Student Edition & Teacher Guide

IMKH

An IM K–12 Math™ Curriculum

IM 360 by Kendall Hunt

PRINT SAMPLER

GRADE

K

Illustrative Mathematics CERTIFIED®

An IM K–12 Math™ Curriculum

IM v.360®

All-embracing, all-encompassing, and all-inclusive

IM® v.360, the new version of the IM K-12 Math curriculum has undergone significant upgrades, enhancements, and revisions based upon feedback from school leaders, teachers and students nationwide. This updated version introduces fresh activities, lessons, problems, and titles.

What is different with IM® v.360?

Upgrades to the K–5 curriculum include:

- *NEW!* Language Learning Goals, End of Unit Guidance, Checklist Guidance
- Strengthened representations of diverse cultures
- Revisions to the Course Guide content, Instructional Routines, and blackline masters
- 2 lessons added in Kinder for number writing/sense (previously found in centers but do direct lesson)
- More blackline masters included in SE so teachers don't need to copy and distribute (alleviates lift)
- Reviewing activities that could create stress (especially food/recipes - when scarcity is a real issue in urban districts)

Upgrades to the 6–12 curriculum include:

- NEW! Narrative Structures, Section-level Assessments (Checkpoints), Instructional Goals, and Teacher Reflection Questions
- Embedded guidance for building a classroom community
- Embedded Math Language Routines and revised Instructional Routine language, including for 5 Practices activities
- Revised context and activity launches to invite more students into the mathematics, including more representations of diverse cultures
- Revised lesson contexts to align with the California framework, including environmental literacy enhancements
- Unit Narratives being revised for accuracy, clarity, and length
- More guidance around BLM's which to laminate and reuse
- More blackline masters included in SE so teachers don't need to copy and distribute (alleviates lift)

Illustrative Mathematics
LEARN MATH FOR LIFE

Kendall Hunt

KINDERGARTEN

Student Edition

UNIT

1

Book 1
Certified by Illustrative Mathematics®

ISBN 9798385116362

K5_vII

20240203

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UNIT 2 NUMBERS 1–10

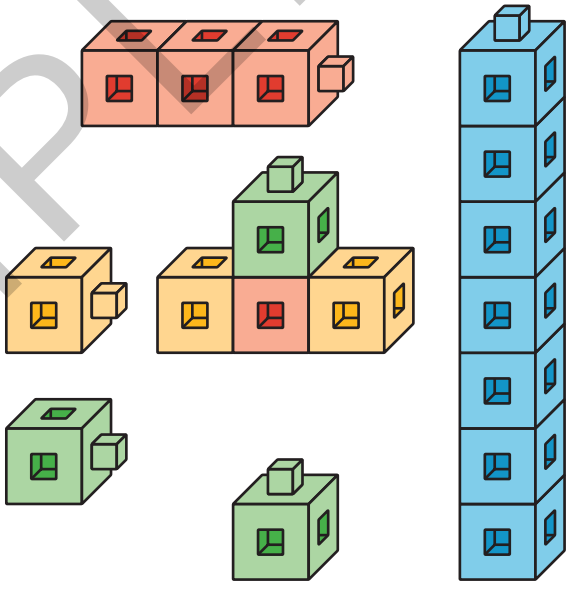
Explore Connecting Cubes

Let's explore connecting cubes.

Warm-up

Notice and Wonder: Connecting Cubes

What do you notice?
What do you wonder?



