Supports accessibility for: Organization; Attention

Student-facing Task Statement

- | | |
|------------------|------------|
| 1. Elena's Coins | Elena has: |
| | quarters |

Launch

- Groups of 2



dimes

nickels

pennies

How many cents? Show your thinking.

2. Tyler's Coins

Tyler has:



quarters

dimes

nickels

pennies

How many cents? Show your thinking.

3. Make your own set of coins with a value of 97¢.

I used:

quarters

dimes

nickels

pennies

4. Make your own set of coins with a value of 66¢. Use the fewest number of coins possible.

I used:

quarters

dimes

nickels

pennies

Activity

- “Now, you will find the value of 2 sets of coins including quarters. Then you'll make your own sets of coins that have a given value.”
- “Circle the coins used in each set and show the value.”
- 8 minutes: independent work time
- Monitor for students who:
 - count on from the coin with the largest value
 - group like coins and add the value of each group
 - use equations or clear labels to keep track of their thinking
- “Compare your set of coins with a partner to see how they were similar or different.”
- 2 minutes: partner discussion
- Monitor for different ways students made a set of coins with a value of 97 cents to share in the Lesson Synthesis, including:
 - using dimes and pennies to match the tens and ones
 - using quarters, then dimes, then pennies to use the fewest amount of coins

Synthesis

- Invite previously identified students to share how they found the value of Elena's coins.
- “When we have a group of coins with different values, what are some methods you use to find the total?” (Grouping like coins, starting with the greater values first, counting on by 5 or 10.)
- As time permits, invite students to share how they counted Tyler's coins.

Student Responses

1. Elena's collection has 83¢.
2. Tyler's collection has 47¢.
3. $25 + 25 = 50$, 60, 70, 80, 90, 95, 96, 97. 2 quarters, 4 dimes, 1 nickel, and 2 pennies.
4. $25 + 25 = 50$, 60, 65, 66. 2 quarters, 1 dime, 1 nickel, and 1 penny.

Advancing Student Thinking

If students combine coins to find the value, but do not use the fewest number of coins possible for problem 4, consider asking:

- "How do you know your coins have a value of 66 cents?"
- "How do you know you have used the fewest number of coins?"
- "Is there a way you could swap out a group of your coins for 1 coin that's worth the same amount of cents?"

Lesson Synthesis

🕒 10 min

"Today you found the value of sets of coins and used the cent sign to show the unit. Just like when we composed numbers in different ways with different numbers of hundreds, tens, and ones, we can use different combinations of coins to make the same value in cents."

Invite previously selected students to share their reasoning.

"There were different ways to make 97¢. What is the same or different about how ____ showed it and ____ showed it?"

Suggested Centers

- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)

----- Complete Cool-Down -----

Response to Student Thinking

Students write a value other than 86¢.

Next Day Support

- Before the warm-up, have students practice counting coin values using quarters, nickels, dimes, and pennies.

Lesson 17: Let's Make a Dollar

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.NBT.B.6

Teacher-facing Learning Goals

- Find combinations of coins that have a value of 100 cents.
- Understand that a dollar has the same value as 100 cents.

Student-facing Learning Goals

- Let's make a dollar.

Lesson Purpose

The purpose of this lesson is for students to add and subtract within 100 to find values of 100 cents and recognize a dollar as the same value as 100 cents.

In previous lessons, students learned the values of quarters, dimes, nickels, and pennies. They used strategies for adding within 100 to find the total value of a set of coins and found different combinations of coins that have the same value.

In this lesson, students find different combinations of coins that have a value of 100 cents. They learn that a dollar has the same value as 100 cents. Thinking about 1 dollar and 100 cents as the same amount connects to students understanding that a hundred is the same as 10 tens or 100 ones. They can use this understanding to support making a dollar out of dimes and other coin denominations.

Students count groups of coins that have a value that is more than 100 cents. Students may count coins to make 100 cents, and then count the value of the coins that are left over. Students record the value of the coins as "1 dollar and ____ cents." In grade 2, students will not write dollars and cents using decimal notation, as this notation is reserved for their study of decimals and fractions in grade 4 and beyond.

Access for:

Students with Disabilities

- Engagement (Activity 2)

English Learners

- MLR8 (Activity 1)

Instructional Routines

Number Talk (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How did students' understanding of base-ten units and place value support them as they combined coins to make 100 cents or a dollar? How can you help make these connections more clear in upcoming lessons?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Dollars and Cents

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

Student-facing Task Statement

What is the total value of these coins? _____



Show your thinking.

Student Responses

1 dollar and 16 cents or 116 cents

Sample response:

Students circle 2 quarters, 4 dimes, and 2 nickels.

$$25 + 25 = 50$$

$$50 + (10 + 10 + 10 + 10) = 90$$

$$90 + (5 + 5) = 100$$

I have 2 nickels, which is 10 cents, and 6 pennies left.

So there's a dollar and 16 cents.

----- Begin Lesson -----

Warm-up

🕒 10 min

Number Talk: Add 25

Standards Alignments

Addressing 2.NBT.B.5, 2.NBT.B.6

This Number Talk encourages students to use their experiences counting coins and skip counting by 10 and 5 to add within 100. The understandings elicited here will be helpful in later lessons when students solve money problems with amounts including dollars and cents.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $25 + 10 + 10 + 5$

Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."

- $25 + 25$
- $25 + 25 + 25$
- $25 + 25 + 25 + 25$

Student Responses

- 50: I started with 25 and counted by 10 two times to get to 45. Then I added 5 more to get 50.
- 50: I know $25 + 25 = 50$ like two quarters is 50 cents.
- 75: I know $25 + 25 = 50$. I added two more tens to get to 70 and 5 more to get 75.
- 100: I knew $25 + 25 + 25 = 75$ from the last expression. I added 5 more to get 80. 8 tens and 2 tens make 10 tens. I know 10 tens is 100.

- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- "How could these expressions help us think about solving money problems?" (It's like adding quarters, dimes, and nickels.)

Activity 1

 15 min

Many Many Cents

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

The purpose of this activity is for students to find coin combinations that have a value of 100 cents and make connections between coin collections that have the same value. They are invited to connect the value of nickels to dimes and relate their understanding of place value to represent 100 cents with dimes (MP7). In the next activity, students learn that 100 cents is the same as a dollar.

Access for English Learners

MLR8 Discussion Supports. Synthesis: Some students may benefit from the opportunity to rehearse what they will say with a partner before they share with the whole class.

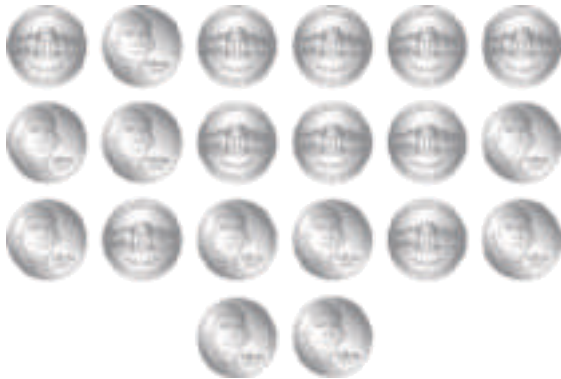
Advances: Speaking

Required Preparation

- Display the money poster where students can see it to check coin values.

Student-facing Task Statement

1. Coin Collection A



Circle the coins
in this collection.

How many coins?

quarters

What is the value in
cents?

dimes

Show your thinking.

nickels

pennies

2. Coin Collection B



Circle the coins
in this collection.

How many coins?

quarters

What is the value in
cents?

dimes

Show your thinking.

Launch

- Groups of 2

Activity

- "Today, we will continue our work with money."
- "For each set of coins, identify the coin and count to see how many coins are in the collection."
- "Then find the total value of the coins using a method that makes sense to you."
- 8 minutes: independent work time
- "Compare with a partner."
- 4 minutes: partner discussion

Synthesis

- "How could you use what you know about nickels to figure out how many dimes you needed?" (For every 2 nickels we needed 1 dime.)
- "How many pennies would you need in order to have the same value? Explain." (100 because a penny is worth 1 cent, so you need 100 to make 100 cents.)
- "What do you notice about each coin collection? What do you wonder?" (I notice it takes more nickels to have the same value than quarters or dimes. It only takes 4 quarters. It takes 10 dimes just like it takes 10 tens to make 100. Is 100 cents the same as a dollar?)

nickels

pennies

3. Coin Collection C

Make a collection using only dimes that has the same value as Collection A.

Glue or draw coins here.

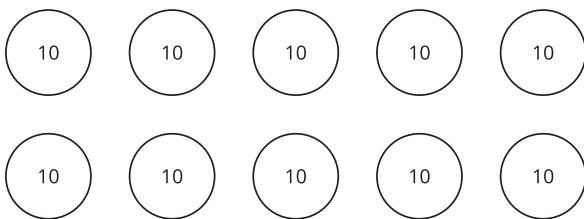
How many coins? _____

What is the value in cents?

Show your thinking.

Student Responses

1. There are 20 nickels. The total value is 100¢.
(5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100)
2. There are 4 quarters. The total value is 100¢.
($25 + 25 = 50$ and $50 + 50 = 100$)
3. I drew 10 dimes. It is also worth 100 cents. I counted by 10 until I got to 100. It took 10 dimes.



Activity 2

🕒 20 min

The Value of a Dollar

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5

The purpose of this activity is for students to find combinations of coins with a value of 100 cents and understand that a dollar is the same as 100 cents. They add within 100 by grouping like coins, using a ten, or using counting on strategies. They find coin combinations that add up to 100 cents or 1 dollar and write the leftover amount as cents. This work builds on students' understanding of a hundred.

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Chunk the tasks by question and check in with students to provide feedback and encouragement after each question. Look for the students to be using a strategy and ask them to verbalize their solution to ensure they are on the right track.

Supports accessibility for: Language; Organization

Required Preparation

- Add a dollar bill to the money poster showing the front and back to display in the launch.

Student-facing Task Statement



1. Andre emptied his pockets and found these coins.



How much money does he have? Show your thinking.

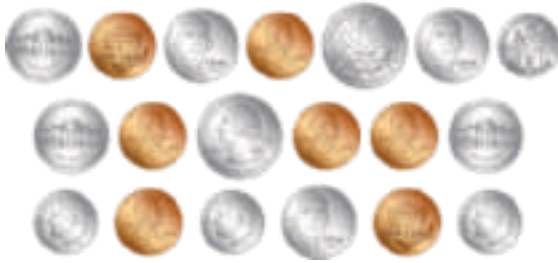
2. Han emptied his pockets and found these

Launch

- Groups of 2
- Display the poster with the dollar added.

name	front	back	value
			
			
			
			
			
			
			
			
			
			
			
			

coins.



How much money does he have? Show your thinking.

3. Priya has \$1 and 18¢ in her pocket.

a. If Priya only had coins in her pocket, what coins could she have?

Represent Priya's coins:

b. If Priya had 1 dollar bill and some coins, what coins could she have?

Represent Priya's money:

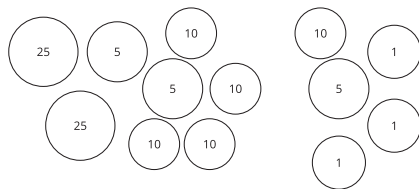
Student Responses

1. Andre has \$1 and 10¢.

2. Han has \$1 and 27¢.

3.

a. Answers vary. Sample responses:
Priya could have 4 quarters, 3 nickels, and 3 pennies.



b. Answers vary. Students draw \$1 and coins to represent 18¢.

- Display a dollar and a quarter and write \$1 and 25¢.



- "When you write dollar amounts you use the \$ symbol. Use the ¢ symbol for the amount that cannot be grouped to make a dollar."

Activity

- "Now, you are going to work with a partner to make dollars and cents."
- 10 minutes: partner work time
- Monitor for students who show Priya's money in different ways to share in the Lesson Synthesis.

Synthesis

- "I noticed that when you were creating a coin collection for Priya, there were different solutions."
- "How is it possible that everyone represented the same amount of money?" (Different coins can show the same amount, but you need a different number of coins.)
- Invite students to share different combinations of coins they used to make \$1.
- Share and record responses.

Advancing Student Thinking

If students show the value of Andre and Han's coins only in cents, consider asking:

- “How did you find the total value of the coins?”
- “How many dollars does _____ have? How many leftover cents would he have?”
- “How could you say how much money _____ has using dollars and cents?”

Lesson Synthesis

🕒 10 min

“Today we learned that a dollar has the same value as 100 cents. We counted values that were more than 100 cents. We described these amounts as 1 dollar with cents left over.”

Display students’ representations for Priya’s money in coins and as a dollar and coins.

“Can you think of different ways to represent the same value with more coins or fewer coins?”

Suggested Centers

- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)

Complete Cool-Down

Response to Student Thinking

Students write a total value other than 1 dollar and 16 cents or 116 cents.

Next Day Support

- Launch Activity 1 with a discussion about this cool-down.

Lesson 18: Money Problems

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.OA.A.1

Teacher-facing Learning Goals

- Solve addition and subtraction story problems in the context of money.

Student-facing Learning Goals

- Let's solve problems with money.

Lesson Purpose

The purpose of this lesson is for students to use addition and subtraction to solve story problems in the context of money.

In previous lessons, students used addition to find the total value of a set of coins and identified 100 cents as a dollar.

In this lesson, students solve story problems in the context of money. In the first activity, students continue practicing finding the value of a collection of coins and use the coins and their total value to solve problems in the context of a class store. In the second activity, students add and subtract values in cents in the same context, but are not provided images of coins. The second activity also gives students an opportunity to solve two-step story problems where the first step is not explicitly stated.

Access for:

Students with Disabilities

- Engagement (Activity 1)

English Learners

- MLR5 (Activity 1)

Instructional Routines

How Many Do You See? (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min

Teacher Reflection Question

Reflect on who participated in math class today. What assumptions are you making about those who did not participate? How can you leverage each of your student's ideas to support them in being seen and heard in tomorrow's math class?

Lesson Synthesis 10 min

Cool-down 5 min

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Mai's Supplies

Standards Alignments

Addressing 2.MD.C.8

Student-facing Task Statement

1. Mai has these coins to buy school supplies:



- How much money does Mai have for supplies?
- If Mai buys a pencil for 27¢, how much money will she have left?

Show your thinking using drawings, numbers, words, or an equation. If it helps, you can use a diagram.

Student Responses

- 75¢ Sample response:
 $25 + 25 = 50$
 $50 + 10 = 60$
 $60 + 15 = 75$
 - 48¢ Sample responses:
 $75 - 27 = 48$
 $75 - 20 = 55$
 $55 - 5 = 50$
 $50 - 2 = 48$

----- **Begin Lesson** -----

Warm-up

🕒 10 min

How Many Do You See: Groups of Coins

Standards Alignments

Addressing 2.MD.C.8

The purpose of this How Many Do You See is for students to use subitizing or grouping strategies to describe the images they see. This is also an opportunity for students to use the names of coins to describe the images. They have the opportunity to name the coins without thinking about the value of the set, making a distinction between the number of coins and their values. As an extension of this discussion during the synthesis, consider asking the value of each set of coins. Each group has the same number of coins, but a different value.

Instructional Routines

How Many Do You See?

Student-facing Task Statement

How many coins do you see? How do you see them?



Launch

- Groups of 2
- “How many coins do you see? How do you see them?”
- Flash the image.
- 30 seconds: quiet think time

Activity

- Display the image.
- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Record responses.
- Repeat for each image.

Synthesis

- “What helped you figure out the number of coins quickly?”
- Consider asking:
 - “All of these images had a total of 8 coins. Does that mean they all have



the same value? Explain.” (Each of the coins are worth different amounts, so the values are different. 8¢, 40¢, and 80¢)

Student Responses

Sample responses:

- 8 pennies: I saw a group of 5 pennies and a group of 3 pennies.
- 8 nickels: I saw two groups of 4 nickels. I know $4 + 4 = 8$.
- 8 dimes: I saw one group of 6 dimes and 2 more dimes.

Activity 1

🕒 15 min

Shop for School Supplies

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.OA.A.1

The purpose of this activity is for students to solve Add To and Take From problems in the context of money. Students determine how much money each person has and how much money they will have left after buying school supplies. The choice of coins in each problem invites students to consider both concrete and abstract methods for finding the amount of money left after each purchase. For example, students may consider which coins they could remove from the group of coins to purchase the items in each problem or they may just subtract the price of the item from the total value of the coins (MP2). In the synthesis, students discuss different methods they used for finding how much money was left.

Access for English Learners

MLR5 Co-Craft Questions. Keep books or devices closed. Display only the price list table, without revealing the questions, and ask students what possible mathematical questions could be asked about the situation. Invite students to compare their questions before revealing the task. Ask: “What do these questions have in common? How are they different?” Reveal the intended questions for this task and invite additional connections.

Advances: Reading, Writing

Access for Students with Disabilities

Engagement: Provide Access by Recruiting Interest. Provide choice and autonomy. Provide access to plastic or actual coins to represent the money, and base-ten blocks to add and subtract with a concrete manipulative if needed.

Supports accessibility for: Conceptual Processing, Organization

Student-facing Task Statement

items	cost
pack of pencils	75¢
pencil sharpener	35¢
eraser	45¢
pens	18¢

1. Lin has these coins:

Launch

- Groups of 2
- Display the price list table.
- “What do you notice? What do you wonder?” (Students may notice: pencils are the most expensive item on the list. Pens cost a lot less than pencils. Students may wonder: How many pencils come in a pack? What type of eraser is it?)
- 1 minute: quiet think time
- Share and record responses.



- a. How much money does Lin have for supplies?
- b. If Lin buys an eraser, how much money will she have left? Show your thinking.

2. Diego has these coins:



- a. How much money does Diego have for supplies?
- b. If Diego buys a pack of pencils, how much money will he have left? Show your thinking.

Student Responses

1.
 - a. Lin has 85¢.
 - b. She has 40¢ left. ($25 + 25 = 50$,
 $50 + 30 = 80$, $80 + 5 = 85$,
 $85 - 45 = 40$)
2.
 - a. Diego has 80¢.
 - b. He has 5¢ left. ($75 + 5 = 80$)

Activity

- “Lin and Diego went to the school store to get a few supplies. Solve each problem on your own, and then compare with your partner.”
- 5 minutes: independent work time
- 5 minutes: partner discussion
- Monitor for students who cross out the coins needed to find how much was left.
- Monitor for students who write equations.

Synthesis

- Invite previously identified students to share how they crossed out coins to see how much was left.
- “What did ____ do to solve the problem?”
- Invite previously identified students to share equations they wrote to solve the problem.
- “What did ____ do to represent their thinking?”
- “When did you use addition in the problems? When did you subtract? Why?” (When I was finding how much money, I added. When they bought something, I had to subtract.)

Advancing Student Thinking

If students find total values that do not match the value of the set of coins or have a different amount left after purchases, consider asking:

- “Can you explain your representation to me?”
- “How did you find out how much money (Lin or Diego) had left after purchasing (an eraser or pack of pencils)?”

Activity 2

🕒 20 min

Shop with a Dollar

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.OA.A.1

The purpose of this activity is for students to solve two-step story problems in the context of money using addition and subtraction. In this activity, each student starts with \$1 and buys multiple items. Students need to think about \$1 as 100¢ in order to solve each problem. The first problem is scaffolded, asking students to first find the cost of a pencil box and colored pencils and then find how much Clare will have after buying those items. For the other two problems this scaffold is removed. Students may observe, however, that Andre is buying the two items that Clare bought so they could use their calculation of the items Clare bought to help solve this problem.

When students connect the quantities in the story problem to an equation, they reason abstractly and quantitatively (MP2).

Student-facing Task Statement

Show your thinking for each problem.

supplies	cost
notebooks	26¢
colored pencils	18¢
pencil box	39¢
glue stick	44¢

1. Clare wants to buy a pencil box and colored pencils.

Launch

- Groups of 2

Activity

- “Now you will solve a few more problems on your own and then compare with a partner.”
- 8 minutes: independent work time
- 2 minutes: partner discussion
- Monitor for students who use different

- a. How much money will it cost?
 - b. Clare has \$1. How much will she have left?
2. Tyler wants to buy a notebook and a pencil box. He has \$1. How much will he have left?
 3. Andre has \$1. He wants to buy a glue stick, a pencil box, and colored pencils. Does Andre have enough money?

Student Responses

1. Clare spent 57¢ and has 43¢ left.

Sample response: $39 + 18, 40 + 17 = 57$

2. Tyler will have 35¢ left.

Sample response: $26 + 39 = 65,$
 $100 - 65 = 35$

3. No, the glue stick, pencil box, and colored pencils cost 101¢ and Andre only has \$1 or 100¢

Sample response:
 $18 + 39 = 57$ and $57 + 44 = 101$

methods for determining whether Andre has enough money.

Synthesis

- Invite previously identified students to share how they determined if Andre had enough money.
- As time permits, invite students to share how they found how much money Clare and Tyler had left.

Lesson Synthesis

🕒 10 min

“Today you solved story problems using addition and subtraction. In the second activity, each student had 1 dollar. How did you think about a dollar to solve the problems?” (Since we had to subtract the total number of cents, we needed to think about 1 dollar as 100 cents so we could subtract from 100.)

Suggested Centers

- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)

----- Complete Cool-Down -----

Response to Student Thinking

Students find Mai's coin value to be an amount other than 75 cents or find she has more or less than 48 cents left over.

Next Day Support

- After the warm-up in the next lesson, pair students up to discuss their responses.

Lesson 19: More Money Problems

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.OA.A.1

Teacher-facing Learning Goals

- Use addition and subtraction to solve one- and two-step story problems.

Student-facing Learning Goals

- Let's solve money problems with lots of dollars.

Lesson Purpose

The purpose of this lesson is for students to solve addition and subtraction story problems within 100 in the context of money.

In previous lessons, students found the value of sets of coins and solved story problems with cents. Students learned that a dollar is the same as 100 cents.

In this lesson, students revisit the more challenging story problem types in the context of money. This includes Compare problems and two-step problems where the steps are not explicitly stated. In the first activity, students revisit using a tape diagram to make sense of problems and match tape diagrams to story problems. In the second activity, students are invited to solve the problems in the way that makes sense to them. Students recognize that money problems are solved the same as other story problems, but the cent and dollar symbols are included in the answer.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR7 (Activity 2)

Instructional Routines

Number Talk (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min

Teacher Reflection Question

In previous lessons, students learned about tape diagrams and number lines. How did students use diagrams to make sense of

Activity 2	20 min
Lesson Synthesis	10 min
Cool-down	5 min

problems in today's lesson? If students did not use diagrams, how did they make sense of the problems?

Cool-down (to be completed at the end of the lesson)

🕒 5 min

Mai's Money

Student-facing Task Statement

Diego has \$67. Diego has \$16 less than Mai. How much money does Mai have?

Show your thinking. Write your final answer using the \$. If it helps, use a diagram.

Student Responses

Mai has \$83. Sample response: $67 + 10 = 77$, $77 + 3 = 80$, $80 + 3 = 83$

----- Begin Lesson -----

Warm-up

🕒 10 min

Number Talk: Use Ten to Add Within 100

Standards Alignments

Addressing 2.NBT.B.5

This Number Talk encourages students to think about decomposing and composing numbers leading to a ten in order to add numbers more easily. The first addend in each expression is 2 away from a ten, so students consider decomposing the second addend to make the numbers more friendly for mental calculations (MP7).

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $18 + 32$
- $28 + 32$
- $28 + 34$
- $38 + 35$

Student Responses

- 50: $18 + 2 = 20$ and $20 + 30 = 50$
- 60: $28 + 2 = 30$ and $30 + 30 = 60$
- 62: $28 + 2 = 30$ and $30 + 32 = 62$
- 73: $38 + 2 = 40$ and $40 + 33 = 73$

Launch

- Display one expression.
- “Give me a signal when you have an answer and can explain how you got it.”
- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

Synthesis

- “What pattern did you notice with these expressions?”
- “How did thinking about composing a ten help you solve mentally?” (Each time the first number was only 2 away from a ten. Then it was a more friendly number.)

Activity 1

🕒 15 min

Shop with Friends

The purpose of this activity is for students to match story problems in the context of money to tape diagrams. Students make sense of stories and determine which diagram represents the situations. One pair of stories are one-step story problems while the other pair are two-step stories. The numbers in the stories are the same so students will have to focus on relationships between the quantities in the stories to math them to tapes (MP2).

Students may choose and justify different matches than those given in the student responses (MP3). For example, diagram B could match Jada's story. Since this story is naturally interpreted as a comparison, it naturally matches diagram C. For the two-step problems as well, either could be

represented by diagram A or diagram D. For the basketball story, we know that the basketball costs \$39 less than the football and soccer ball while for the clothes we know that the pair of pants costs \$39 and want to know how much more the shirt and shoes cost. Diagram A matches the clothes story because the 39 is known but the difference is not known. Diagram D matches the basketball story because the difference 39 is known.

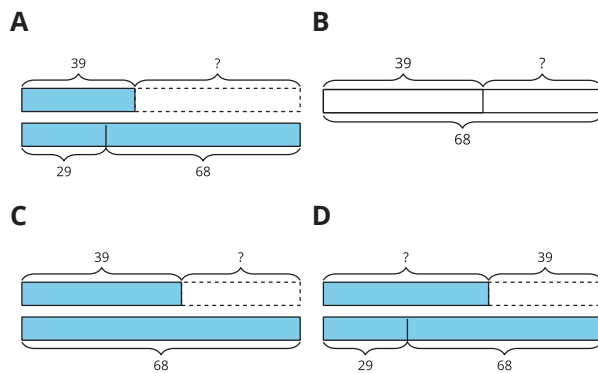
Access for Students with Disabilities

Representation: Internalize Comprehension. Synthesis: Invite students to identify which details were important in the word problem and what helped them determine whether to add or subtract to solve the problem. In the discussion, use the sentence frame, “When I solve a word problem, I will pay attention to the action within the problem to determine whether to add or subtract. The action in this problem was...”

Supports accessibility for: Conceptual Processing, Language, Attention

Student-facing Task Statement

Write the letter next to the story problem it represents.



1. A basketball costs \$39 less than a soccer ball and football combined.

The soccer ball costs \$29 and the football costs \$68.

How many dollars does the basketball cost?

2. Jada is saving to buy a gift for her dad. The gift costs \$68. So far she has \$39.

How much more does she need? _____

Launch

- Groups of 2
- “Today you will solve story problems with amounts of money that are more than 1 dollar.”
- “Sometimes we spend large dollar amounts when shopping for items we need or to buy gifts for others on special occasions.”
- “Share about a time you went shopping with a partner.”
- 2 minutes: partner discussion

Activity

- “Now you will look at story problems about shopping. Each story is represented with a diagram.”
- “Match each story to a diagram and write the letter next to the story.”
- “Try matching on your own, and then compare with your partner.”
- “Explain how you know each diagram matches.”
- 5 minutes: independent work time

3. A pair of pants costs \$39.

A shirt costs \$29 and a pair of shoes cost \$68.

How many more dollars do the shirt and shoes cost than the pants? _____

4. Diego has \$39. His mom gave him some money for his birthday. Now he has \$68.

How much money did he get for his birthday? _____

Student Responses

1. D
2. C
3. A
4. B

- 3 minutes: partner discussion

Synthesis

- “How were the diagrams the same or different?” (
 - Every diagram has 39 and a 68 and some of them have a 29.
 - The numbers are in different places.
 - Some of the diagrams look like they are comparing quantities while one of them puts two quantities together.)
- “How did you decide which diagram went with each story?” (
 - In two of the stories there was something that cost \$29 and something that cost \$68 so I could look at tapes A and D and figure out how the stories match.
 - In some stories the larger amount had the prices of two things added together, so I looked for that in the diagrams.
 - The story about Diego I just need to find out how much Diego needed and that was the simplest tape.
 - For Jada's story, the diagram compares what she had to how much more she needed.)
- Share and record responses.
- As needed, invite students to share how some stories could be represented by more than one diagram by explaining how they match the quantities and the context.
- “In the next activity, you will have a chance to solve some of these story problems and a few others.”

Advancing Student Thinking

If students mismatch stories and diagrams, consider asking:

- “What is the story problem about?”
- “How does the story problem represent addition or subtraction?”
- “How does the diagram show addition or subtraction?”

Activity 2

🕒 20 min

Money Among Friends

Standards Alignments

Addressing 2.MD.C.8, 2.OA.A.1

The purpose of this activity is for students to solve two-step problems without the scaffold of having the first step explicitly stated. Students solve in a way that makes sense to them and might use diagrams to help them make sense of the story. In the synthesis, the tape diagram is highlighted.

Access for English Learners

MLR7 Compare and Connect. Synthesis: Invite group to prepare a visual display that shows the strategy they used to solve the story problems. Encourage students to include details that will help others interpret their thinking. For example, using labels, notes, diagrams, or drawings. Give students time to investigate each other’s work. During the whole-class discussion, ask students, “What did the representations have in common?”, “How were they different?” and “Did anyone solve the problem the same way, but would explain it differently?”

Advances: Representing, Conversing

Student-facing Task Statement

For each problem, show your thinking. Write your final answer using the \$. Use a diagram if it helps.

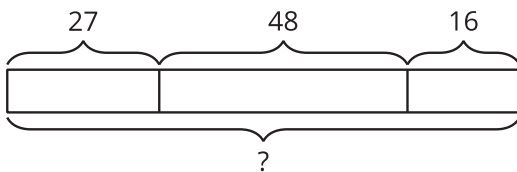
Launch

- Groups of 2
- “With a partner, choose a problem from the first activity to solve. Discuss how the diagram can help you think about the

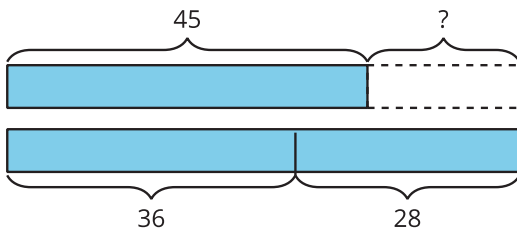
1. Mai has \$27, Elena has \$48, and Jada has \$16. How much money do they have altogether?
2. Tyler has \$45, Andre has \$36, and Noah has \$28. How much less money does Tyler have than Andre and Noah combined?
3. Lin has \$19. Together, Lin and Han have \$45. Then Han gets \$17 more. How much money does Han have now?

Student Responses

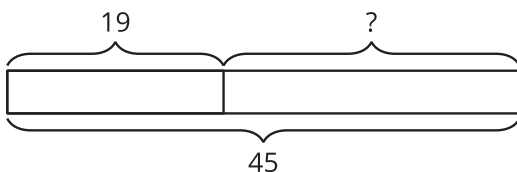
1. \$91. Sample response: $27 + 48 = 75$,
 $75 + 16 = 91$



2. \$19. Sample response: $36 + 28 = 64$ and
 $64 - 45 = 19$



3. \$43. Sample response: $45 - 19 = 26$ and
 $26 + 17 = 43$



problem.”

- 4 minutes: partner work time

Activity

- “Now you will be solving a few money problems on your own.”
- “Use a diagram if it helps you make sense of the story.”
- 10 minutes: independent work time
- Monitor for students who use a diagram to represent and solve the problem about Tyler, Andre, and Noah.

Synthesis

- Invite previously identified students to share the diagram for comparing Tyler's money to Andre's and Noah's money.
- “How does this diagram represent the story?” (It shows Tyler's amount and then the combined amount of Andre and Noah. I can see that Tyler has less than Andre and Noah and that I need to add Andre's amount and Noah's amount and then subtract Tyler's amount from that.)

Advancing Student Thinking

If students want to represent the story with a diagram or equation but need support to start, consider asking:

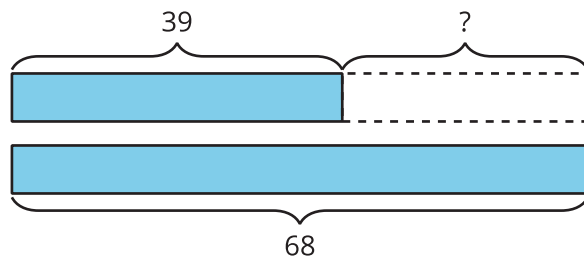
- “What is the story about? How could you break the problem into smaller parts?”
- “How could you use a diagram or equation to represent the smaller parts?”

Lesson Synthesis

🕒 10 min

“Today we solved all different types of story problems and used diagrams to help make sense of them.”

Display the image from the first activity.













“Tell your partner a story about money that this diagram could represent.” (____ had \$39 and ____ had \$68. How much more money does ____ have than ____?)

Suggested Centers

- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- Which One? (K–5), Stage 3: Grade 2 Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)

Student Section Summary

In this section we learned the value of quarters, dimes, nickels, and pennies and how to recognize each coin. We used addition and counting strategies to find the values of mixed sets of coins. We learned that a dollar has the same value as 100 cents and combined coins to make \$1. We also solved story problems about money.

name	front	back	value
			
			
			
			
			

----- Complete Cool-Down -----

Response to Student Thinking

Students write an amount other than \$83.

Next Day Support

- Launch Activity 1 with a discussion about this cool-down.

Lesson 20: Center Day 4 (Optional)

Standards Alignments

Addressing 2.G.A, 2.G.A.1, 2.MD.C.8, 2.NBT.B.5, 2.NBT.B.6

Teacher-facing Learning Goals

- Describe shapes using defining attributes.
- Find and compare the value of coin collections.
- Recognize and describe shapes seen in picture books.

Student-facing Learning Goals

- Let's compare coin collections and work with shapes.

Lesson Purpose

The purpose of this lesson is for students to compare the value of coin collections and work with shapes.

This lesson is optional because it is an opportunity for extra practice that not all classes may need. In Activity 1, students learn the first stage of the Would You Rather? center. In this stage of the new center, students practice identifying coins and comparing the value of coin collections. In Activity 2, students choose to continue working on Would you Rather?, or choose between two previously introduced centers focused on shapes.

Instructional Routines

Number Talk (Warm-up)

Materials to Gather

- Materials from previous centers: Activity 2

Materials to Copy

- Would You Rather Stage 1 Recording Sheet (groups of 2): Activity 1
- Would You Rather Stage 1 Spinner (groups of 2): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min

Teacher Reflection Question

What did you learn about your students' understanding of place value and strategies for addition and subtraction as they solved problems with money in this section? How can

Activity 2

25 min

Lesson Synthesis

10 min

you leverage and advance student thinking as they add and subtract within 1,000 in the next unit?

Begin Lesson

Warm-up

🕒 10 min

Number Talk: Coin Counting Connections

Standards Alignments

Addressing 2.NBT.B.5, 2.NBT.B.6

This Number Talk encourages students to think about grouping numbers. When finding the total value of a set of coins, students grouped like coins and used skip counting or counting on to find the amount of money represented. This string provides an opportunity for students to practice these strategies. These understandings help students develop fluency and will be helpful later in this lesson when students find and compare the values of coin collections.

Instructional Routines

Number Talk

Student-facing Task Statement

Find the value of each expression mentally.

- $20 + 25 + 5 + 5$
- $15 + 25 + 25$
- $25 + 15 + 25 + 6$
- $20 + 15 + 30 + 7$

Student Responses

- 55: I added $5 + 5 = 10$. Then I added $10 + 20 = 30$. Then I added $30 + 25 = 55$.

Launch

- Display one expression.
- “Give me a signal when you have an answer and can explain how you got it.”
- 1 minute: quiet think time

Activity

- Record answers and strategies.
- Keep expressions and work displayed.
- Repeat with each expression.

- 65: I knew $25 + 25 = 50$ like two quarters is 50 cents. Then I added 15 more to get 65.
- 71: I knew $25 + 25 = 50$. I added 15 more to get 65. Then I added 5 more to get 70 and 1 more to get 71.
- 72: I added $20 + 15 = 35$. Then I added 30 more to get 65. I thought of 7 as 5 and 2. I added 5 to 65 to get 70 and then I added 2 more to get 72.

Synthesis

- “How could the third problem help us think about the last one?” ($25 + 25 = 50$ and $20 + 30 = 50$, and they both had 15, so the only difference was the 6 and 7.)

Activity 1

🕒 15 min

Introduce Would You Rather?

Standards Alignments

Addressing 2.MD.C.8

The purpose of this activity is for students to learn stage 1 of the Would You Rather? center. Students compare the value of two sets of coins. The first partner spins and identifies a number of coins. They write a question that compares the coins they spun to a collection of coins they make up. Their partner makes a choice of which collection of coins they would rather have and explains why in terms of the units.

Materials to Copy

Would You Rather Stage 1 Recording Sheet (groups of 2), Would You Rather Stage 1 Spinner (groups of 2)

Launch

- Groups of 2
- Give each group a spinner and a recording sheet.
- “We are going to learn a center called Would You Rather. We will compare the value of coin collections. Let's play a round together.”

- “One partner spins to get a group of coins. They identify the different coins in the collection and count how many of each. Then, they write a question that compares the amount they spun to a different group of coins that they make up.”
- Demonstrate by spinning the spinner and drawing a group of coins. Provide example questions that show keeping the number of coins the same and changing the name of the coin or keeping the coins the same, but changing the number of each coin in the collection. For example:
 - “Would you rather have 3 quarters or 3 pennies?”
 - “Would you rather have 4 nickels and 6 dimes, or 4 dimes and 6 nickels?”
 - “Would you rather have 1 quarter, 1 dime, and 1 nickel or no quarters, 1 dime, and 7 nickels?”
- Invite the class discuss and share which group they would rather have.

Activity

- 8 minutes: partner work time

Synthesis

- Display the spinner and spin to get a coin set.
- “Come up with a coin collection with a greater value using the same number of coins.”
- “Come up with a coin collection with a lesser value using the same number of coins.”
- Share responses.

Activity 2

🕒 25 min

Centers: Choice Time

Standards Alignments

Addressing 2.G.A, 2.G.A.1, 2.MD.C.8

The purpose of this activity is for students to choose from activities that focus on finding the value of coin collections or working with shapes.

Students choose from any stage of previously introduced centers.

- Would You Rather?
- Picture Books
- How are They the Same?

Materials to Gather

Materials from previous centers

Required Preparation

Gather materials from:

- Would You Rather?, Stage 1
- Picture Books, Stage 3
- How Are They the Same?, Stage 2

Student-facing Task Statement

Choose a center.

Would You Rather?



How Are They the Same?

Launch

- “Now you will choose from centers we have already learned. One of the choices is to continue with Would You Rather.”
- Display the center choices in the student book.
- “Think about what you would like to do first.”
- 30 seconds: quiet think time

Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time



Picture Books



- “Choose what you would like to do next.”
- 10 minutes: center work time

Synthesis

- “What did you like about the activities you worked on today?”

Lesson Synthesis

🕒 10 min

Spin the spinner to get a group of coins.

“I spun this group of coins. Draw a different group of coins you'd like the class to compare it to.”

Share a few of the groups of coins students draw. Ask the class which they would rather have and why.

Lesson 21: Pattern Block Puzzles (Optional)

Standards Alignments

Addressing 2.G.A.1, 2.MD.C.8, 2.NBT.B.5, 2.OA.A.1

Teacher-facing Learning Goals

- Identify and compose new shapes from smaller shapes.
- Solve addition problems in the context of money.

Student-facing Learning Goals

- Let's make pattern block puzzles.

Lesson Purpose

The purpose of this lesson is for students to apply their understanding of composing shapes and addition in the context of money.

This lesson is optional because it does not address any new mathematical content standards. This lesson does provide students with an opportunity to apply precursor skills of mathematical modeling.

In previous lessons, students found different ways to use pattern blocks to compose the same shape. They also used their understanding of coins and their values to solve addition problems.

In the warm-up, students are introduced to the context of a pattern block puzzle and use mathematical language to compare how the shapes are composed. In Activity 1, they create and solve pattern block puzzles. In Activity 2, they solve addition problems involving money within the pattern block puzzles context.

Access for:

Students with Disabilities

- Action and Expression (Activity 1)

English Learners

- MLR7 (Activity 2)

Instructional Routines

Notice and Wonder (Warm-up)

Materials to Gather

- Card stock: Activity 1

- Pattern blocks: Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	15 min
Lesson Synthesis	10 min

Teacher Reflection Question

As you finish up this unit, reflect on the norms and activities that have supported each student in learning math. List ways you have seen each student grow as a young mathematician throughout this work. List ways you have seen yourself grow as a teacher. What will you continue to do and what will you improve upon in Unit 7?

----- Begin Lesson -----

Warm-up

🕒 10 min

Notice and Wonder: Pattern Block Bees

Standards Alignments

Addressing 2.G.A.1

The purpose of this warm-up is to elicit student ideas about composing the same shape in different ways. While students may notice and wonder many things about these shapes, how the same shape is composed in different ways and the ways to describe the shapes are the important discussion points. Students are encouraged to carefully explain the shapes they see using the geometric language they've learned in previous lessons (MP6). For example, "The hexagon in one bee is made up of 2 rhombuses and 2 triangles in the other bee."

Instructional Routines

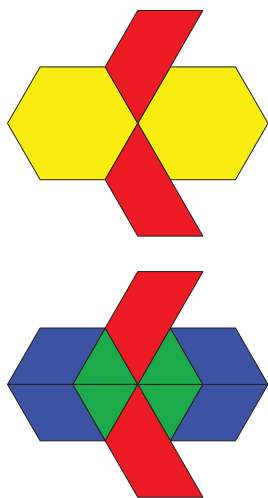
Notice and Wonder

Student-facing Task Statement

What do you notice? What do you wonder?

Launch

- Groups of 2



Student Responses

Students may notice:

- They are the same shape.
- They both have 2 trapezoids.
- One made hexagons with 1 piece, and the other made hexagons with 4 pieces.

Students may wonder:

- How many pieces are in each shape?
- What are other ways we can make the same shape?

- Display the image.
- “What do you notice? What do you wonder?”
- 1 minute: quiet think time

Activity

- “Discuss your thinking with your partner.”
- 1 minute: partner discussion
- Share and record responses.

Synthesis

- “The shape looks like a bee. How are these two bees similar?” (They are the same shape and size. They have two trapezoids.)
- “How are they different?” (One bee has 2 hexagons, but no rhombuses or triangles. The other has 4 rhombuses and 4 triangles, but no hexagons. One has 4 pieces all together, the other has 10 pieces.)
- “We are going to keep thinking about how to make the same shape in different ways using pattern blocks in our first activity today.”

Activity 1

🕒 15 min

Pattern Block Puzzles

Standards Alignments

Addressing 2.G.A.1

In this activity, students create their own Pattern Block Puzzles for each other. During the activity they must adhere to mathematical constraints and are encouraged to use mathematical language to compare the different ways they can complete each puzzle. Monitor for the different ways

students use the mathematical language they learned throughout the unit, including ways they identify the names of shapes they compose and the way they use words like halves, thirds, or fourths to describe ways they compose shapes out of same-size pieces (MP6).

Access for Students with Disabilities

Action and Expression: Provide Access for Physical Action. Provide access to pre-cut materials to reduce barriers for students who need support with fine-motor skills and students who benefit from extra processing time.

Supports accessibility for: Fine Motor Skills, Organization, Visual-Spatial Processing

Materials to Gather

Card stock, Pattern blocks

Student-facing Task Statement

1. Make a puzzle using 4 pattern blocks. Use at least 1 hexagon.
2. Trace each pattern block on the blank puzzle paper.
3. Trade the puzzle paper with another person in your group.
4. Use the pattern blocks to show two different ways to make your partner's puzzle. Sketch the two ways.

Puzzle 1

Launch

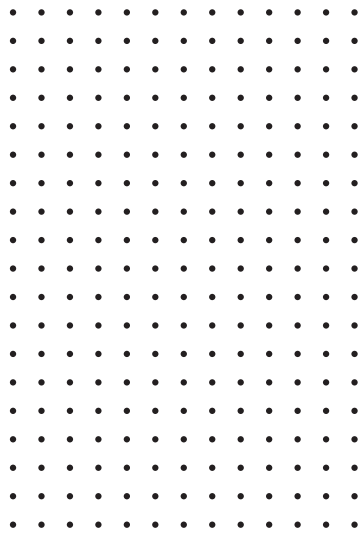
- Groups of 4
- Give each student a piece of card stock and each group pattern blocks.
- "We're going to use hexagons, trapezoids, blue rhombuses, and triangles to make puzzles for our partners."

Activity

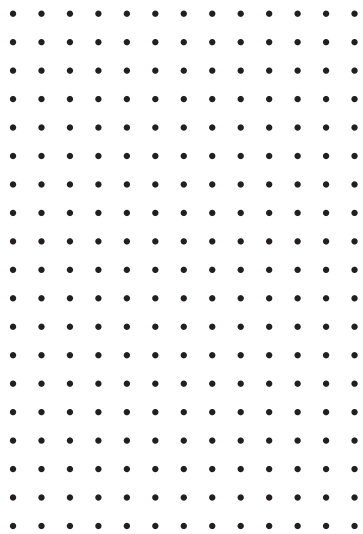
- "Trace each pattern block on the blank puzzle paper (card stock). When you're done, trade with someone in your group to complete the activity."
- 5 minutes: independent work time
- 5 minutes: partner work time

Synthesis

- Invite students to share what they noticed with members of their group and/or the class.



Puzzle 2



5. Share one thing you notice about the puzzles.

Student Responses

4. Students show two different ways to make their partner's puzzle.
5. Sample response: I notice that in one puzzle I was able to use 6 triangles to replace the

hexagon and in another I was able to use 2 trapezoids.

Activity 2

🕒 15 min

The Pattern Block Store

Standards Alignments

Addressing 2.MD.C.8, 2.NBT.B.5, 2.OA.A.1

In this activity, students solve addition problems using money based on the Pattern Block Puzzles they sketched in the last activity.


The launch of the activity is an opportunity for students to reason which of the two designs will cost more before they complete any computations.

🌐 Access for English Learners

MLR7 Compare and Connect. Synthesis: After all strategies have been presented, lead a discussion comparing, contrasting, and connecting the different approaches. Ask, “Did anyone solve the problem the same way, but would explain it differently?”, “What did the representations have in common?”, “How were they different?”

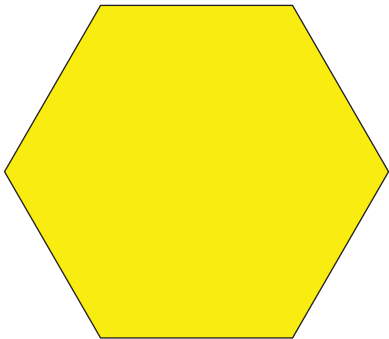


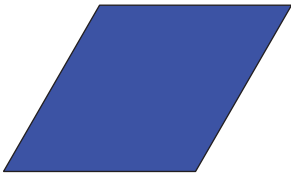

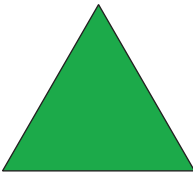

Advances: Representing, Conversing

Student-facing Task Statement

shape	cost
	

Launch

- Groups of 2
- “At the Pattern Block Store, each pattern block shape has a different price.”
- Display the price list.
- “Which of the two puzzles that you sketched do you think will cost more to make? Puzzle 1 or 2?”
- 30 seconds: quiet think time
- 1 minute: partner discussion

shape	cost
	
	
	
	

How much would the two puzzles you sketched cost at the Pattern Block Store? Show or explain your reasoning.

- Puzzle 1:
- Puzzle 2:

Student Responses

- Puzzle 1:

- $1 + 1 + 1 + 1 = 4$
- $5 + 5 + 5 + 5 = 20$

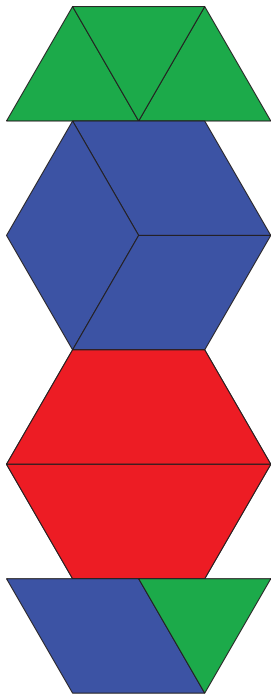
- Share responses.

Activity

- "Use the price list to figure out how much your two puzzles would cost."
- 5 minutes: independent work time
- 5 minutes: partner discussion
- As students work, look for different addition strategies. Monitor for students who:
 - add like quantities first
 - add bigger or smaller coins first
 - add some coins mentally

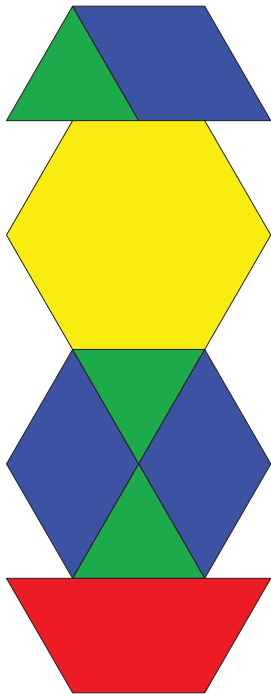
Synthesis

- Invite previously selected students to share.
- "Is it possible to redesign the puzzle to save more money?" (Yes, I can switch a blue rhombus with two triangles.)