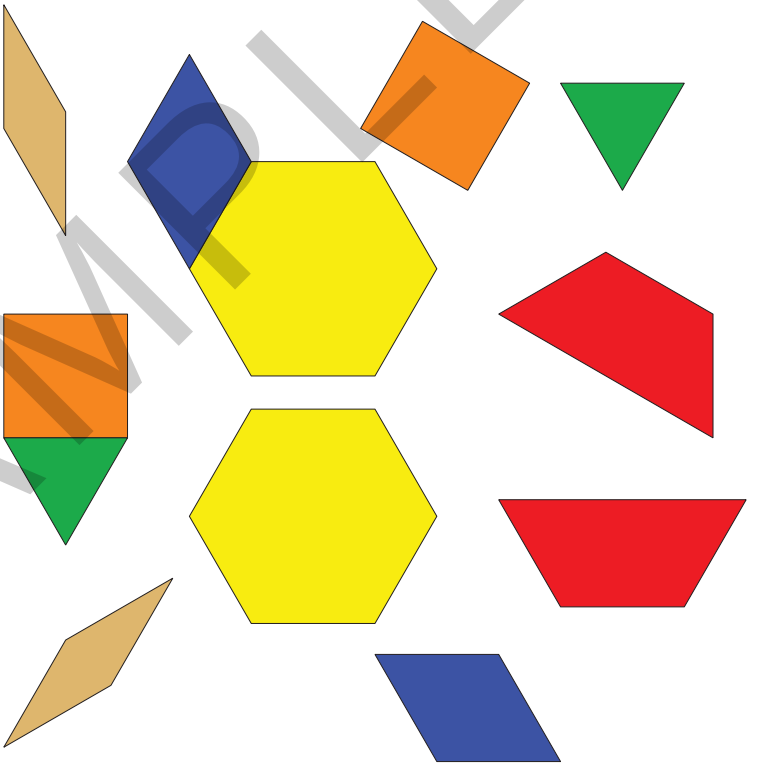
Explore Pattern Blocks

Let's explore pattern blocks.

Warm-up

Notice and Wonder: Pattern Blocks

What do you notice?
What do you wonder?



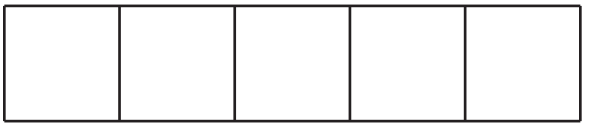
Explore 2-Color Counters and 5-Frames

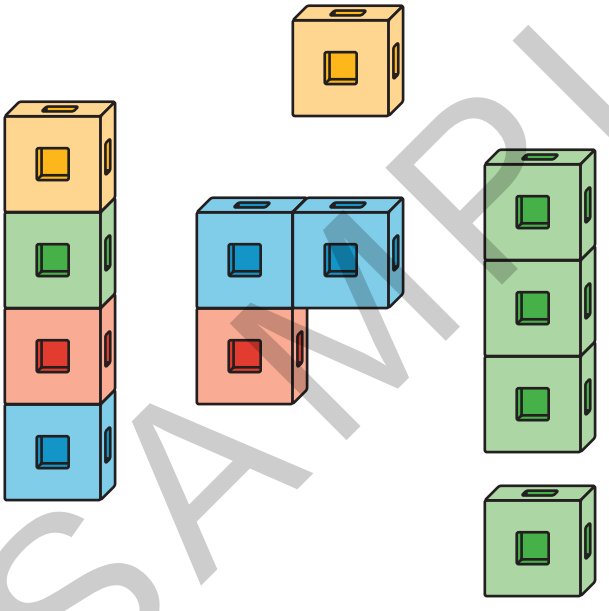
Let's explore 2-color counters and 5-frames.

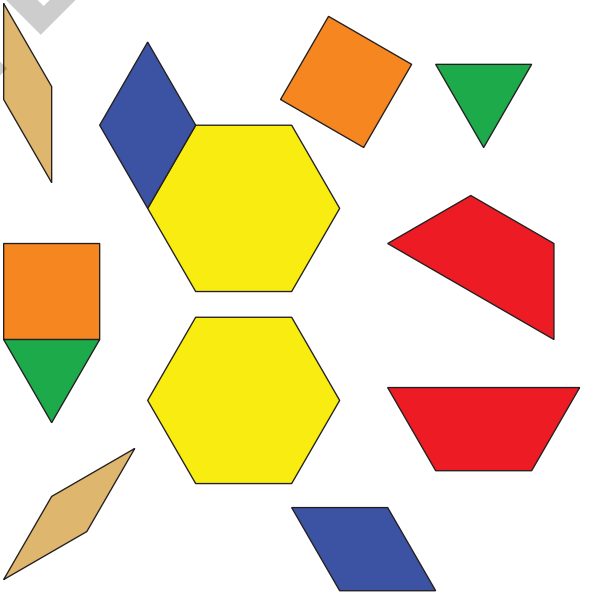
Warm-up

Notice and Wonder: Counters and 5-Frames

What do you notice?
What do you wonder?