- $10 + 10 = 20$
- $4 + 20 + 20 = 44$

2. Puzzle 2:



- $25 + 10 = 35$
- $35 + 15 = 50$
- $50 + 3 = 53$

Lesson Synthesis

🕒 10 min

“Today we made Pattern Block Puzzles and solved addition problems with money based on our Pattern Block Store.”

“How did the number of pieces and the shapes you used affect the price of the design?” (Bigger shapes cost more money. I saw that I could replace the big shape with a few smaller ones to have a lower price.)

Suggested Centers

- Would You Rather? (2–5), Stage 1: Money (Addressing)
- Picture Books (K–5), Stage 3: Find Shapes (Addressing)
- How Are They the Same? (1–5), Stage 2: Grade 2 Shapes (Addressing)

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Family Support
Materials

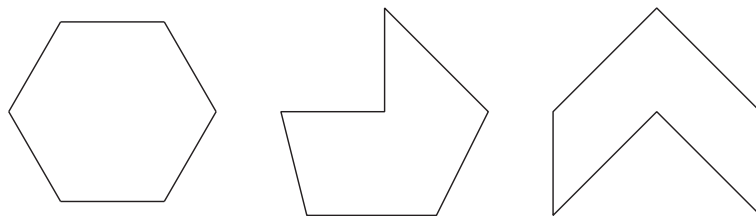
Family Support Materials

Geometry, Time, and Money

In this unit, students reason with shapes and their attributes and partition shapes into equal pieces. This work helps to build their foundation for fractions. Students also use their understanding of fourths, quarters, and skip-counting by 5 to tell time, and solve story problems involving money.

Section A: Attributes of Shapes

In this section, students extend their understanding of geometry from previous grades to identify and draw triangles, quadrilaterals, pentagons, and hexagons. Students learn to count the sides to determine the name of a shape and come to see that any shape has the same number of corners as the number of sides. For example, students are familiar with the hexagon shape from the frequent use of pattern blocks in previous grades. They expand their understanding to realize that hexagons include any shape with six sides and six corners, and may look different from the pattern block they worked with in the past.

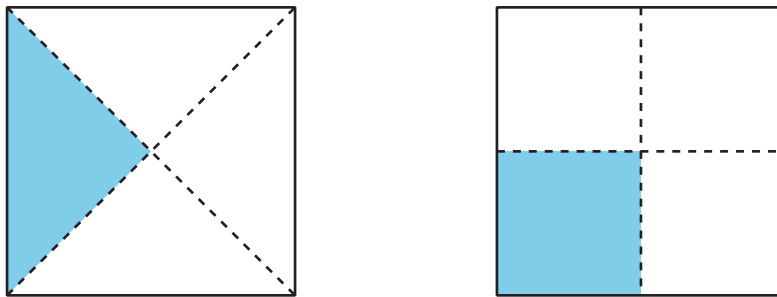


At the end of the section, students use their understanding of two-dimensional shapes to identify three-dimensional (solid) shapes. They recognize that two-dimensional shapes make up the faces of solid shapes, and use the names of two-dimensional shapes to describe solid shapes. For example, students learn to describe a cube as a solid shape that has 6 equal-sized square faces.

Section B: Halves, Thirds, and Fourths

In this section, students learn that shapes can be partitioned into 2, 3, or 4 equal pieces called halves, thirds, and fourths or quarters. In grade 1, students partitioned shapes into 2 and 4 equal pieces, and described each piece as a half or a fourth or quarter. In this section, students add the term “thirds” to their vocabulary.

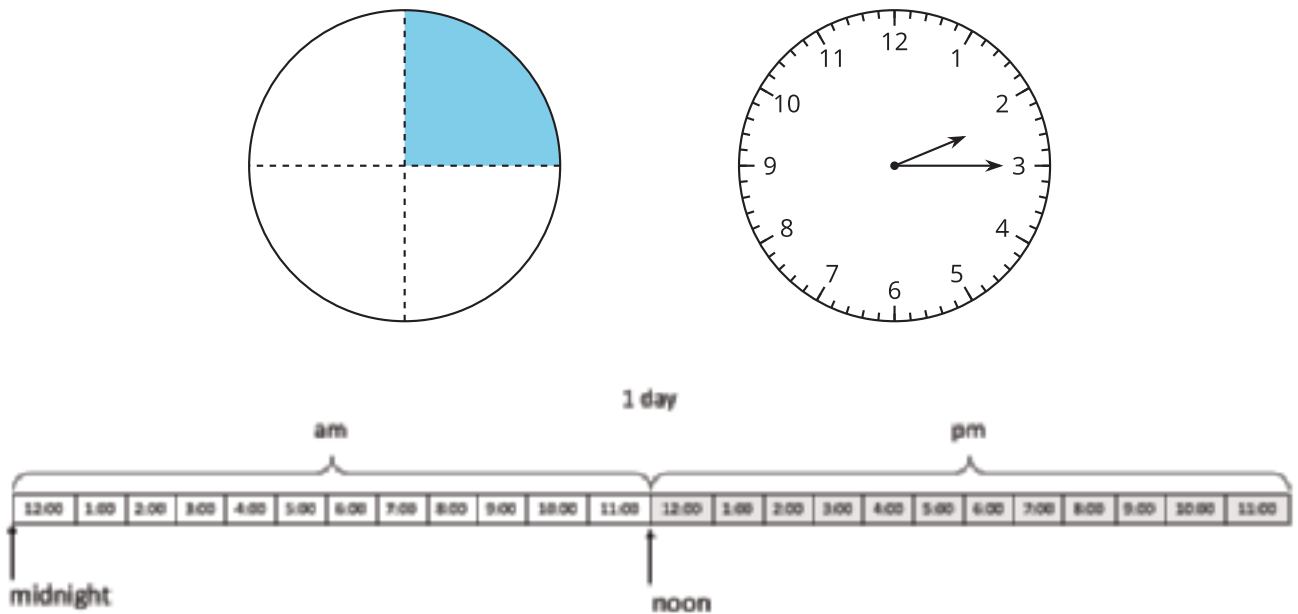
After analyzing examples and non-examples, students identify equal pieces, and partition rectangles into halves, thirds, and fourths. Shapes are partitioned in different ways to build an understanding that equal pieces of identical wholes do not need to be the same shape. They learn that if the wholes are divided into the same number of equal pieces, the names of the pieces are the same. The example in the image shows a square partitioned into fourths, first using smaller triangles, and then using smaller squares. They also learn that 2 halves, 3 thirds, and 4 fourths each make up one whole.



Section C: Time on the Clock

This section continues the focus on the language of fractions as students use their understanding of fourths and quarters to tell time. In this section, students first make a connection between the analog clock and circles partitioned into fourths to tell time using “half past,” “quarter past,” and “quarter ‘til.”

Students recognize that the hour hand on an analog clock moves toward the next hour as time passes, and they skip-count by 5 to tell time in 5-minute intervals. They represent time on analog clocks by drawing the hour and minute hands and writing the time numerically.



Students learn that each hour comes around twice a day on a 12-hour clock and is labeled with a.m. and p.m. to distinguish between times of day. Toward the end of this section, students relate a.m. and p.m. times to their daily activities.

Section D: The Value of Money

In this section, students continue to develop fluency with addition and subtraction within 100 through a money context. They identify coins such as quarters, dimes, nickels, and pennies, and find the total value of different coin combinations. They learn that 1 dollar has the same value as 100 cents and solve problems involving dollars and cents.

Try it at home!

Near the end of the unit, ask your student to do the following tasks:

- Find different shapes around the house (bonus points for finding non-traditional shapes!).
- Tell time on an analog clock.
- Pull out some coins and determine the value of the coin combination.

Questions that may be helpful as they work:

- How did you know it was (shape name)?
- How did you determine the time?
- What kind of coin is this? How much is it worth?
- How did you figure out the total value of the coin combination?

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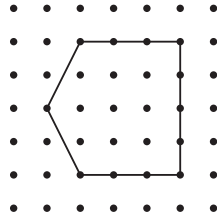
Unit Assessments

Check Your Readiness A, B, C and D
End-of-Unit Assessment

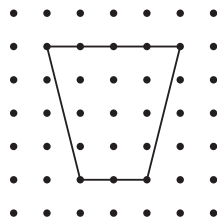
Geometry, Time, and Money: Section A Checkpoint

1. Select 2 pentagons.

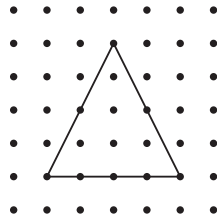
A.



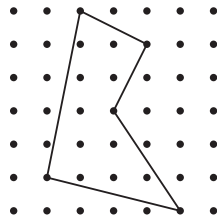
B.



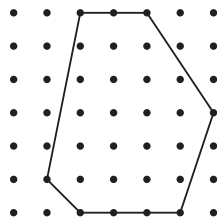
C.



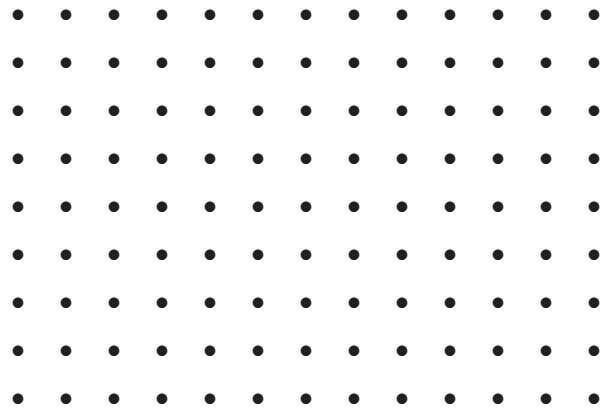
D.



E.



2. Draw a triangle that has 1 square corner and 2 sides that have the same length.



Geometry, Time, and Money: Section B Checkpoint

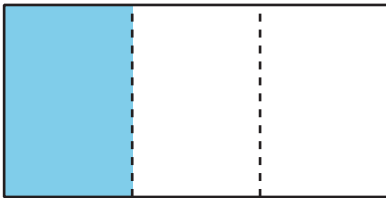
1. a. Split the rectangle into 4 equal parts.



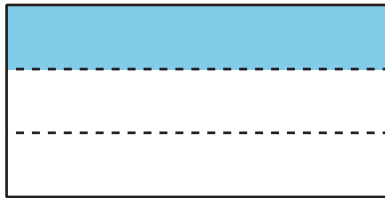
- b. Shade one quarter of the rectangle.

2. Decide whether one third of each rectangle is shaded. Explain or show your reasoning.

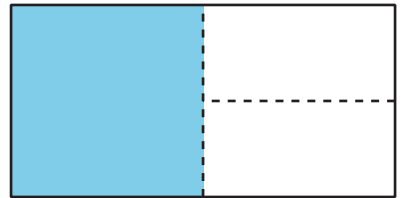
A



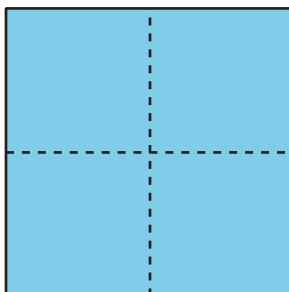
B



C

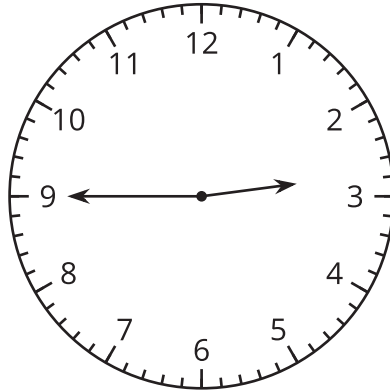


3. Jade says that 4 fourths of the square is shaded. Han says that the whole square is shaded. Explain why they are both correct.



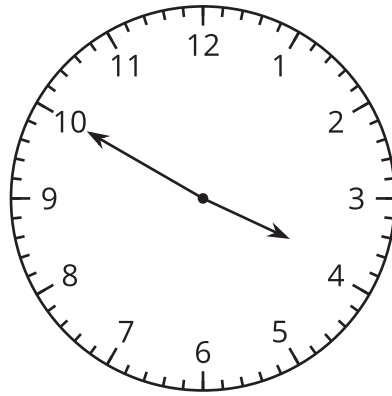
Geometry, Time, and Money: Section C Checkpoint

1. Select 2 times that represent the time on the clock.



- A. 3:45
- B. Quarter till 3
- C. Quarter past 2
- D. 2:45
- E. Quarter till 2

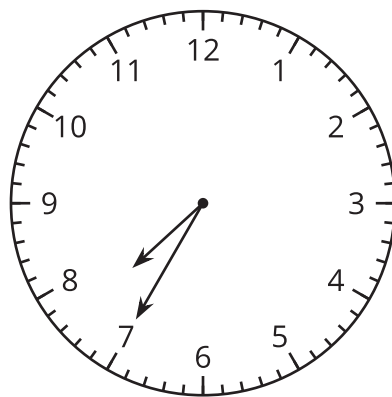
2. a. The clock shows when Jada leaves school one day to come home. Write the time and circle a.m. or p.m.



	:	
—	:	—

a.m. or p.m.

- b. The clock shows when Andre brushes his teeth after breakfast. Write the time and circle a.m. or p.m.



	:	
—	:	—

a.m. or p.m.

Geometry, Time, and Money: Section D Checkpoint

1. Mai wanted to buy a piece of fruit from the store that costs 50 cents.
She has the following coins:



Does Mai have enough money to buy the fruit from the store? Explain.

2. Noah has these coins: 3 pennies, 4 nickels, 1 dime and 2 quarters.



Jada gave Noah some coins and now he has a dollar. What coins could Jada have given Noah?

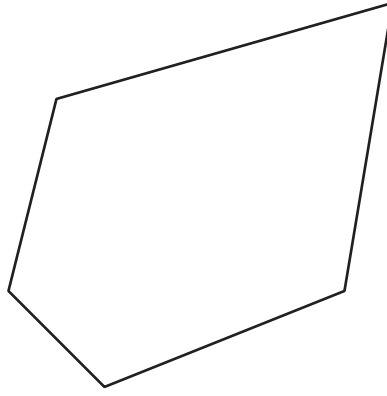
3. Andre has \$76 to buy a new game. After he bought the game, he had \$39 left. How much did the game cost?

Show your thinking. Write your final answer using the \$ symbol.

Geometry, Time, and Money: End-of-Unit Assessment

1. Draw a quadrilateral with one square corner and two equal sides.

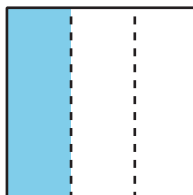
2. Choose the name of the shape.



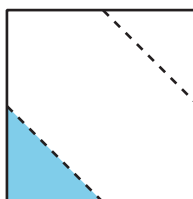
- A. Hexagon
- B. Triangle
- C. Quadrilateral
- D. Pentagon

3. Select 2 drawings that have one third of the square shaded.

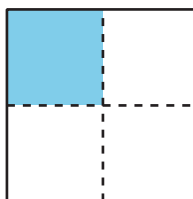
A.



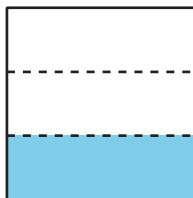
B.

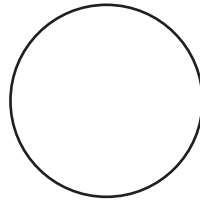


C.



D.



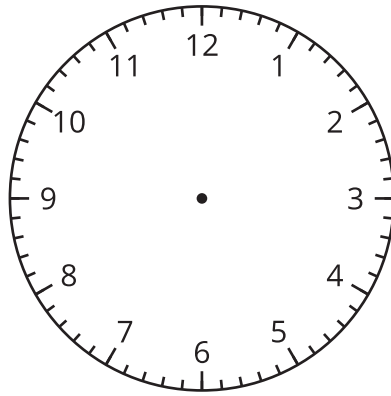


4.

a. Split the circle into 4 equal parts.

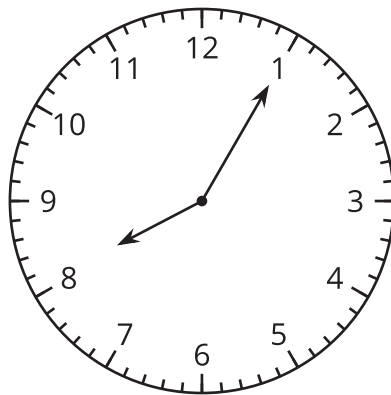
b. Explain why 4 fourths of the circle is the whole circle.

5. a. Jada gets up in the morning at 6:45. Show the time on the clock face. Then circle a.m. or p.m.



a.m. or p.m.

- b. Jada goes to bed at the time on the clock. Write the time and circle a.m. or p.m.



	:	
—	:	—

a.m. or p.m.

6. Jada has 2 pennies, 3 nickels, and 1 quarter.

a. How many cents does Jada have? Explain or show your reasoning.

b. How many more cents does Jada need to have \$1? Explain or show your reasoning.

7. Jada has \$26 and Andre has \$35. They want to buy a video game that costs \$53.

a. Andre says that they have enough money to buy the video game because \$20 and \$35 are more than \$53. Explain why Andre is correct.

b. How many dollars will Jada and Andre have left after they buy the game? Show your thinking.

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Assessment Answer Keys

Check Your Readiness A, B, C and D
End-of-Unit Assessment

Assessment Answer Keys

Assessment: Section A Checkpoint

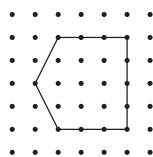
Problem 1

Goals Assessed

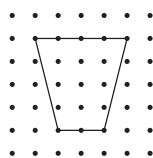
- Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Select **2** pentagons.

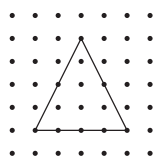
A.



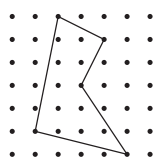
B.



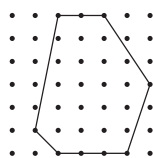
C.



D.



E.



Solution

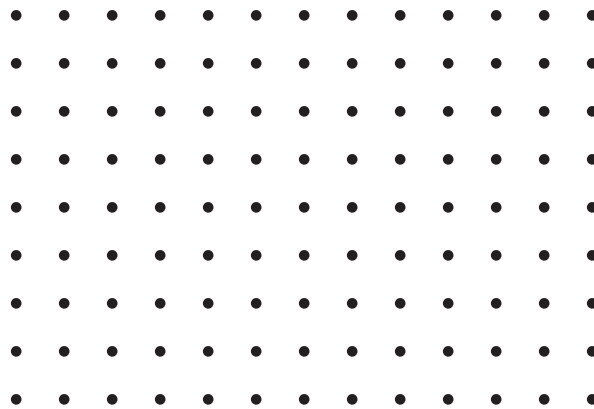
["A", "D"]

Problem 2

Goals Assessed

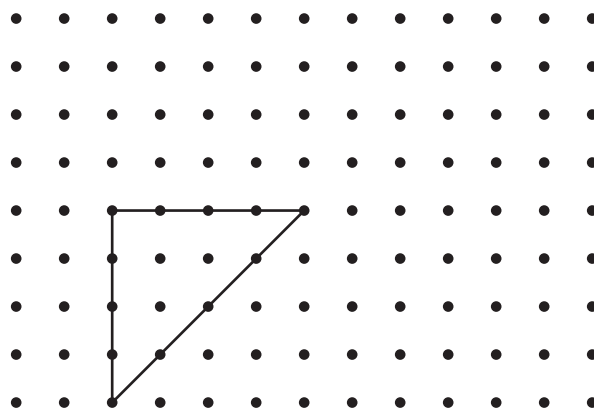
- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.

Draw a triangle that has 1 square corner and 2 sides that have the same length.



Solution

Sample response:



Assessment: Section B Checkpoint

Problem 1

Goals Assessed

- Partition rectangles and circles into halves, thirds, and fourths and name the shares.

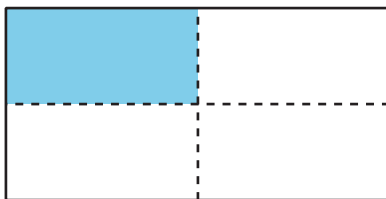
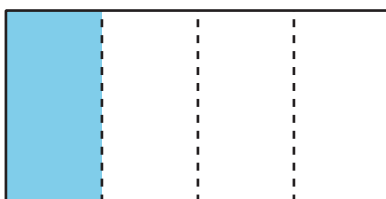
- a. Split the rectangle into 4 equal parts.



- b. Shade one quarter of the rectangle.

Solution

Sample solutions:

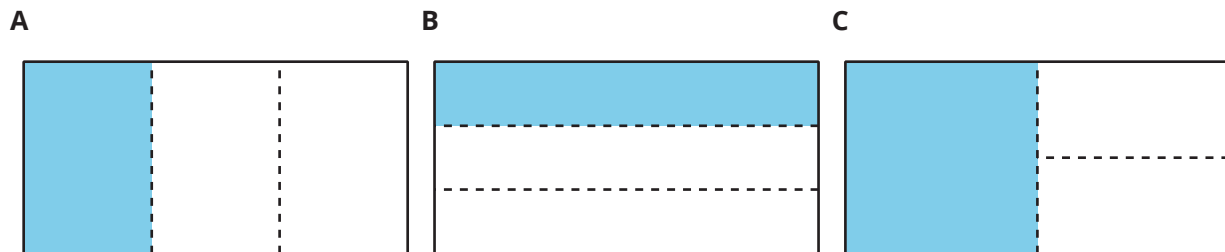


Problem 2

Goals Assessed

- Partition rectangles and circles into halves, thirds, and fourths and name the shares.
- Understand that equal pieces do not need to be the same shape.

Decide whether one third of each rectangle is shaded. Explain or show your reasoning.



Solution

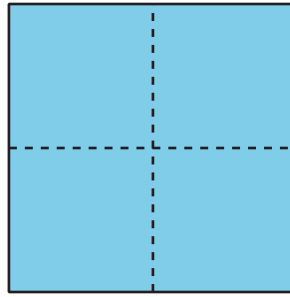
- A. Yes, it is split into 3 equal parts with 1 part shaded.
- B. Yes, it is split into 3 equal parts with 1 part shaded.
- C. No, while there are three parts of the rectangle and one is shaded, they are not all equal parts.

Problem 3

Goals Assessed

- Recognize 2 halves, 3 thirds, and 4 fourths as one whole.

Jade says that 4 fourths of the square is shaded. Han says that the whole square is shaded. Explain why they are both correct.



Solution

There are 4 equal parts shaded so that's 4 fourths. The whole square is shaded too.

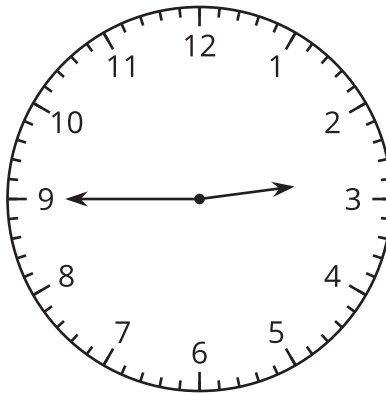
Assessment: Section C Checkpoint

Problem 1

Goals Assessed

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

Select **2** times that represent the time on the clock.



- A. 3:45
- B. Quarter till 3
- C. Quarter past 2
- D. 2:45
- E. Quarter till 2

Solution

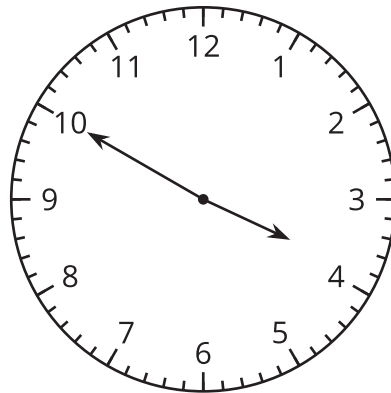
["B", "D"]

Problem 2

Goals Assessed

- Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.

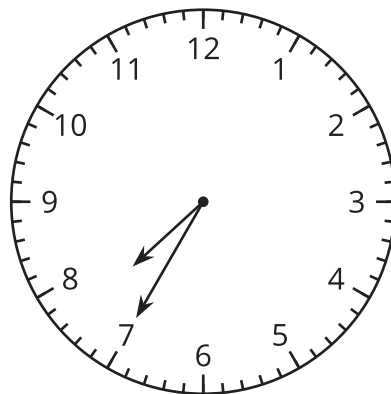
- a. The clock shows when Jada leaves school one day to come home. Write the time and circle a.m. or p.m.



	•	
—	•	—

a.m. or p.m.

- b. The clock shows when Andre brushes his teeth after breakfast. Write the time and circle a.m. or p.m.



	•	
—	•	—

a.m. or p.m.

Solution

- a. 3:50 p.m.
- b. 7:35 a.m.

Assessment: Section D Checkpoint

Problem 1

Goals Assessed

- Find the value of a group of bills and coins.

Mai wanted to buy a piece of fruit from the store that costs 50 cents. She has the following coins:



Does Mai have enough money to buy the fruit from the store? Explain.

Solution

Yes, Mai has a total of 52 cents, so she will be able to buy the fruit.

Problem 2

Goals Assessed

- Find the value of a group of bills and coins.
- Use addition and subtraction to solve one- and two-step story problems.

Noah has these coins: 3 pennies, 4 nickels, 1 dime and 2 quarters.



Jada gave Noah some coins and now he has a dollar. What coins could Jada have given Noah?

Solution

Sample responses:

17 pennies

12 pennies 1 nickel

7 pennies 2 nickels

7 pennies 1 dime

2 pennies, 3 nickels

2 pennies, 1 nickel, 1 dime

Problem 3

Goals Assessed

- Use addition and subtraction within 100 to solve one- and two-step word problems.

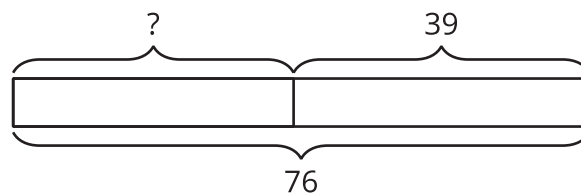
Andre has \$76 to buy a new game. After he bought the game, he had \$39 left. How much did the game cost?

Show your thinking. Write your final answer using the \$ symbol.

Solution

\$37

Sample response:



$$76 - 40 = 36 \text{ and } 36 + 1 = 37$$

Assessment: End-of-Unit Assessment

Problem 1

Standards Alignments

Addressing 2.G.A.1

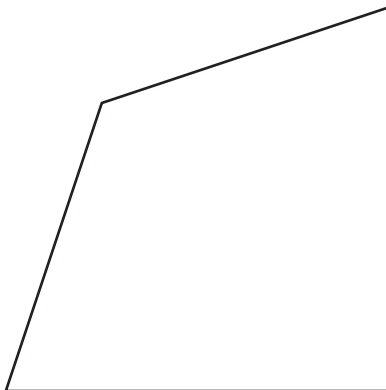
Narrative

Students draw a shape with specified properties. The two sides that are equal do not need to make the square corner as in the sample image. Students also may not identify the two sides that are the same length as in the sample solution. Students will need access to a ruler for this problem.

Draw a quadrilateral with one square corner and two equal sides.

Solution

Sample response:



The two sides that meet in the bottom right are equal and make a square corner.

Problem 2

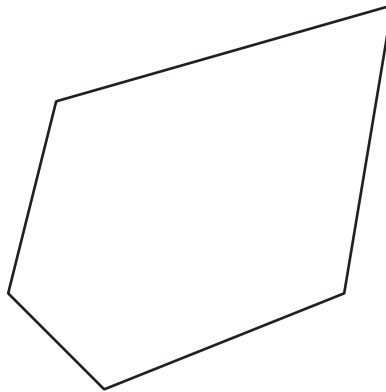
Standards Alignments

Addressing 2.G.A.1

Narrative

Students identify a pentagon. The given pentagon is not regular so students will need to rely on the definition of a pentagon rather than recognizing the shape by sight.

Choose the name of the shape.



- A. Hexagon
- B. Triangle
- C. Quadrilateral
- D. Pentagon

Solution

D

Problem 3

Standards Alignments

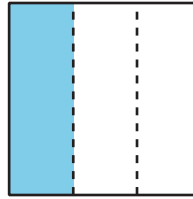
Addressing 2.G.A.3

Narrative

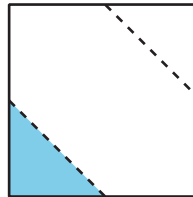
Students identify squares partitioned into thirds with one third shaded. The distractors are a square that is divided into 3 unequal parts, with one part shaded, and a square that is divided into 4 equal parts with one part shaded. Students who select either of the distractors need further work partitioning shapes into equal parts in different ways.

Select **2** drawings that have one third of the square shaded.

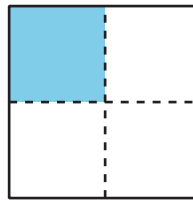
A.



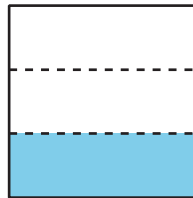
B.



C.



D.



Solution

["A", "D"]

Problem 4

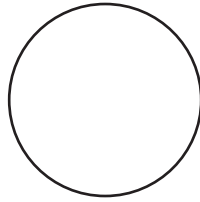
Standards Alignments

Addressing 2.G.A.3

Narrative

Students partition a circle into 4 equal parts and explain why the whole circle can be viewed as four

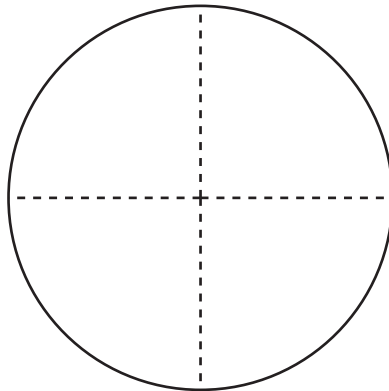
fourths of the circle. It is not important that the four parts of the circle be exactly equal. Students will need to “eyeball” their partitions and the four parts should be roughly equal.



- a. Split the circle into 4 equal parts.
- b. Explain why 4 fourths of the circle is the whole circle.

Solution

- a. Sample solution:



- b. There are 4 equal parts in the whole circle so four fourths is the whole thing.

Problem 5

Standards Alignments

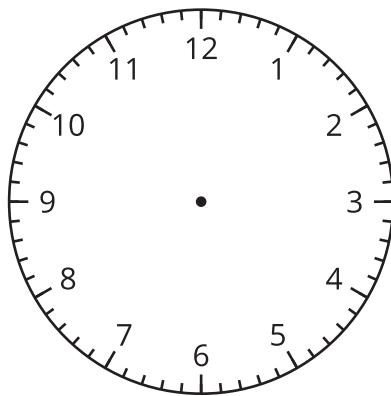
Addressing 2.MD.C.7

Narrative

Students draw the hour and minute hands to show a time and read the time on a different clock. They also determine whether these times are a.m. or p.m. based on whether the event happens in the morning or afternoon. For the student response to the first problem, the minute hand should be accurately pointing to the 9. The hour hand does not need to be precisely placed but should be

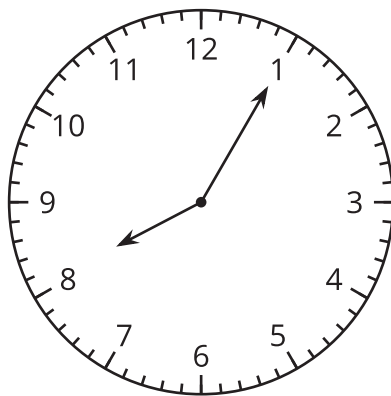
between 6 and 7.

- a. Jada gets up in the morning at 6:45. Show the time on the clock face. Then circle a.m. or p.m.



a.m. or p.m.

- b. Jada goes to bed at the time on the clock. Write the time and circle a.m. or p.m.

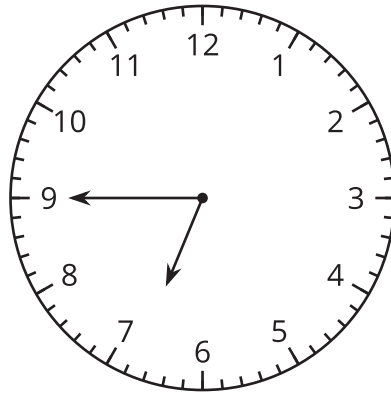


.
— . —

a.m. or p.m.

Solution

- a.



- 6:45 a.m.
b. 8:05 p.m.

Problem 6

Standards Alignments

Addressing 2.MD.C.8

Narrative

Students add numbers within 100 using the context of money. Students may make a mistake with their arithmetic or may forget how many cents are in a nickel or a quarter. They also need to recall that there are 100 cents in 1 dollar in order to answer the second question.

Jada has 2 pennies, 3 nickels, and 1 quarter.

- How many cents does Jada have? Explain or show your reasoning.
- How many more cents does Jada need to have \$1? Explain or show your reasoning.

Solution

- 42: 1 quarter is 25 cents and 3 nickels are 5, 10, 15 cents. That makes 40 cents total. Then 2 more pennies make 2 cents or 42 cents total.
- 58: 50 and 40 make 90, 2 and 8 make 10, and $90 + 10 = 100$. 100 cents is a dollar.

Problem 7

Standards Alignments

Addressing 2.MD.C.8, 2.OA.A.1

Narrative

Students solve a two-step story problem with a context of money. While the previous item uses cents, this item uses dollars. The first step is addition and the second step is subtraction. The reasoning given by Andre opens up another natural method to solve the problem, also requiring two steps, namely subtract 53 from 55 and then add 6. When the operations are done in this way, no composing or decomposing of units occurs.

Jada has \$26 and Andre has \$35. They want to buy a video game that costs \$53.

- Andre says that they have enough money to buy the video game because \$20 and \$35 are more than \$53. Explain why Andre is correct.
- How many dollars will Jada and Andre have left after they buy the game? Show your thinking.

Solution

- $20 + 35 = 55$ which is enough to buy the video game.
- Sample response 1: \$8.

First I added 26 and 35.

$$20 + 30 = 50$$

$$6 + 5 = 11$$

Then I took away 53.

$$50 - 50 = 0$$

$$11 - 3 = 8$$

So they have 8 dollars left.

Sample response 2:

$55 - 53 = 2$. Then Jada still had \$6 more so that makes \$8 total.

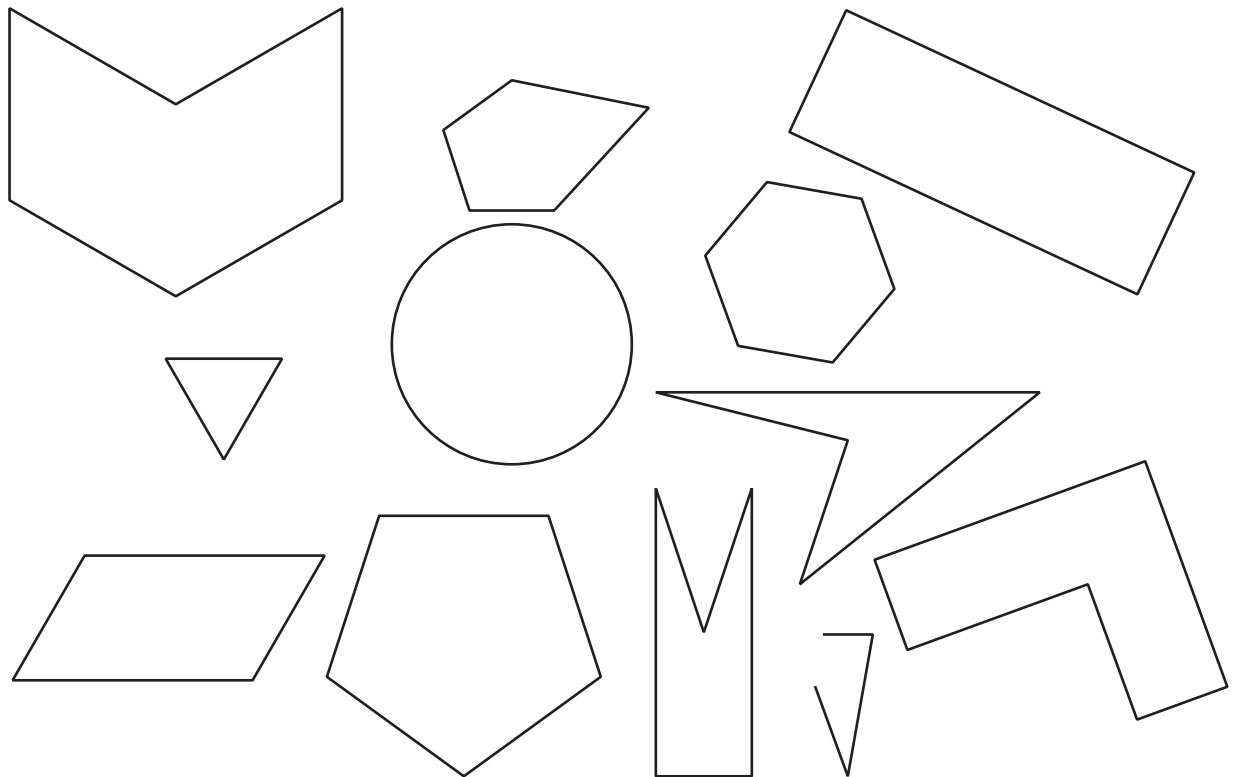
CKMath™
Core Knowledge **MATHEMATICS™**

Lesson
Cool Downs

Lesson 1: Identify and Sort Shapes

Cool Down: Find the Shapes

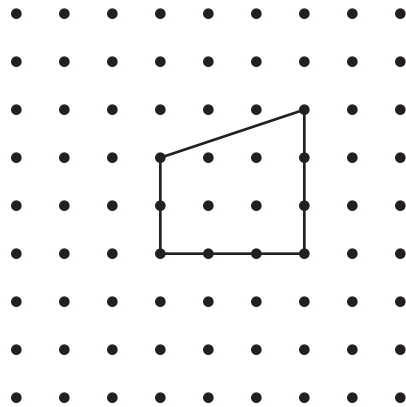
- Put an x inside all the pentagons.
- Put an o inside all the hexagons.



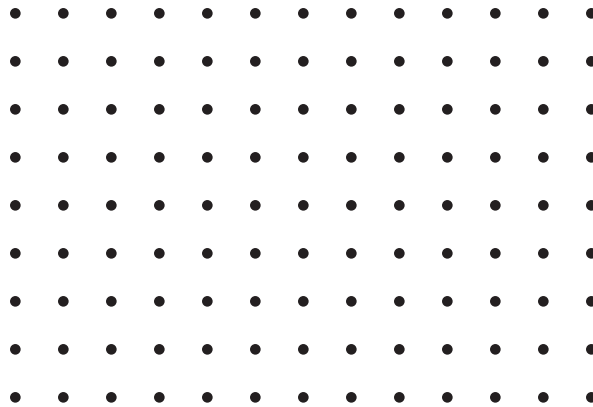
Lesson 2: Draw Shapes

Cool Down: Name and Draw Shapes

1. What is the name of this shape?



2. Draw a shape with 5 sides and 5 corners.



What is the name of the shape you drew?

Lesson 3: Specific Side Lengths

Cool Down: Draw the Shape

1. Draw a quadrilateral that has two sides that are 2 inches long.

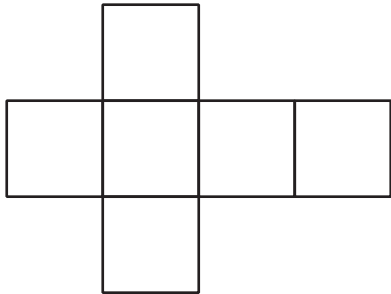
2. Explain how you know your shape is a quadrilateral.

Lesson 4: Solid Shapes

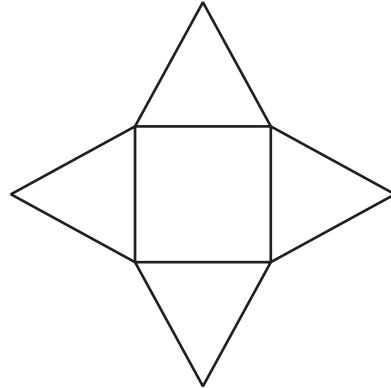
Cool Down: What Shape is This?

1. Circle all the images that are composed of 6 shapes of equal size.

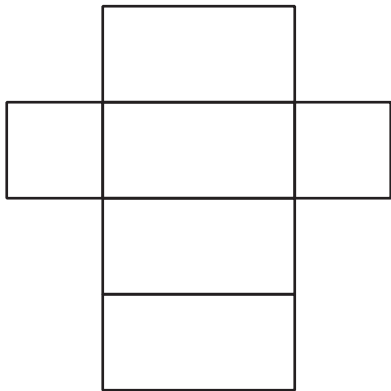
A



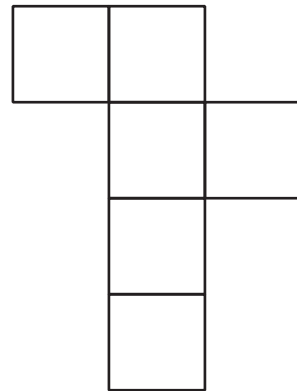
B



C



D

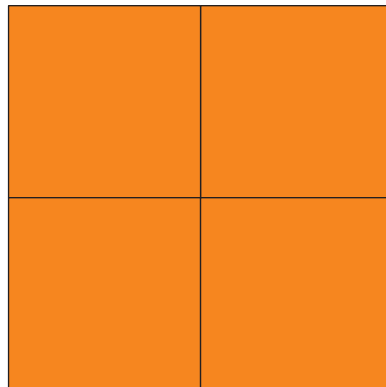
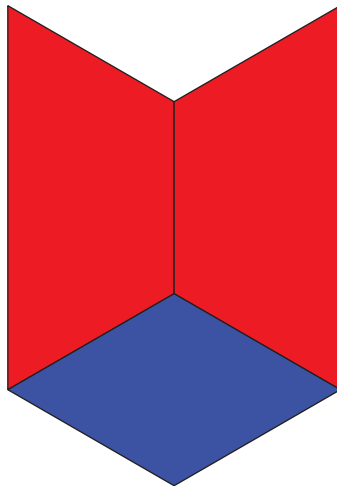
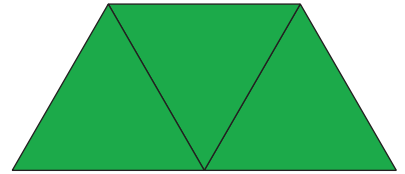
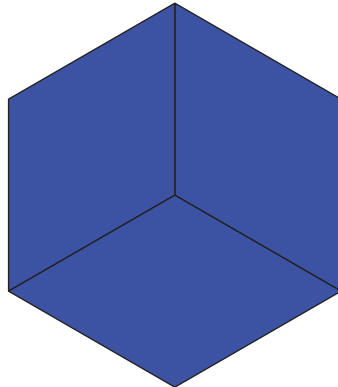
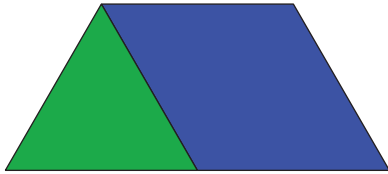


2. What is the name for a solid shape with 6 square faces?

Lesson 6: Compose and Decompose Shapes

Cool Down: Look for Equal-size Shapes

1. Circle the shapes that are composed of only equal-size smaller shapes.



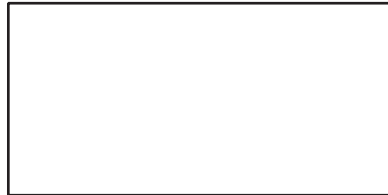
2. Choose 1 shape that you circled and describe the shapes that compose it.

The _____ is made up of
_____.

Lesson 7: Make Halves, Thirds, and Fourths

Cool Down: Name Equal Pieces

1. Split the rectangle into 3 equal pieces. Shade in 1 piece.



2. Each piece of the rectangle is called a _____.

3. A _____ of the rectangle is shaded.

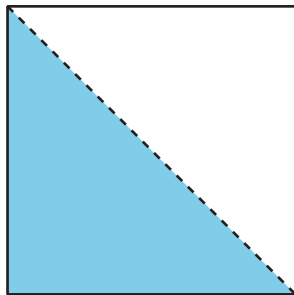
Lesson 8: Are All Pieces Created Equal?

Cool Down: Paint a Picture

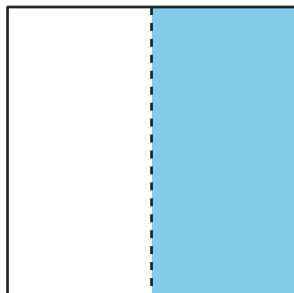
Andre and Noah each had a sheet of paper that was the same size.

They each painted part of their paper.

Andre:



Noah:

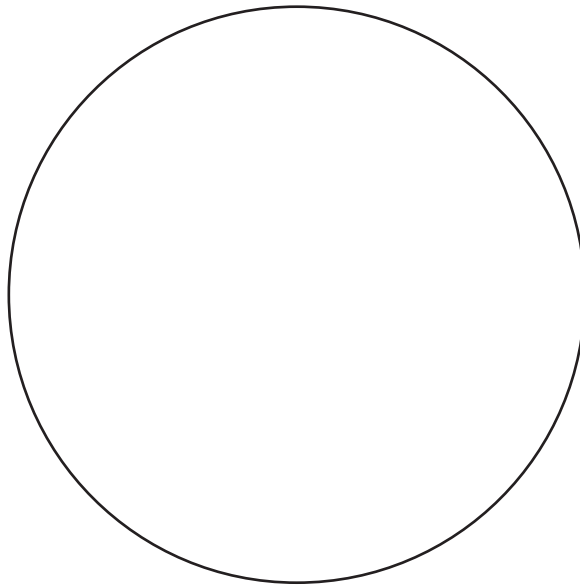


Andre says he painted more than Noah. Do you agree? Explain.

Lesson 9: You Ate the Whole Thing

Cool Down: Partition a Circle

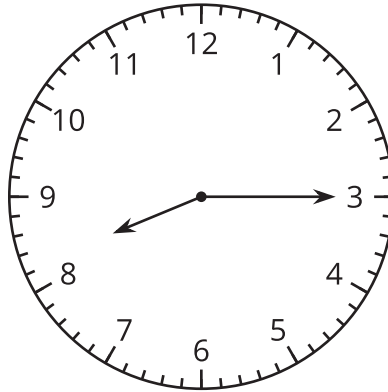
1. Partition this circle into 2 equal parts. Shade each part of the circle in different colors.



2. How much of the circle did you shade in?

Lesson 11: Tell Time with Halves and Quarters

Cool Down: Tell Time with Halves and Quarters



Circle the time shown on the clock.

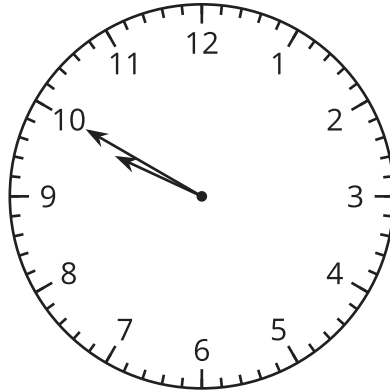
half past 8

quarter past 8

quarter till 8

Lesson 12: Count by 5 to Tell Time

Cool Down: Which Time Is It?



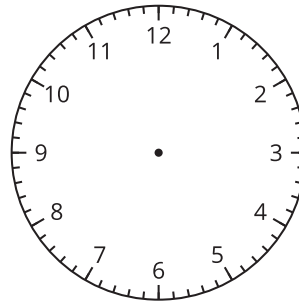
Does the clock show 9:50 or 10:50? Explain.

Lesson 13: Is It a.m. or p.m.?

Cool Down: Represent the Time

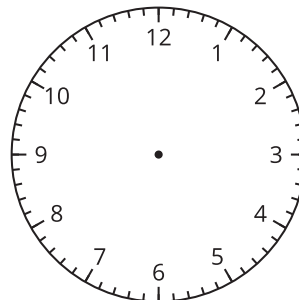
Draw the hands on the clock to show the time and circle a.m. or p.m.

1. The alarm clock wakes me up at 6:20.



a.m. or p.m.

2. I watch TV at 4:45.



a.m. or p.m.