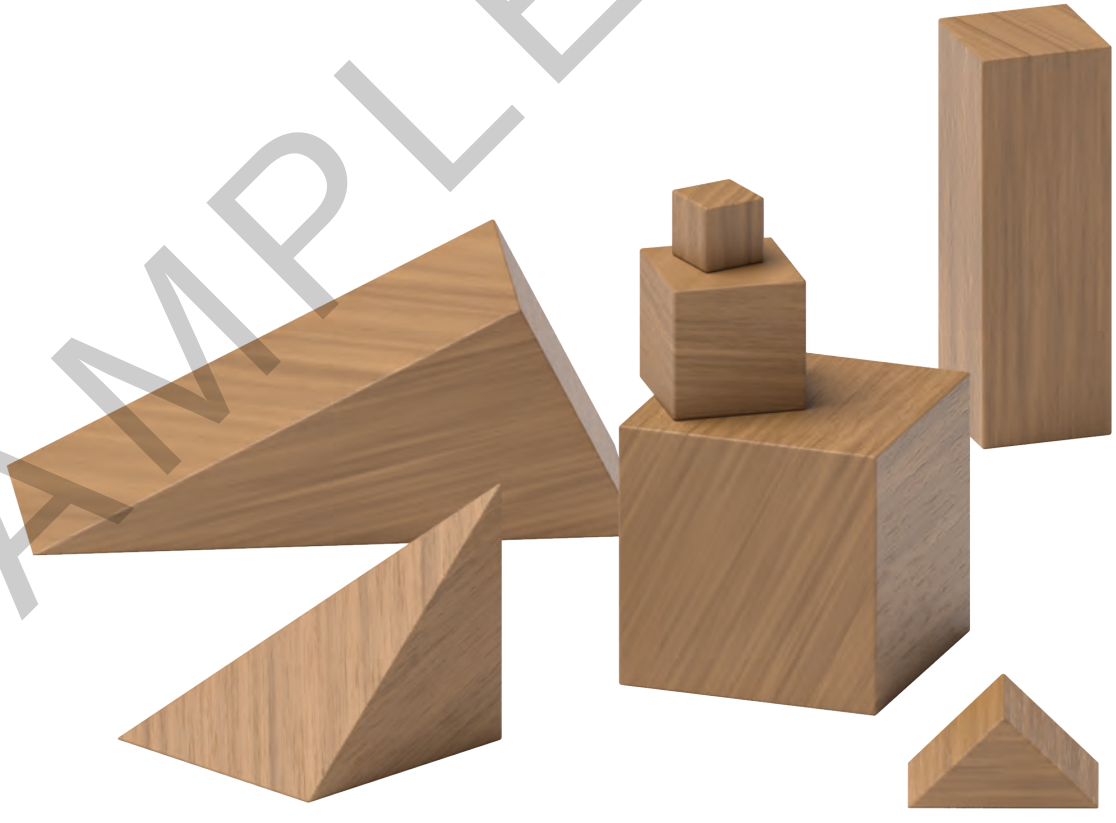
Explore Geoblocks

Let's explore geoblocks.