Lesson 15: Identify Pennies, Nickels, and Dimes

Cool Down: Do I Have Enough?

Jada has a group of coins.



1. How many **pennies** does Jada have? _____
2. How many **nickels** does Jada have? _____
3. How many **dimes** does Jada have? _____
4. What is the value of her coins? Show your thinking using numbers, words, drawings, or equations.

Lesson 16: Identify Quarters

Cool Down: Tyler's Pocket Change

Tyler had 6 pennies, 2 dimes, 2 quarters, and 2 nickels in his pocket.



How many cents does Tyler have? Show your thinking using drawings, numbers, words, or an equation.

Lesson 17: Let's Make a Dollar

Cool Down: Dollars and Cents

What is the total value of these coins? _____



Show your thinking.

Lesson 18: Money Problems

Cool Down: Mai's Supplies

1. Mai has these coins to buy school supplies:



a. How much money does Mai have for supplies?

b. If Mai buys a pencil for 27¢, how much money will she have left?

Show your thinking using drawings, numbers, words, or an equation. If it helps, you can use a diagram.

Lesson 19: More Money Problems

Cool Down: Mai's Money

Diego has \$67. Diego has \$16 less than Mai. How much money does Mai have?

Show your thinking. Write your final answer using the \$. If it helps, use a diagram.

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Instructional Masters

Instructional Masters for Geometry, Time, and Money

address	title	students written		students requires	card stock	color paper
		per copy	on?			
Activity Grade2.6.12.1.1	Count on the Clock Card Sort	2	no	yes	no	no
Activity Grade2.6.4.4.2	Cube Pattern	2	no	yes	yes	no
Activity Grade2.6.11.2	Halves and Quarters Clock Sort	2	no	yes	no	no
Activity Grade2.6.20.1	Would You Rather Stage 1 Spinner	2	no	no	no	no
Center	Would You Rather Stage 1 Spinner	2	no	no	no	no
Activity Grade2.6.6.2	Isometric Dot Paper - Standard	1	yes	no	no	no
Activity Grade2.6.20.1	Would You Rather Stage 1 Recording Sheet	2	yes	no	no	no
Center	Would You Rather Stage 1 Recording Sheet	2	yes	no	no	no
Activity Grade2.6.15.1	Money Poster Images	0	no	yes	no	no
Activity Grade2.6.1.1	Shape Cards Grade 2	2	no	yes	no	no
Activity Grade2.6.10.1	Shape Cards Grade 2	2	no	yes	no	no
Center	Shape Cards Grade 2	2	no	yes	no	no
Center	Shape Cards Grade 2	2	no	yes	no	no
Center	Shape Cards Grade 2	2	no	yes	no	no

Activity Grade2.6.4.2	Shape Design Card Sort	2	no	yes	no	no
Activity Grade2.6.6.1	Compose a Butterfly	2	yes	no	no	no
Activity Grade2.6.14.1	Picture Books Stage 3 Recording Sheet	1	yes	no	no	no
Center	Picture Books Stage 3 Recording Sheet	1	yes	no	no	no
Activity Grade2.6.15.2	Coins to Cut and Count	1	no	yes	yes	no
Activity Grade2.6.16.1	Coins to Cut and Count	1	no	yes	yes	no
Activity Grade2.6.5.2	Centimeter Dot Paper - Standard	1	yes	no	no	no
Activity Grade2.6.6.2	Centimeter Dot Paper - Standard	1	yes	no	no	no
Center	Centimeter Dot Paper - Standard	1	yes	no	no	no
Center	Centimeter Dot Paper - Standard	1	yes	no	no	no
Activity Grade2.6.13.1	Hours in a Day Timeline	1	no	yes	no	no
Center	Flat Shape Cards Grade 1	2	no	yes	no	no
Center	Which One Stage 2 Gameboard	2	no	no	no	no
Center	Capture Squares Stage 3 Gameboard	2	yes	no	no	no
Center	Capture Squares Stage 3 Spinner	2	no	no	no	no
Center	Capture Squares Stage 4 Gameboard	2	yes	no	no	no
Center	Capture Squares Stage 4 Spinner	2	no	no	no	no
Center	Number Puzzles Digit Cards	2	no	yes	no	no

Center	Number Puzzles Digit Cards	2	no	yes	no	no
Center	Number Puzzles Digit Cards	2	no	yes	no	no
Center	Number Puzzles Addition and Subtraction Stage 2 Gameboard	1	no	no	no	no
Center	Number Puzzles Addition and Subtraction Stage 3 Gameboard	2	no	no	no	no
Center	Number Puzzles Addition Stage 4 Gameboard	2	no	no	no	no

Count on the Clock Card Sort

A - Count by 5 on the Clock



B - Count by 5 on the Clock



C - Count by 5 on the Clock



D - Count by 5 on the Clock



E - Count by 5 on the Clock



F - Count by 5 on the Clock



G - Count by 5 on the Clock



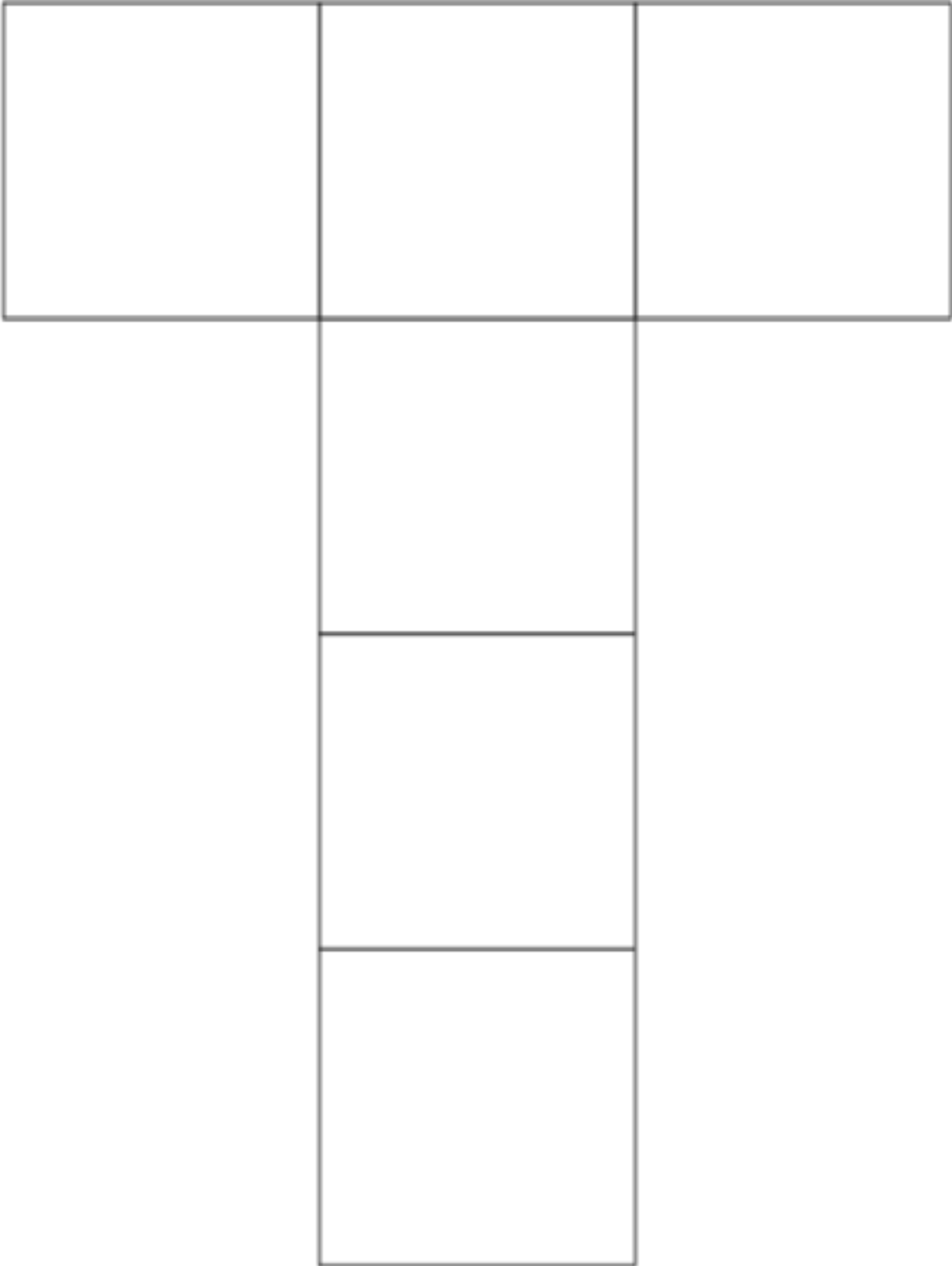
H - Count by 5 on the Clock



Cube Pattern

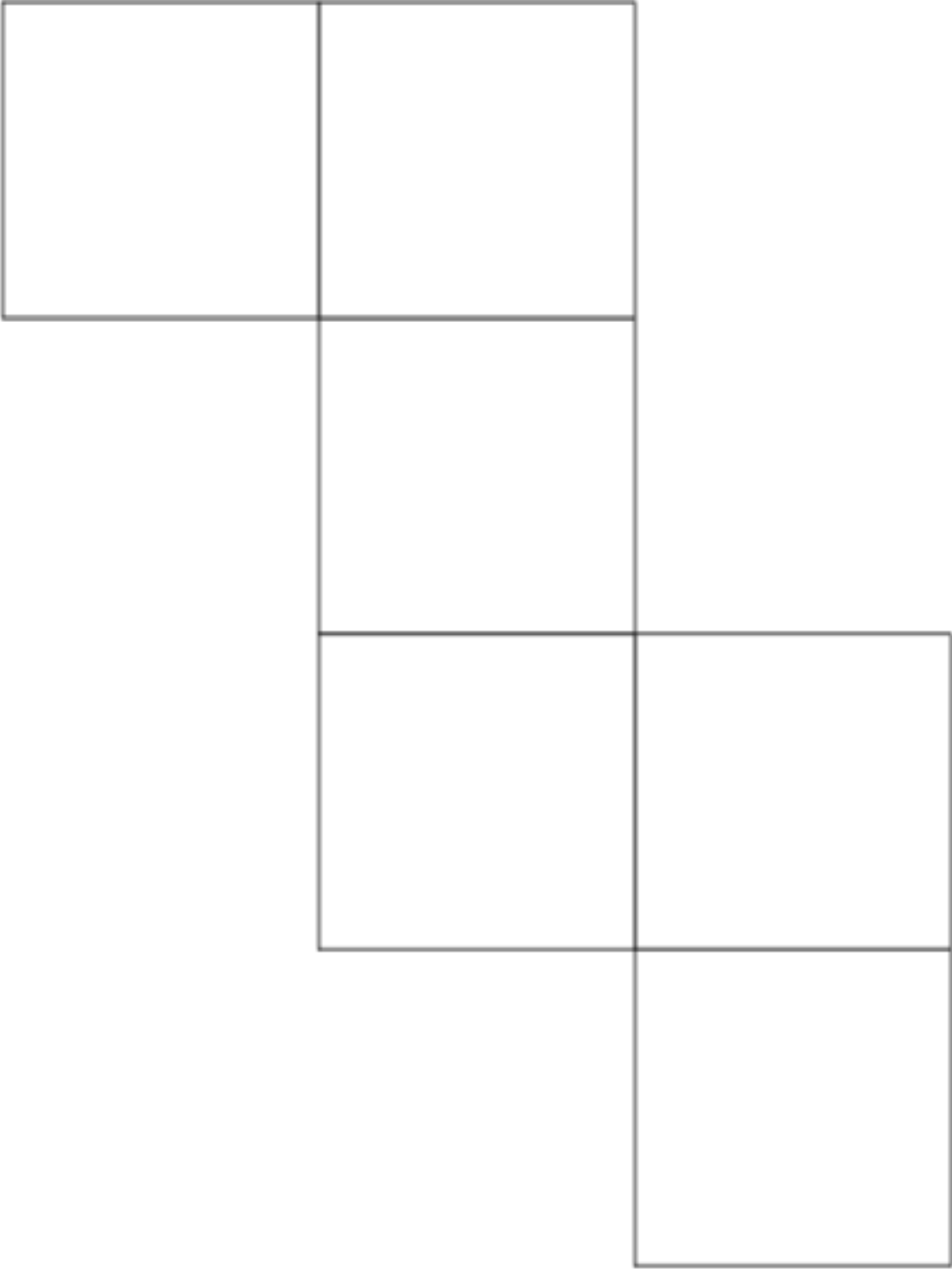
Directions: Cut out and fold these shapes to make cubes. Compare your cube with your partner's cube.

Cube 1



Cube Pattern

Cube 2



Halves and Quarters Clock Sort

A - Halves and Quarters of a Clock Face



B - Halves and Quarters of a Clock Face



C - Halves and Quarters of a Clock Face



D - Halves and Quarters of a Clock Face



E - Halves and Quarters of a Clock Face

o'clock

F - Halves and Quarters of a Clock Face

quarter past

G - Halves and Quarters of a Clock Face

half past

H - Halves and Quarters of a Clock Face

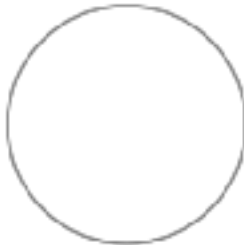
quarter till

Halves and Quarters Clock Sort

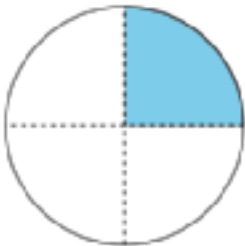
I - Halves and Quarters of a Clock Face



J - Halves and Quarters of a Clock Face



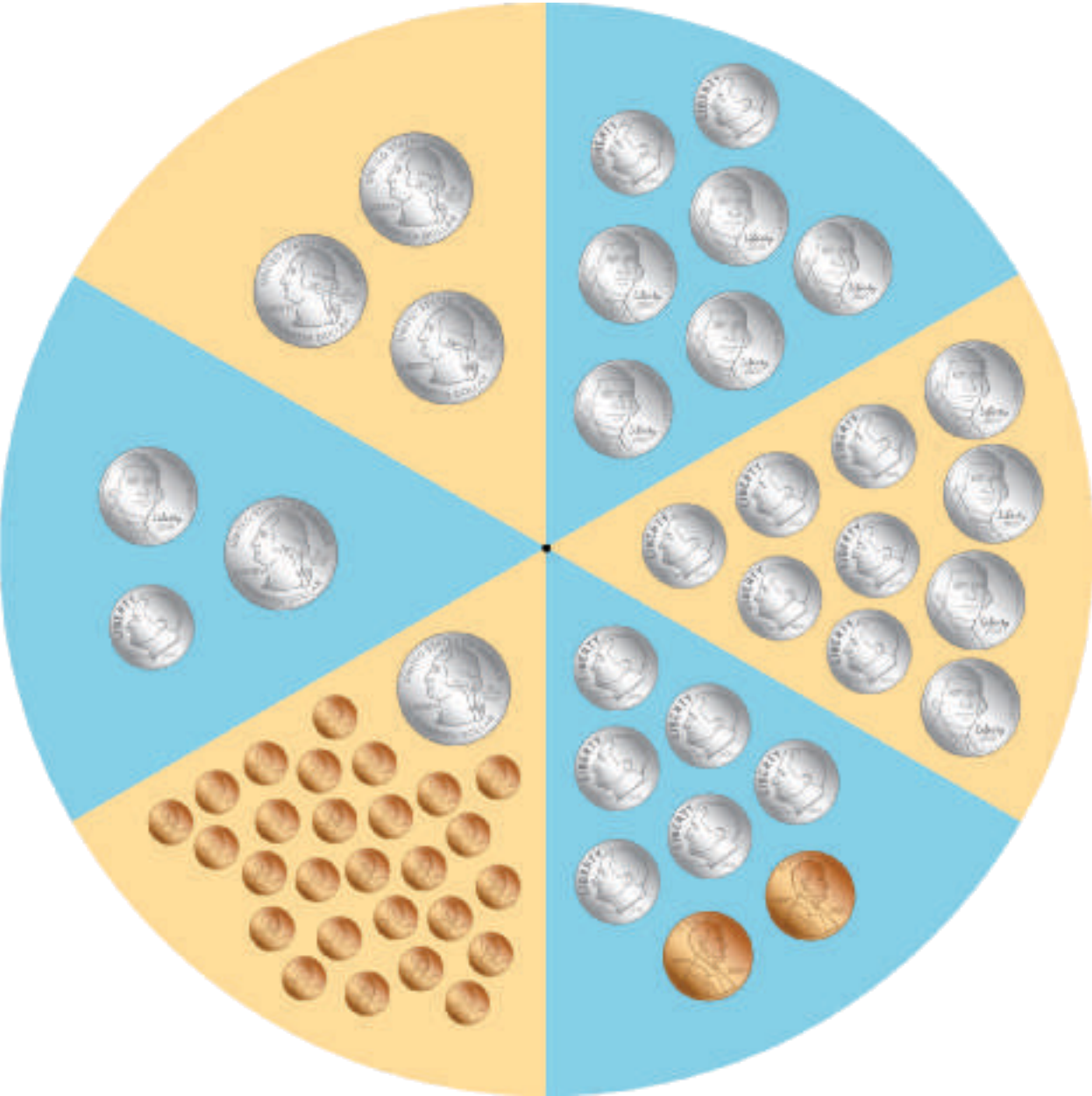
K - Halves and Quarters of a Clock Face



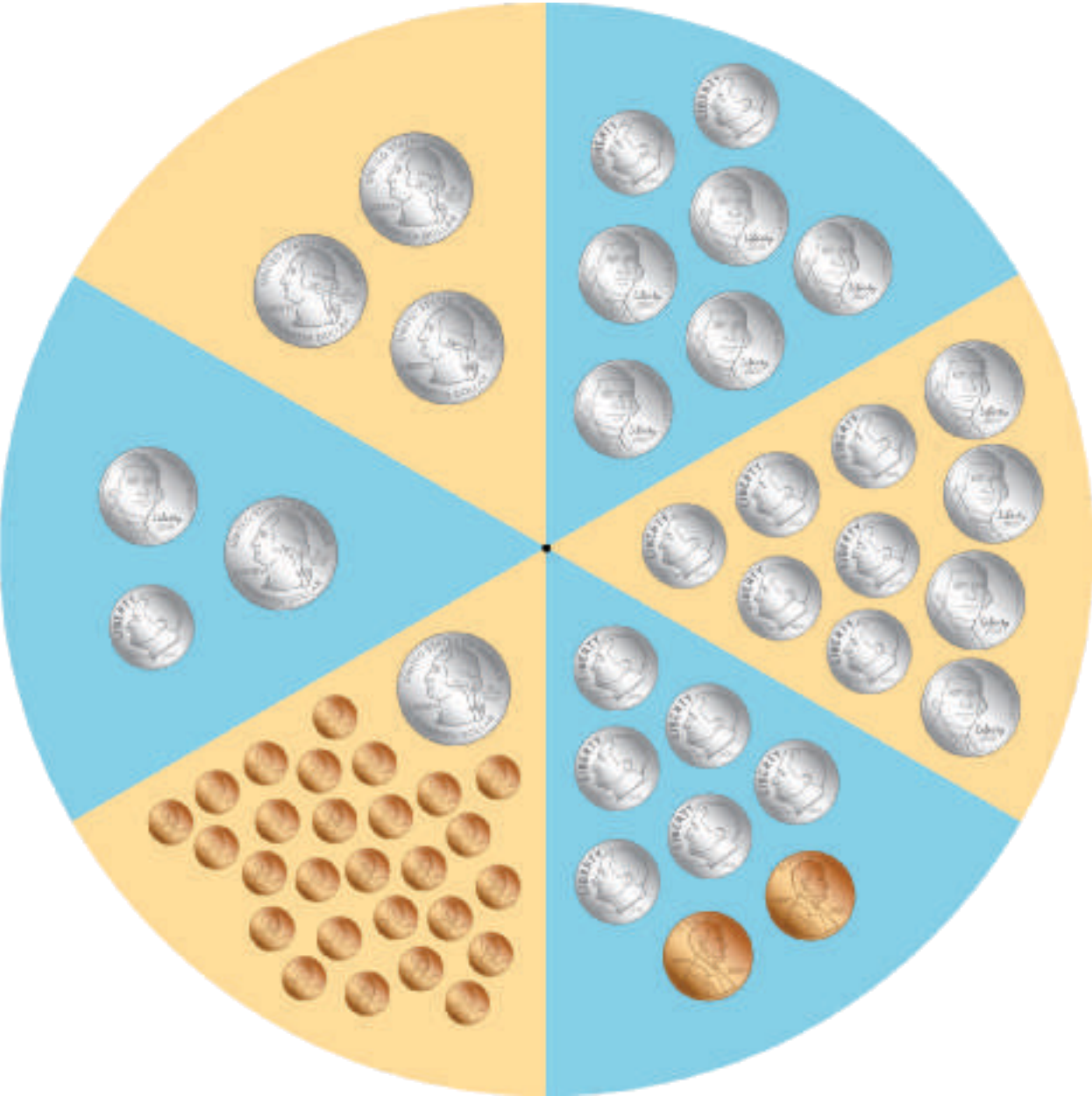
L - Halves and Quarters of a Clock Face



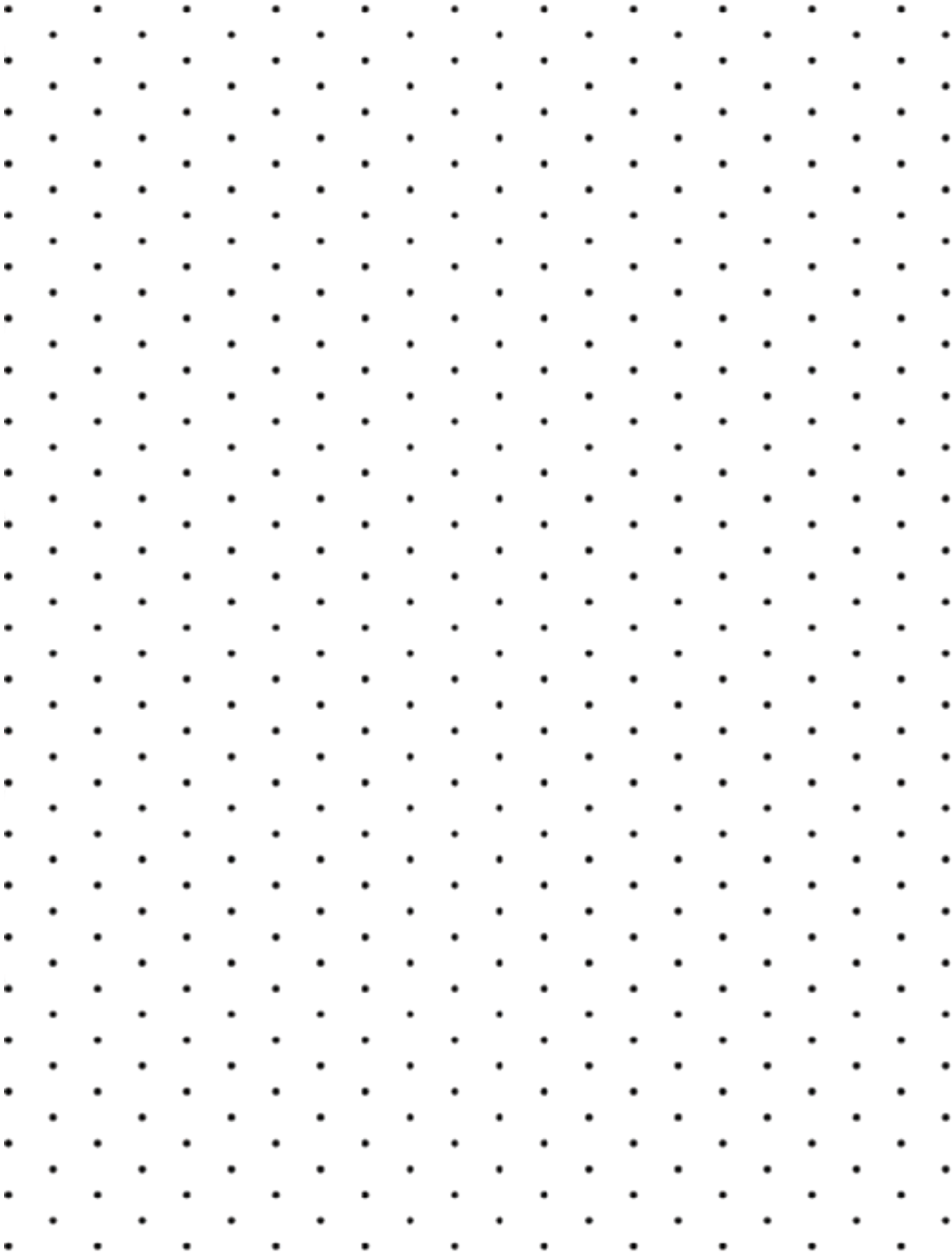
Would You Rather Stage 1 Spinner



Would You Rather Stage 1 Spinner



Isometric Dot Paper - Standard



Would You Rather Stage 1 Recording Sheet

Directions:

- Partner A:
 - Spin to get a group of coins.
 - Ask your partner a question comparing it to a different group of coins.
- Partner B:
 - Answer your partner's question.
 - Explain your choice.
- Switch roles and repeat.

Would you rather have _____ **OR** _____ ?
group of coins you spun group of coins you chose

Would You Rather Stage 1 Recording Sheet

Directions:

- Partner A:
 - Spin to get a group of coins.
 - Ask your partner a question comparing it to a different group of coins.
- Partner B:
 - Answer your partner's question.
 - Explain your choice.
- Switch roles and repeat.

Would you rather have _____ **OR** _____ ?
group of coins you spun group of coins you chose









Shape Cards Grade 2

triangles

Shape Cards Grade 2

quadrilaterals

Shape Cards Grade 2

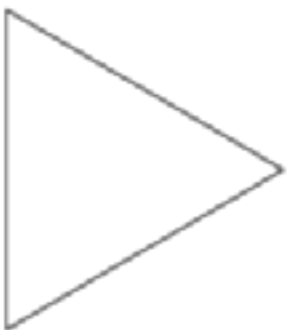
pentagons

Shape Cards Grade 2

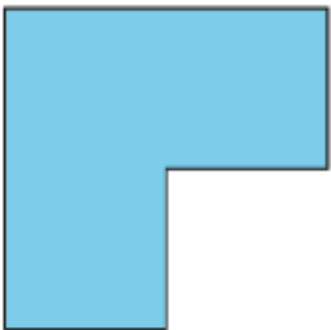
hexagons

Shape Cards Grade 2

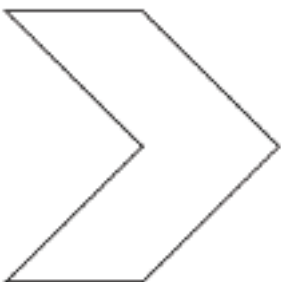
A
Shape Cards Grade 2



B
Shape Cards Grade 2



C
Shape Cards Grade 2



D
Shape Cards Grade 2



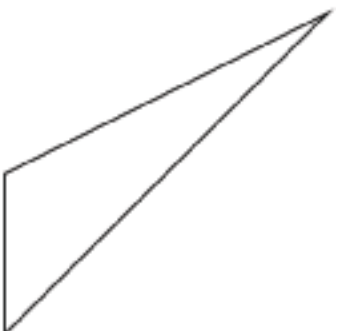
E
Shape Cards Grade 2



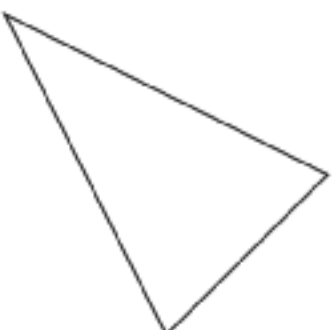
F
Shape Cards Grade 2



G
Shape Cards Grade 2

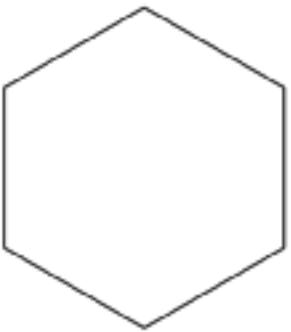


H
Shape Cards Grade 2

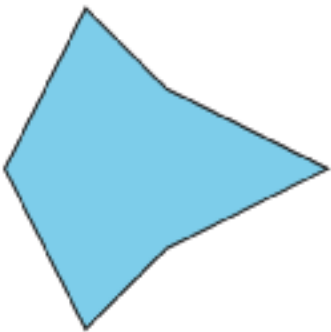


Shape Cards Grade 2

I
Shape Cards Grade 2



J
Shape Cards Grade 2



K
Shape Cards Grade 2



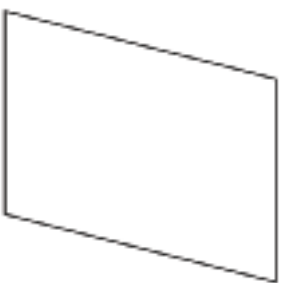
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Shape Cards Grade 2



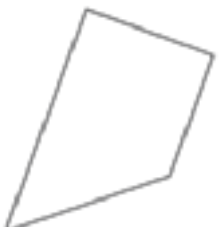
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Shape Cards Grade 2



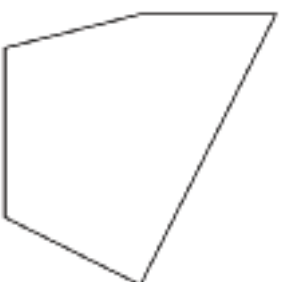
N
Shape Cards Grade 2



O
Shape Cards Grade 2

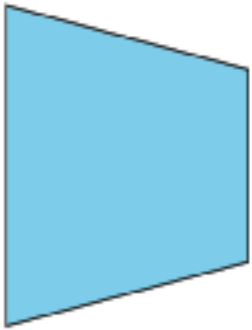


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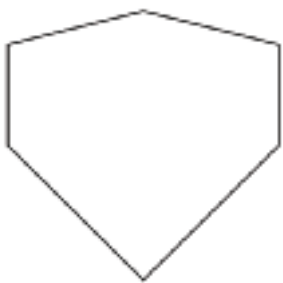


Shape Cards Grade 2

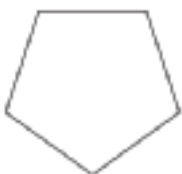
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Shape Cards Grade 2



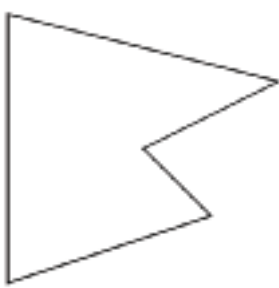
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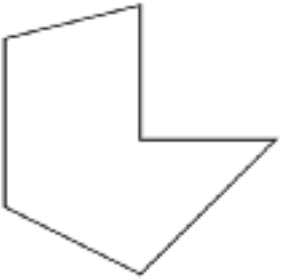
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Shape Cards Grade 2



T
Shape Cards Grade 2



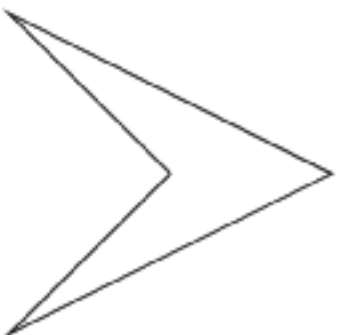
U
Shape Cards Grade 2



V
Shape Cards Grade 2



W
Shape Cards Grade 2



X
Shape Cards Grade 2



Shape Cards Grade 2

triangles

Shape Cards Grade 2

quadrilaterals

Shape Cards Grade 2

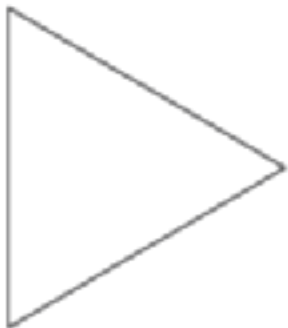
pentagons

Shape Cards Grade 2

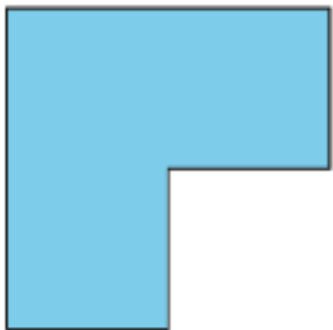
hexagons

Shape Cards Grade 2

Shape Cards Grade 2
A



Shape Cards Grade 2
B



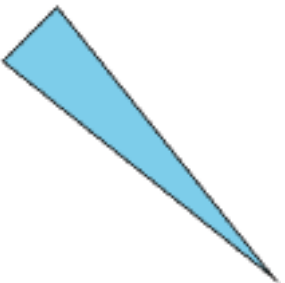
Shape Cards Grade 2
C



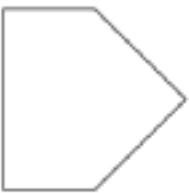
Shape Cards Grade 2
D



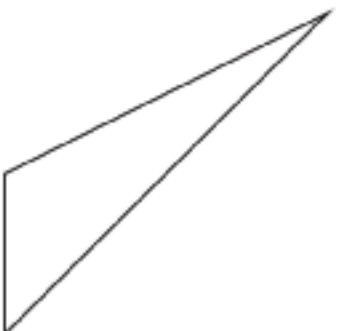
Shape Cards Grade 2
E



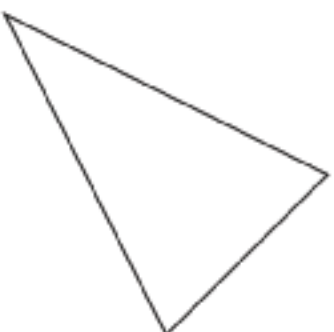
Shape Cards Grade 2
F



Shape Cards Grade 2
G

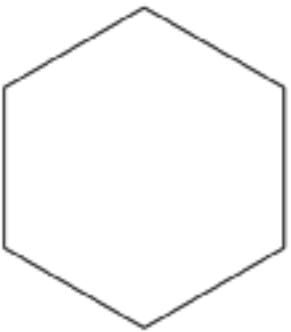


Shape Cards Grade 2
H

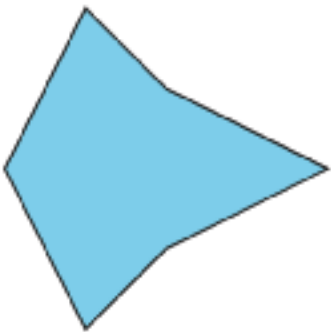


Shape Cards Grade 2

I
Shape Cards Grade 2



J
Shape Cards Grade 2



K
Shape Cards Grade 2



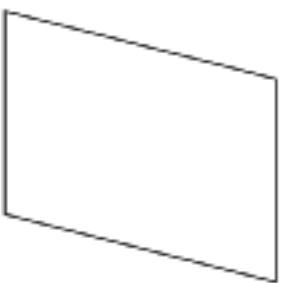
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Shape Cards Grade 2



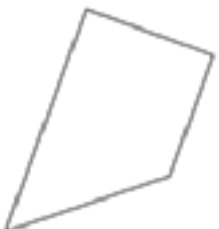
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Shape Cards Grade 2



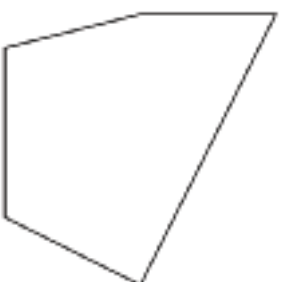
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Shape Cards Grade 2



O
Shape Cards Grade 2

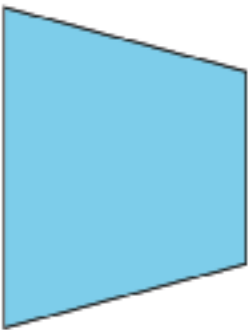


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Shape Cards Grade 2

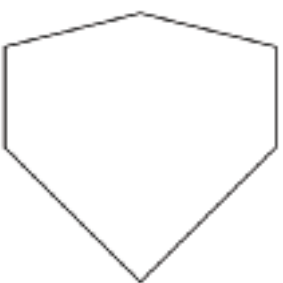


Shape Cards Grade 2

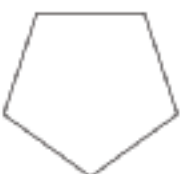
Q
Shape Cards Grade 2



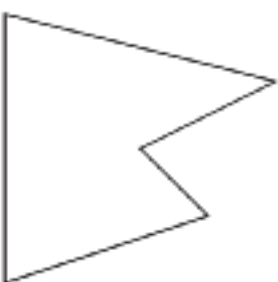
R
Shape Cards Grade 2



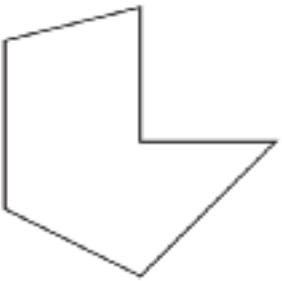
S
Shape Cards Grade 2



T
Shape Cards Grade 2



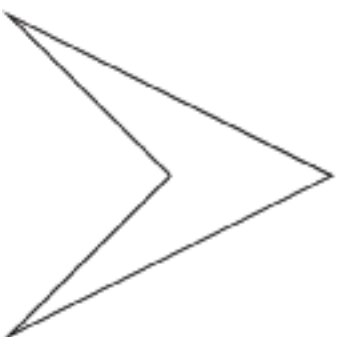
U
Shape Cards Grade 2



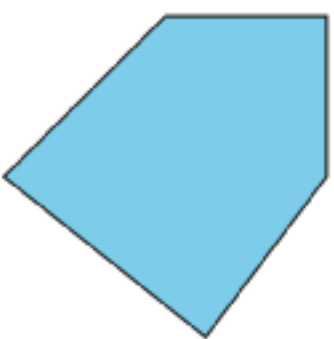
V
Shape Cards Grade 2



W
Shape Cards Grade 2



X
Shape Cards Grade 2



Shape Cards Grade 2

triangles

Shape Cards Grade 2

quadrilaterals

Shape Cards Grade 2

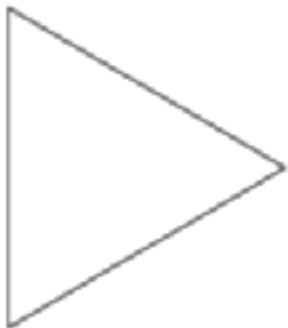
pentagons

Shape Cards Grade 2

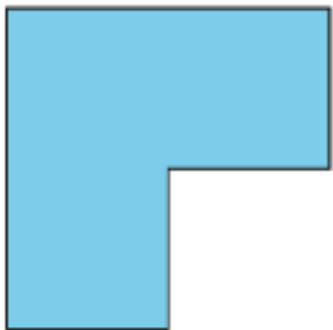
hexagons

Shape Cards Grade 2

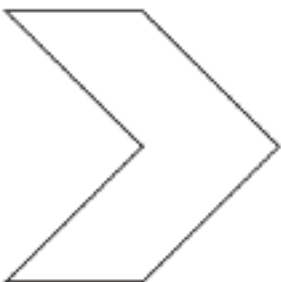
A
Shape Cards Grade 2



B
Shape Cards Grade 2



C
Shape Cards Grade 2



D
Shape Cards Grade 2



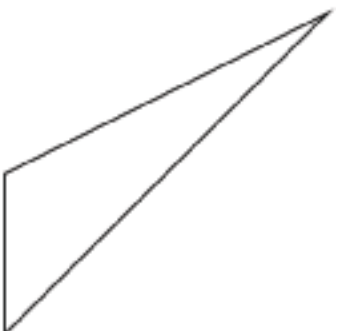
E
Shape Cards Grade 2



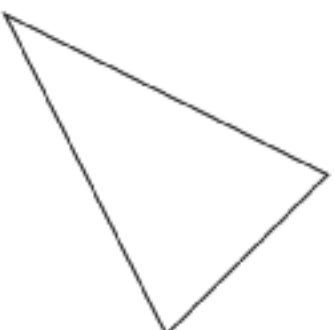
F
Shape Cards Grade 2



G
Shape Cards Grade 2

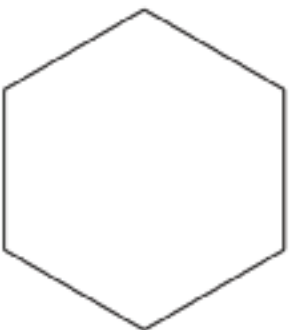


H
Shape Cards Grade 2

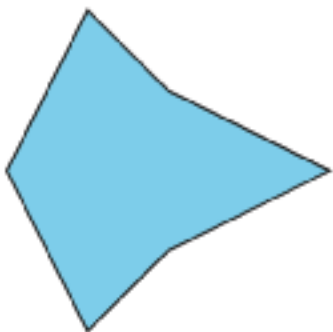


Shape Cards Grade 2

I
Shape Cards Grade 2



J
Shape Cards Grade 2



K
Shape Cards Grade 2



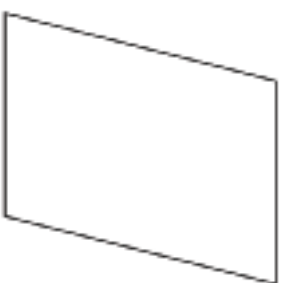
L
Shape Cards Grade 2



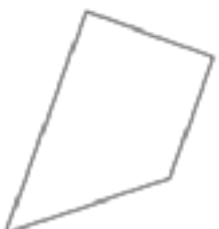
M
Shape Cards Grade 2



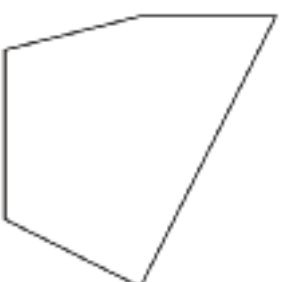
N
Shape Cards Grade 2



O
Shape Cards Grade 2

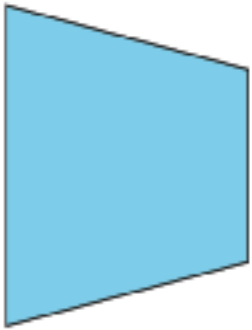


P
Shape Cards Grade 2

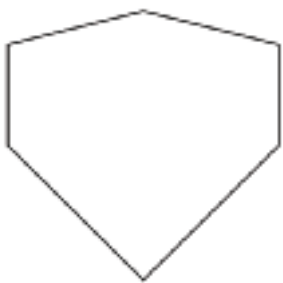


Shape Cards Grade 2

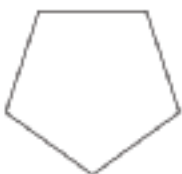
Q
Shape Cards Grade 2



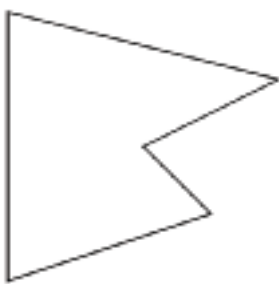
R
Shape Cards Grade 2



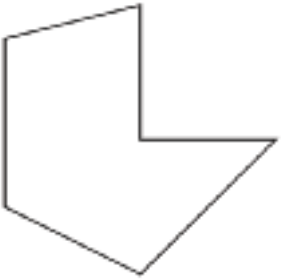
S
Shape Cards Grade 2



T
Shape Cards Grade 2



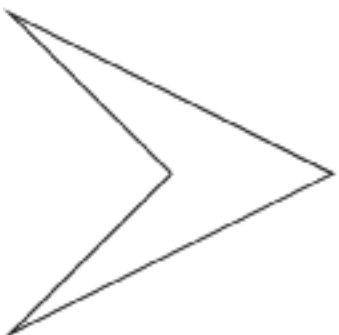
U
Shape Cards Grade 2



V
Shape Cards Grade 2



W
Shape Cards Grade 2



X
Shape Cards Grade 2



Shape Cards Grade 2

triangles

Shape Cards Grade 2

quadrilaterals

Shape Cards Grade 2

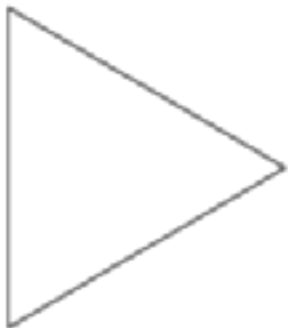
pentagons

Shape Cards Grade 2

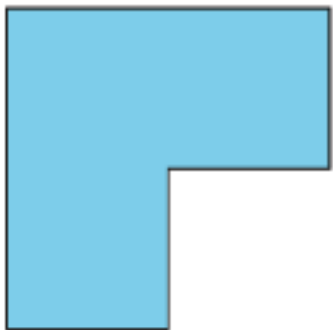
hexagons

Shape Cards Grade 2

Shape Cards Grade 2
A



Shape Cards Grade 2
B



Shape Cards Grade 2
C



Shape Cards Grade 2
D



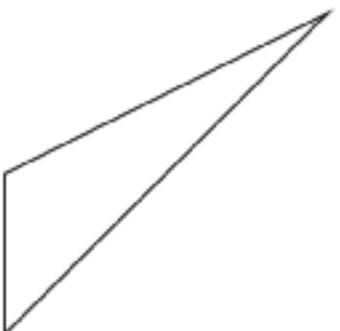
Shape Cards Grade 2
E



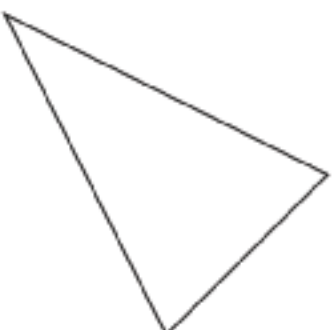
Shape Cards Grade 2
F



Shape Cards Grade 2
G

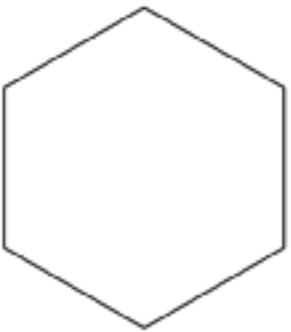


Shape Cards Grade 2
H

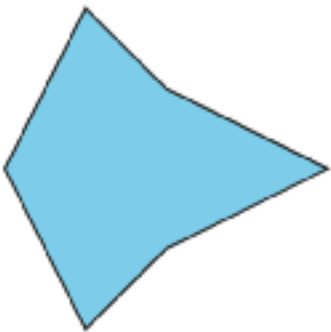


Shape Cards Grade 2

I
Shape Cards Grade 2



J
Shape Cards Grade 2



K
Shape Cards Grade 2



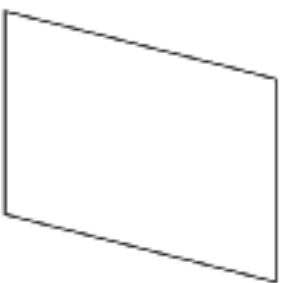
L
Shape Cards Grade 2



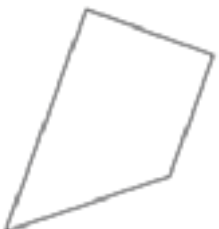
M
Shape Cards Grade 2



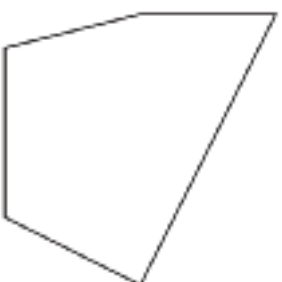
N
Shape Cards Grade 2



O
Shape Cards Grade 2

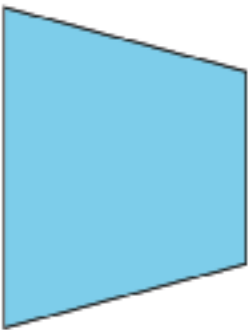


P
Shape Cards Grade 2

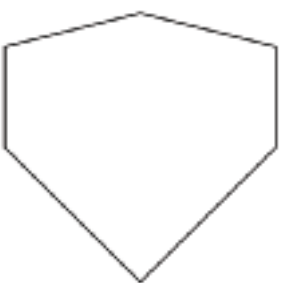


Shape Cards Grade 2

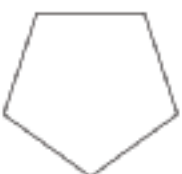
Q
Shape Cards Grade 2



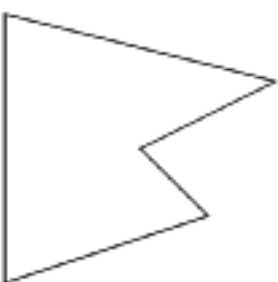
R
Shape Cards Grade 2



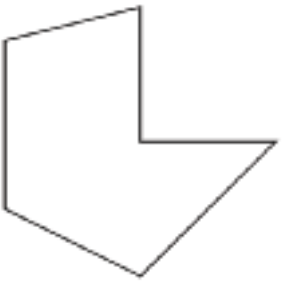
S
Shape Cards Grade 2



T
Shape Cards Grade 2



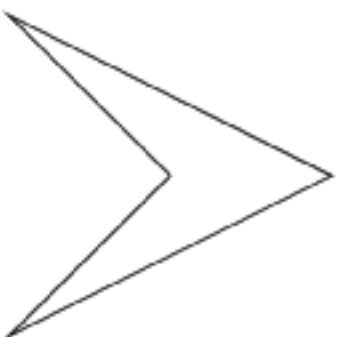
U
Shape Cards Grade 2



V
Shape Cards Grade 2



W
Shape Cards Grade 2



X
Shape Cards Grade 2



Shape Cards Grade 2

triangles

Shape Cards Grade 2

quadrilaterals

Shape Cards Grade 2

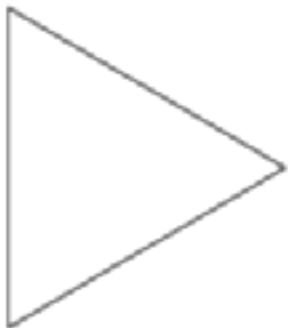
pentagons

Shape Cards Grade 2

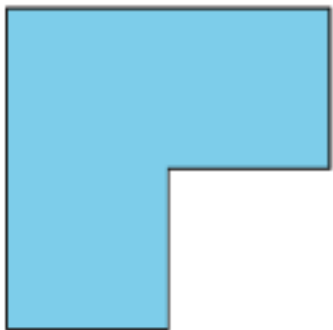
hexagons

Shape Cards Grade 2

A
Shape Cards Grade 2



B
Shape Cards Grade 2



C
Shape Cards Grade 2



D
Shape Cards Grade 2



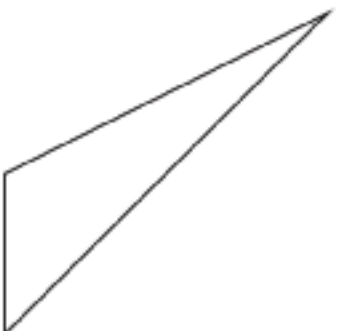
E
Shape Cards Grade 2



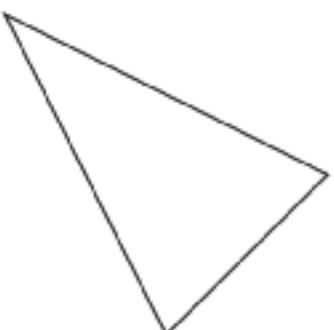
F
Shape Cards Grade 2



G
Shape Cards Grade 2

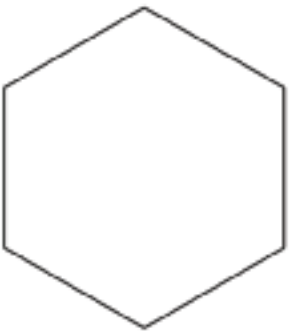


H
Shape Cards Grade 2

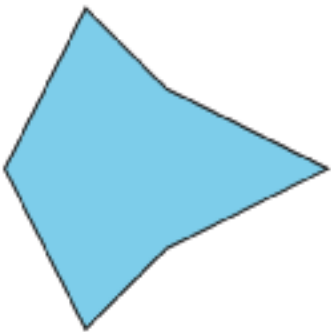


Shape Cards Grade 2

I
Shape Cards Grade 2



J
Shape Cards Grade 2



K
Shape Cards Grade 2



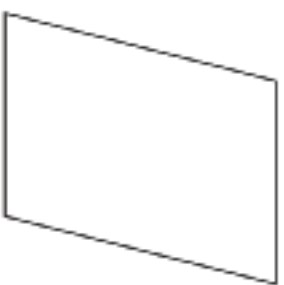
L
Shape Cards Grade 2



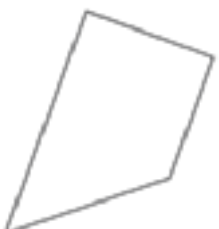
M
Shape Cards Grade 2



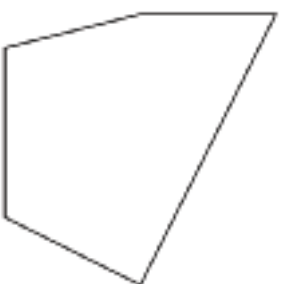
N
Shape Cards Grade 2



O
Shape Cards Grade 2

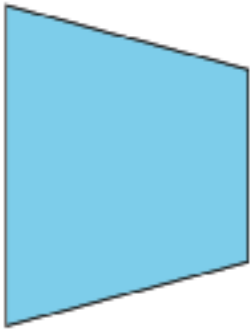


P
Shape Cards Grade 2

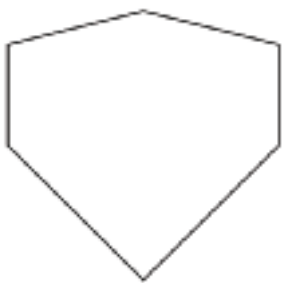


Shape Cards Grade 2

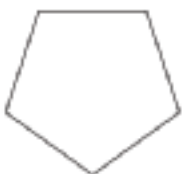
Q
Shape Cards Grade 2



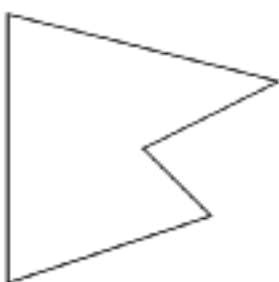
R
Shape Cards Grade 2



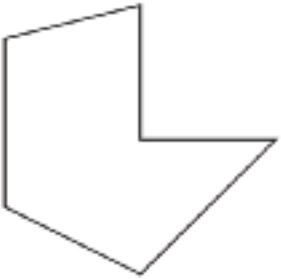
S
Shape Cards Grade 2



T
Shape Cards Grade 2



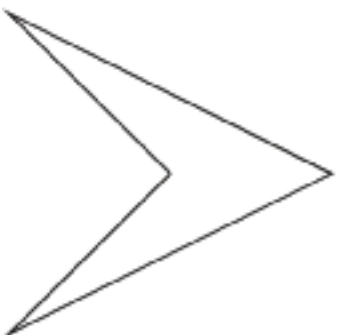
U
Shape Cards Grade 2



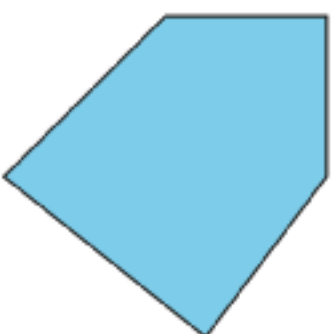
V
Shape Cards Grade 2



W
Shape Cards Grade 2

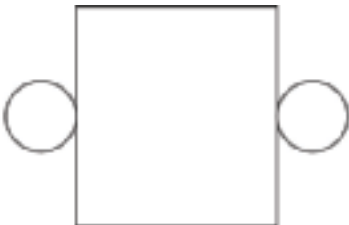


X
Shape Cards Grade 2

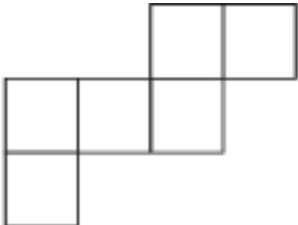


Shape Design Card Sort

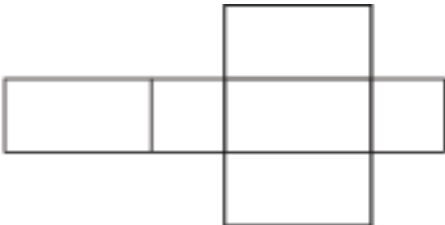
A - Sort and Build Solid Shapes



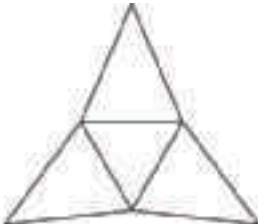
B - Sort and Build Solid Shapes



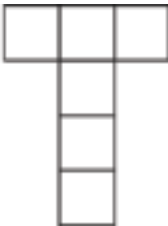
C - Sort and Build Solid Shapes



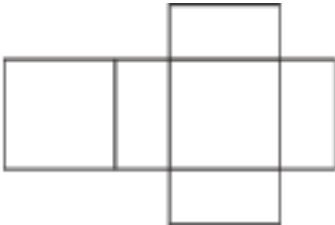
D - Sort and Build Solid Shapes



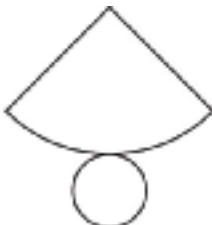
E - Sort and Build Solid Shapes



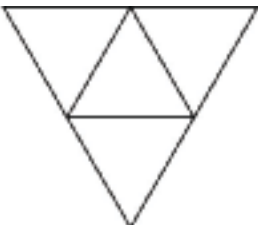
F - Sort and Build Solid Shapes



G - Sort and Build Solid Shapes



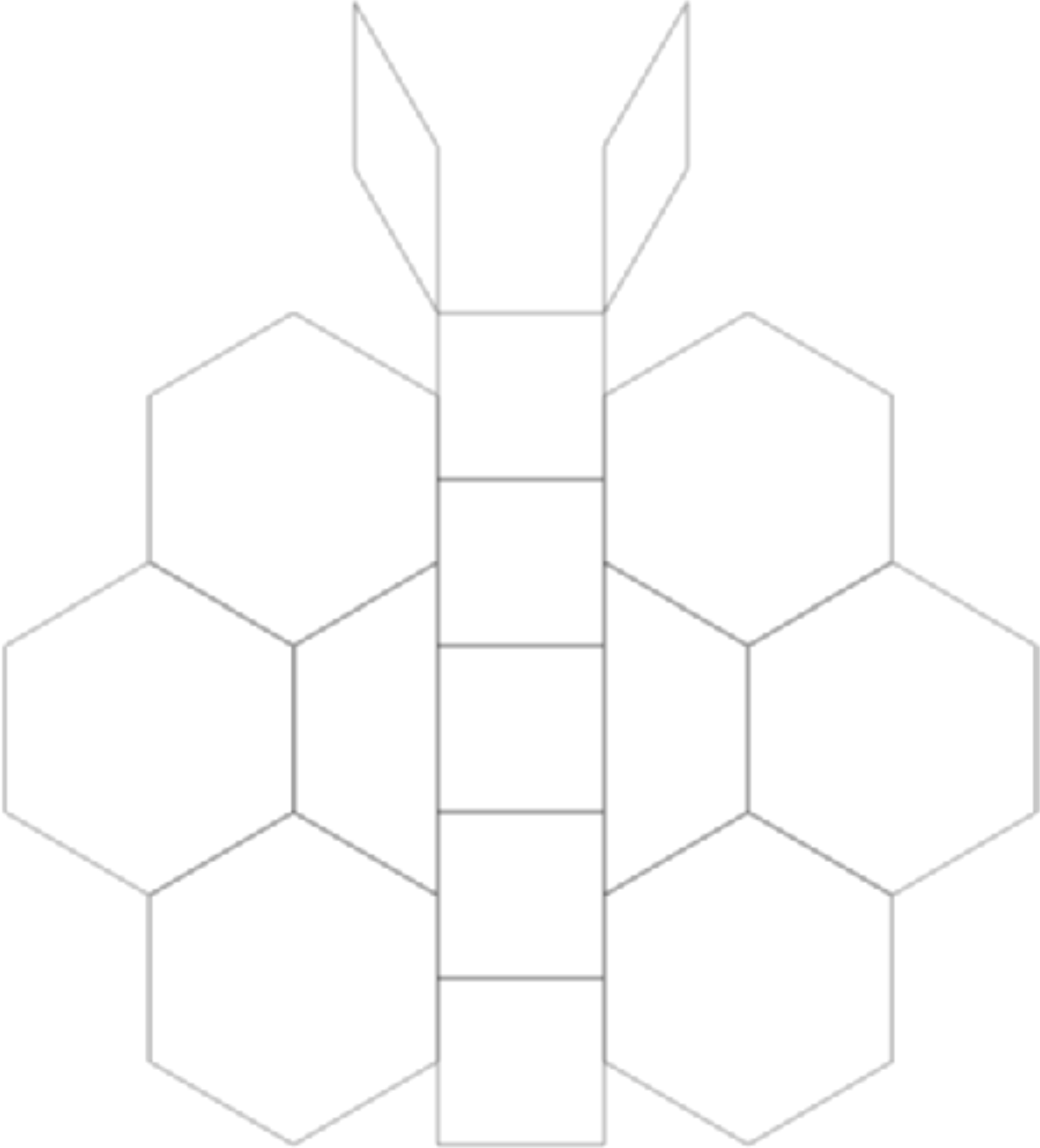
H - Sort and Build Solid Shapes



Compose a Butterfly

Directions:

- Compose the butterfly without using any yellow hexagons.
- Use as many different combinations of shapes to compose each hexagon.
- Draw lines inside each hexagon to show how you arranged the blocks.
- Explain 1 way you composed a hexagon.



I used _____ to compose a hexagon.

Picture Books Stage 3 Recording Sheet

Look for shapes in your book.

Sketch what you see.	Describe what you see.	What shape is it?

Picture Books Stage 3 Recording Sheet

Look for shapes in your book.

Sketch what you see.	Describe what you see.	What shape is it?

Coins to Cut and Count

Pennies



Coins to Cut and Count

Nickels



Coins to Cut and Count

Dimes



Coins to Cut and Count

Pennies



Coins to Cut and Count

Nickels

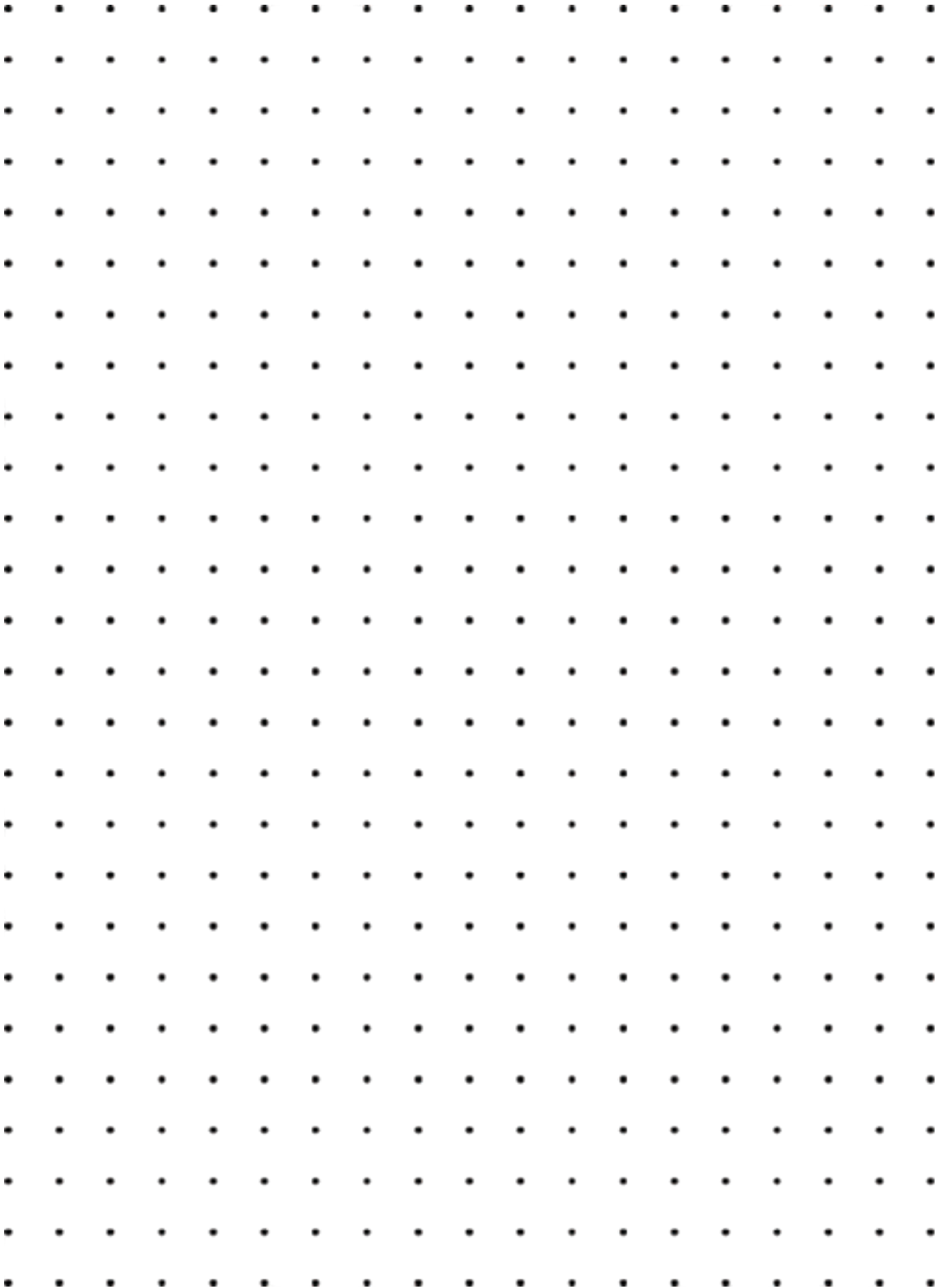


Coins to Cut and Count

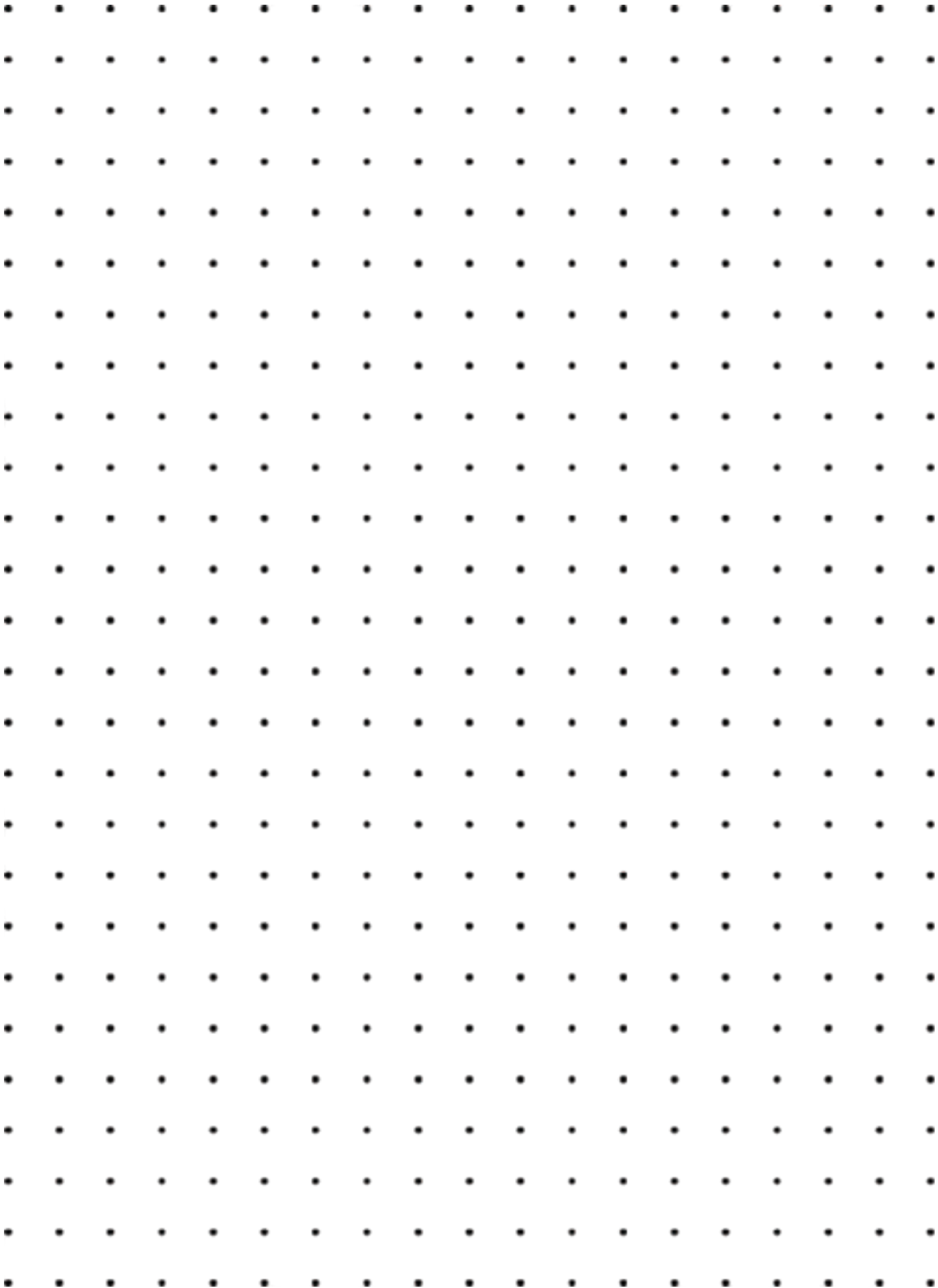
Dimes



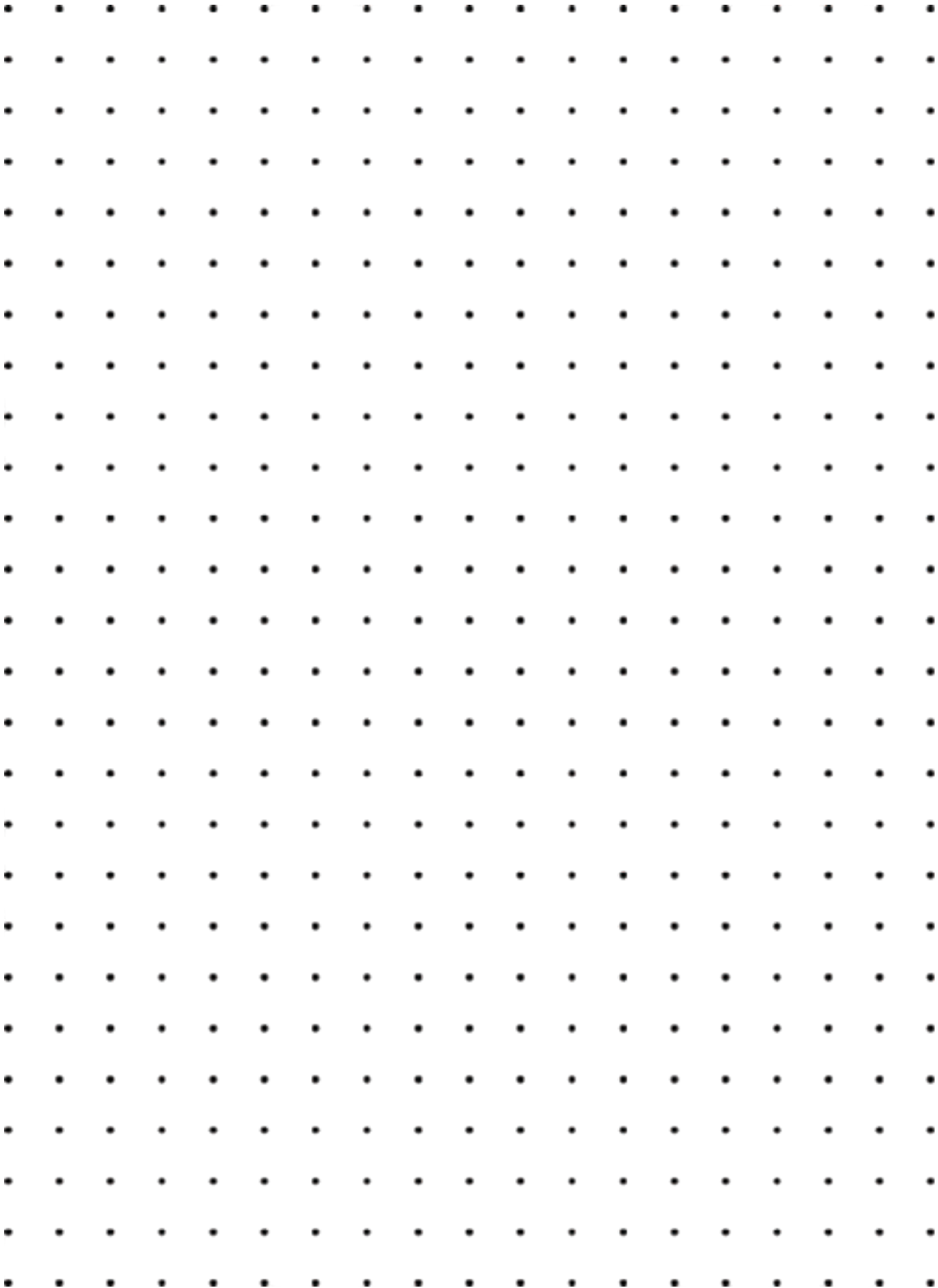
Centimeter Dot Paper - Standard



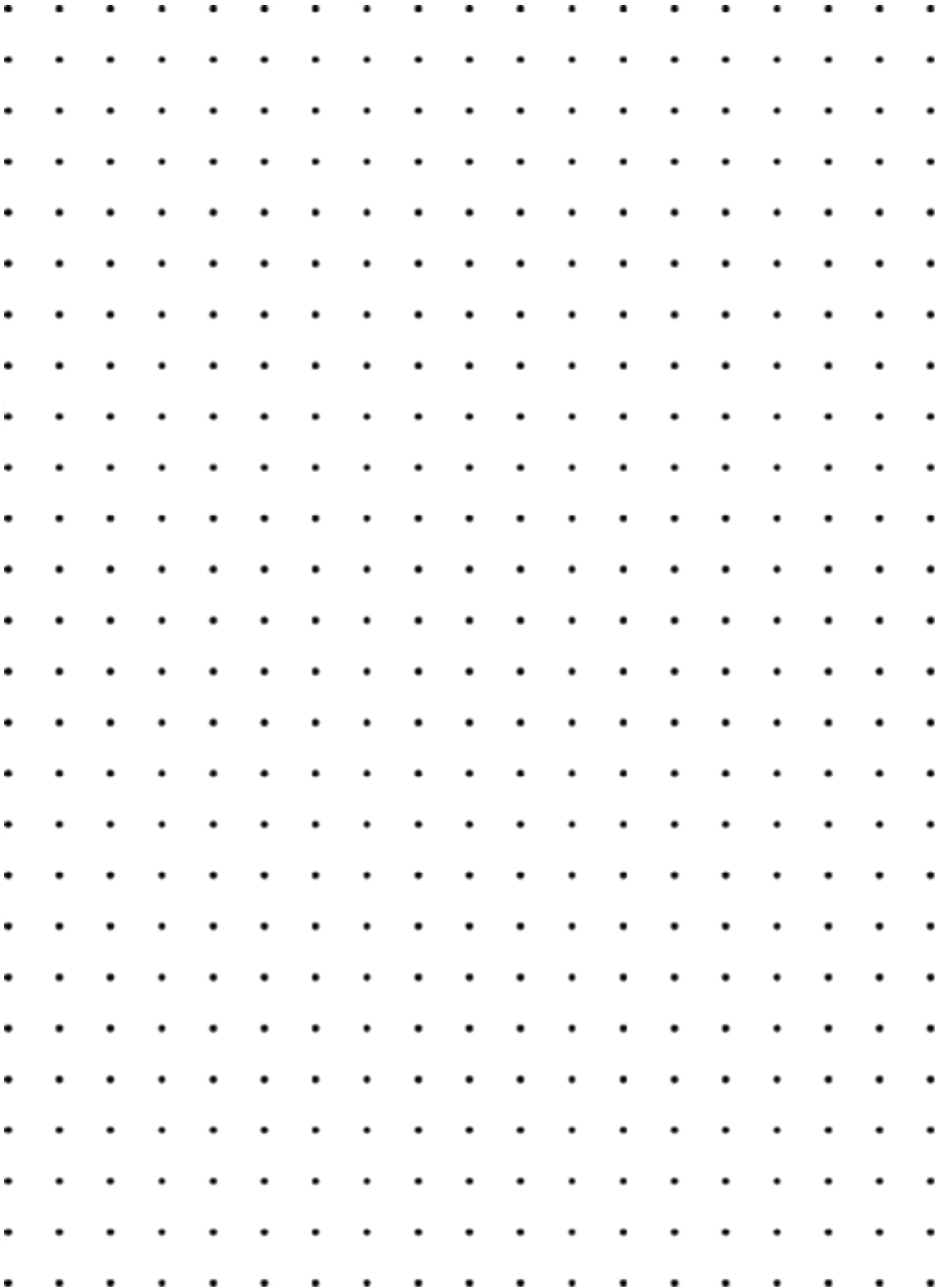
Centimeter Dot Paper - Standard



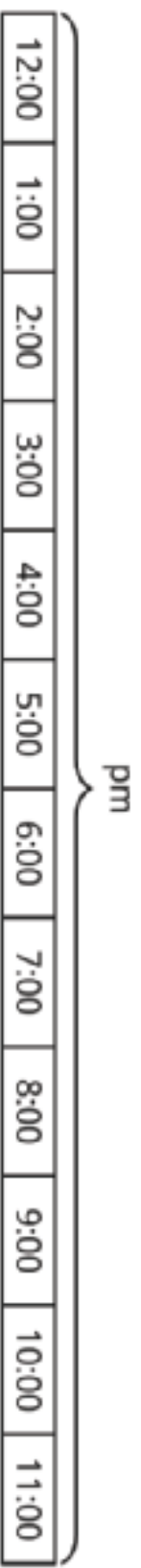
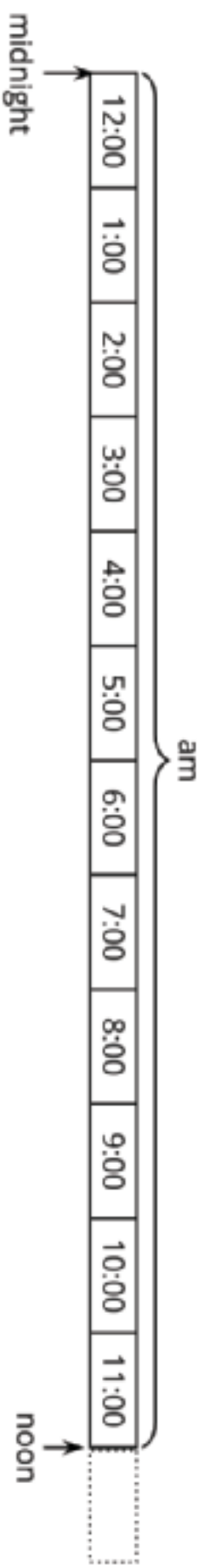
Centimeter Dot Paper - Standard



Centimeter Dot Paper - Standard

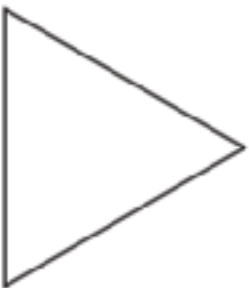


Hours in a Day Timeline



Flat Shape Cards Grade 1

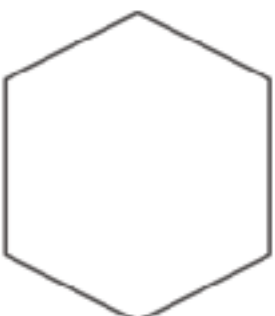
A
Flat Shape Cards Grade 1



B
Flat Shape Cards Grade 1



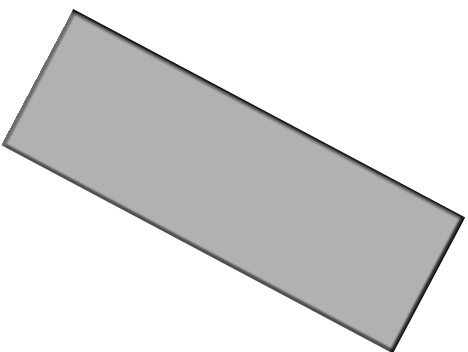
C
Flat Shape Cards Grade 1



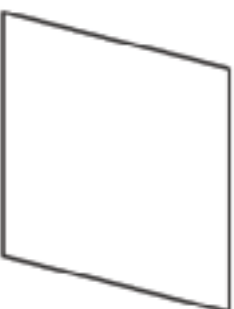
D
Flat Shape Cards Grade 1



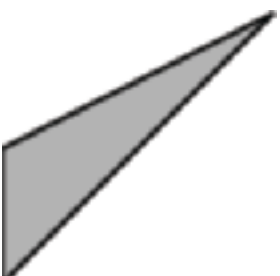
E
Flat Shape Cards Grade 1



F
Flat Shape Cards Grade 1



G
Flat Shape Cards Grade 1

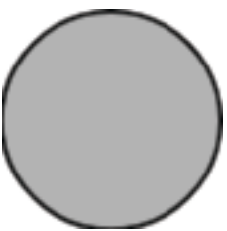


H
Flat Shape Cards Grade 1



Flat Shape Cards Grade 1

I
Flat Shape Cards Grade 1



J
Flat Shape Cards Grade 1



K
Flat Shape Cards Grade 1



L
Flat Shape Cards Grade 1



M
Flat Shape Cards Grade 1



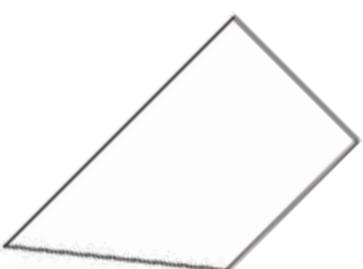
N
Flat Shape Cards Grade 1



O
Flat Shape Cards Grade 1



P
Flat Shape Cards Grade 1

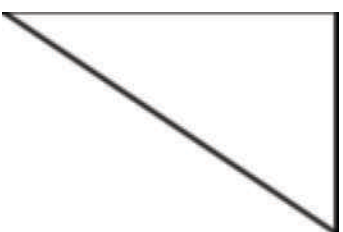


Flat Shape Cards Grade 1

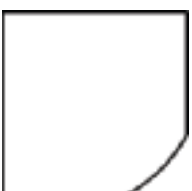
Q
Flat Shape Cards Grade 1



R
Flat Shape Cards Grade 1



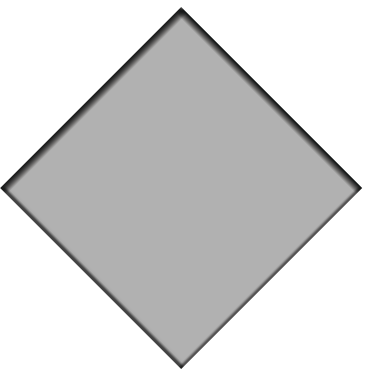
S
Flat Shape Cards Grade 1



T
Flat Shape Cards Grade 1



U
Flat Shape Cards Grade 1



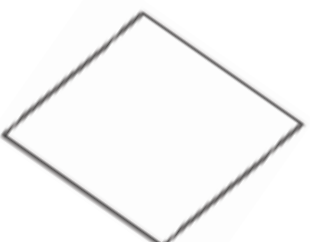
V
Flat Shape Cards Grade 1

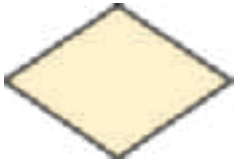




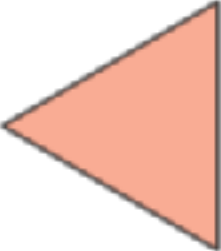

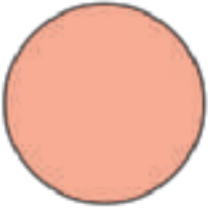










W
Flat Shape Cards Grade 1



X
Flat Shape Cards Grade 1

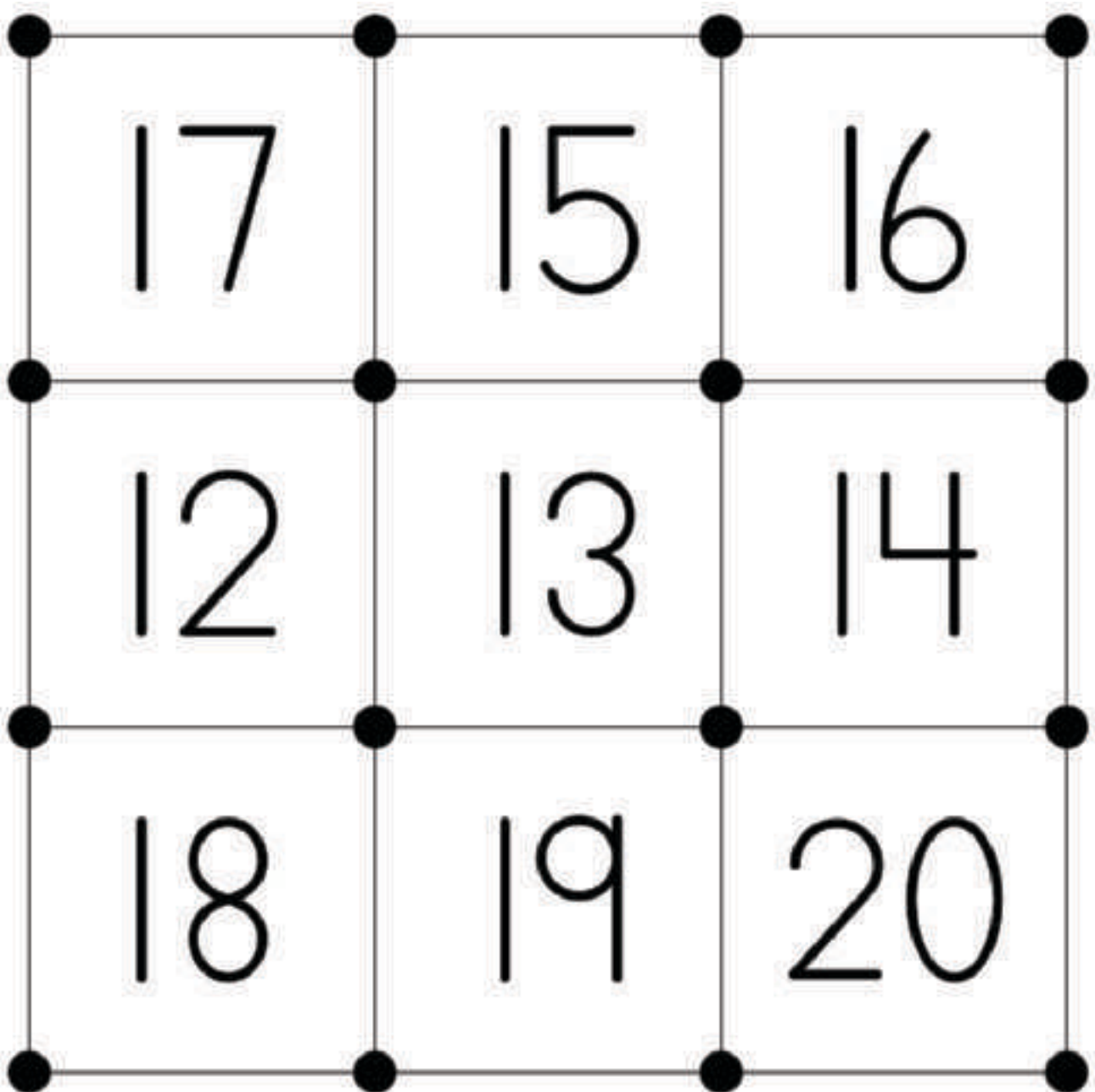


Capture Squares Stage 3 Gameboard

Directions:

- On your turn:
 - Spin the spinner and take 1 number card. Find the sum.
 - Choose a square on the gameboard that shows that number. Draw one line connecting any 2 dots around the number.
 - If you can't draw a line, spin again and take a new card.
 - If you draw a line that finishes a square around a number, shade in that box with your color.
- Take turns with your partner. The first player to shade in 3 boxes wins.



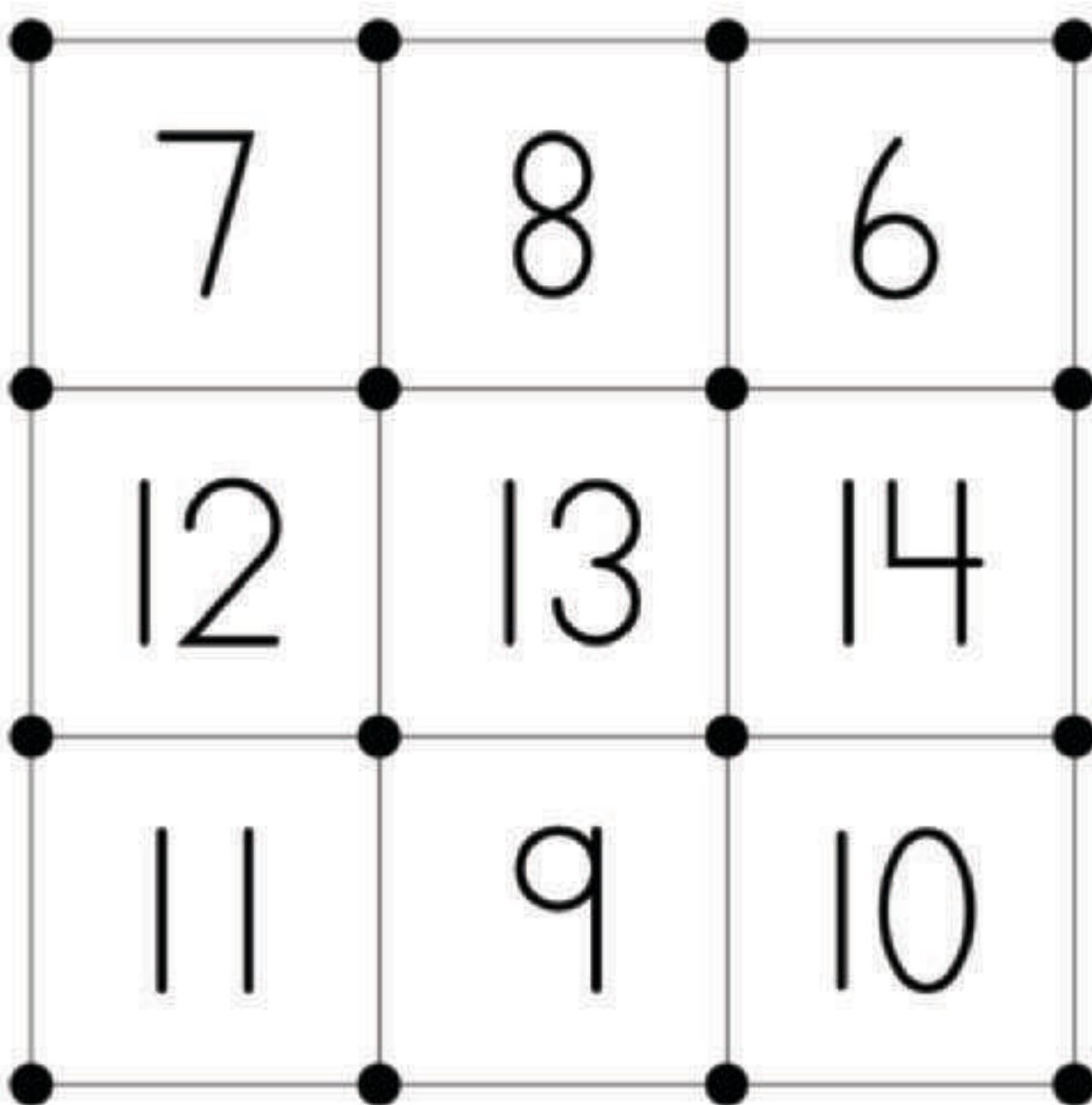
Capture Squares Stage 3 Spinner



Capture Squares Stage 4 Gameboard

Directions:

- On your turn:
 - Spin the spinner and take 1 number card. Subtract the number on the card from the number on the spinner.
 - Choose a square on the gameboard that shows that number. Draw one line connecting any 2 dots around the number.
 - If you can't draw a line, spin again and take a new card.
 - If you draw a line that finishes a square around a number, shade in that box with your color.
- Take turns with your partner. The first player to shade in 3 boxes wins.












Capture Squares Stage 4 Spinner



Puzzle 1

Make each equation true. Use number cards 0-9.

$11 =$  +		$11 = 1$  -	
$11 = 1$  +		$11 = 1$  -	2
$11 = 1$  -	8	$11 = 1$  -	1

Puzzle 2

Make each equation true. Use number cards 0-9.

$14 = 1$ <input type="text"/>	+	<input type="text"/>	$14 =$ <input type="text"/>	+	7
$14 =$ 8	+	<input type="text"/>	$14 = 1$ <input type="text"/>	-	4
$14 = 1$ <input type="text"/>	-	<input type="text"/>	$14 = 1$ <input type="text"/>	-	<input type="text"/>

Puzzle 3

Make each equation true. Use number cards 0-9.

$17 = 1 \square + \square$	$17 = 1 \square - \square$
$17 = 1 \square - \square$	$17 = 1 \square + 1 \square$
$17 = 1 \square - 1$	$17 = 1 \square + 2$

Puzzle 4

Make each equation true. Use number cards 0-9.

$18 = 1$ <input type="text"/>	+	<input type="text"/>	$18 = 1$ <input type="text"/>	-	<input type="text"/>
$18 = 1$ <input type="text"/>	+	<input type="text"/>	$18 = 1$ <input type="text"/>	+	4
$18 = 1$ <input type="text"/>	+	<input type="text"/>	$18 = 1$ <input type="text"/>	-	1

Puzzle 5

Make each equation true. Use number cards 0-9.

$19 = 1$ <input type="text"/>	+	<input type="text"/>	$19 = 1$ <input type="text"/>	+	<input type="text"/>
$19 = 1$ <input type="text"/>	+	3	$19 = 1$ <input type="text"/>	+	6
$19 = 1$ <input type="text"/>	-	<input type="text"/>	$19 = 1$ <input type="text"/>	+	1

Puzzle 1

Directions: Make each equation true. Use number cards 0-5.

$75 = 71 + \square$	$75 = \square + 70$
$75 = \square + 65$	$75 = 43 + \square$

Puzzle 2

Directions: Make each equation true. Use number cards 0-5.

$98 = 47 + \square$	$98 = 1 \square + 88$
$98 = \square + 95$	$98 = \square + 56$

Puzzle 3

Directions: Make each equation true. Use number cards 0-5.

$46 = \square 0 + 16$	$46 = \square \square + 26$
$46 = \square + 42$	$46 = 31 + \square$

Puzzle 4

Directions: Make each equation true. Use number cards 0-9.

$98 = 97 + \square$	$98 = 9 \square + 2$
$98 = \square 0 + 8$	$98 = 58 + \square 0$
$98 = \square 0 + 68$	$98 = 78 + \square \square$
$98 = 22 + \square 6$	$98 = \square \square + 13$

Puzzle 5

Directions: Make each equation true. Use number cards 0-9.

$59 = \square + 9$	$59 = 55 + \square$
$59 = \square + 52$	$59 = 47 + 1 + \square$
$59 = 1 + \square + 41$	$59 = 33 + 2 + \square$
$59 = \square + \square + 29$	$59 = 40 + \square + \square$

Puzzle 1

Make each equation true. Use number cards 0-9.

$63 = 5 \square + 8$	$63 = 5 \square + \square$
$63 = 1 \square + 52$	$63 = 3 \square + \square 9$
$63 = \square + 24$	$63 = 3 \square + 25$

Puzzle 2

Make each equation true. Use number cards 0-9.

$80 = 3 \square + \square + 41$	$80 = \square + 3 + 7$
$80 = 27 + \square + \square$	$80 = 1 \square + 6 \square$
$80 = \square + \square + 16$	$80 = 5 \square + 29$

Puzzle 3

Make each equation true. Use number cards 0-9.

$27 = 1 \square + \square + 14$	$27 = 1 \square + 1 \square$
$27 = 9 + \square + \square$	$27 = 2 \square + 3$
$2 \square = 1 \square + 11$	$27 = 1 \square + 8$

Puzzle 4

Make each equation true. Use number cards 0-9.

$92 = \square + \square + 6$	$92 = \square + 83$
$92 = 7 \square + 1 \square$	$92 = 9 \square + \square$
$92 = 39 + 5 \square$	$92 = 78 + \square \square$

Puzzle 5

Make each equation true. Use number cards 0-9.

$46 =$ <input type="text"/> $+$ 23	$46 = 1$ <input type="text"/> $+$ 31
$46 = 4$ <input type="text"/> $+$ 5	$46 = 3$ <input type="text"/> $+$ 7
$46 = 3$ <input type="text"/> $+$ 10	$46 = 3$ <input type="text"/> $+$ 8

Credits

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