Warm-up

Notice and Wonder: Geoblocks

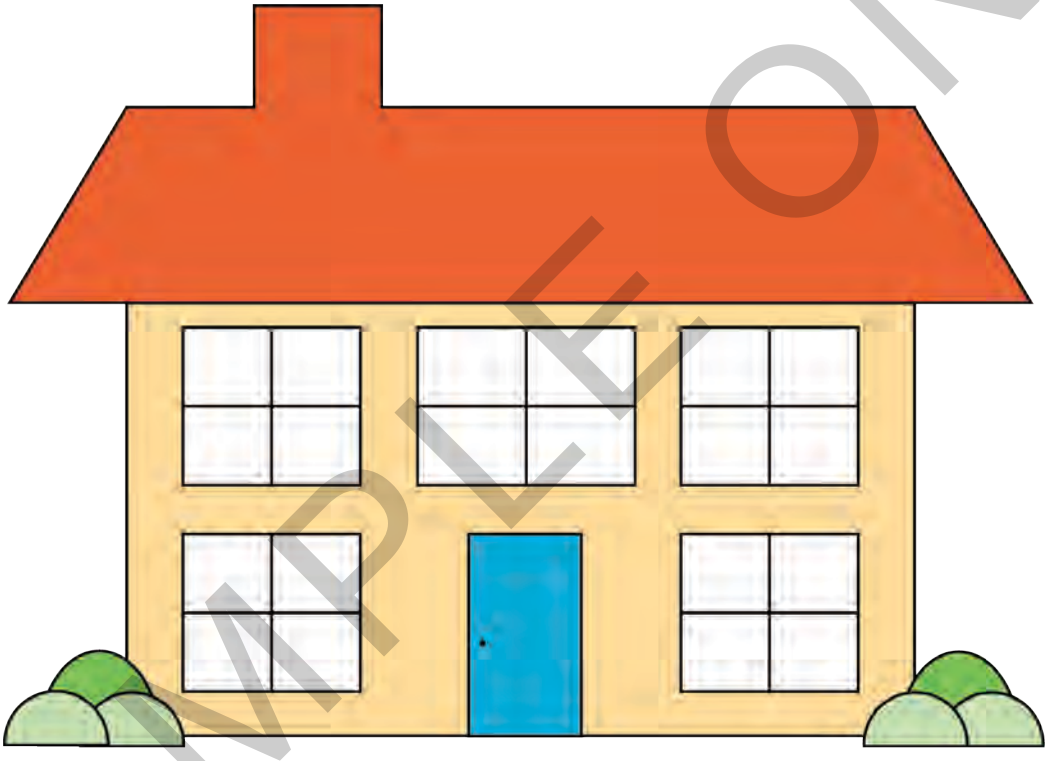
What do you notice?
What do you wonder?



Activity 2

Introduce Geoblocks—Build to Match

Use geoblocks to build a house.



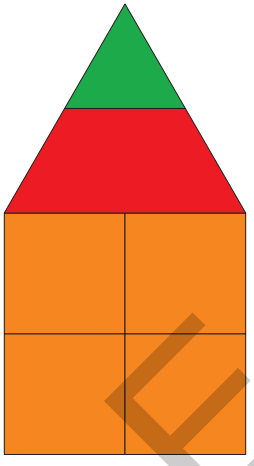
Explore Math Tools

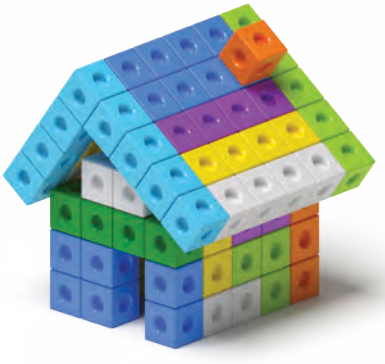
Let's explore our math tools.

Warm-up

Notice and Wonder: Using Different Tools

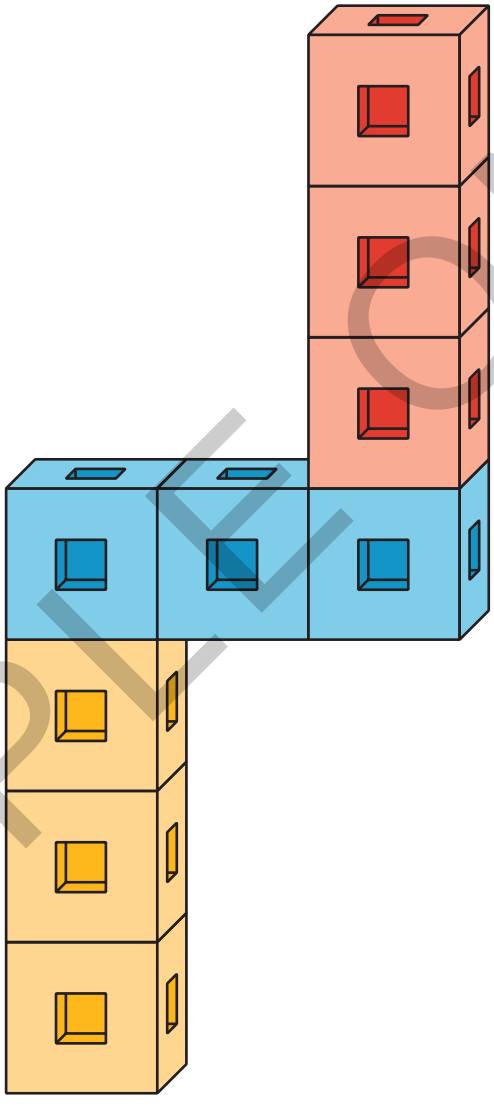
What do you notice?
What do you wonder?





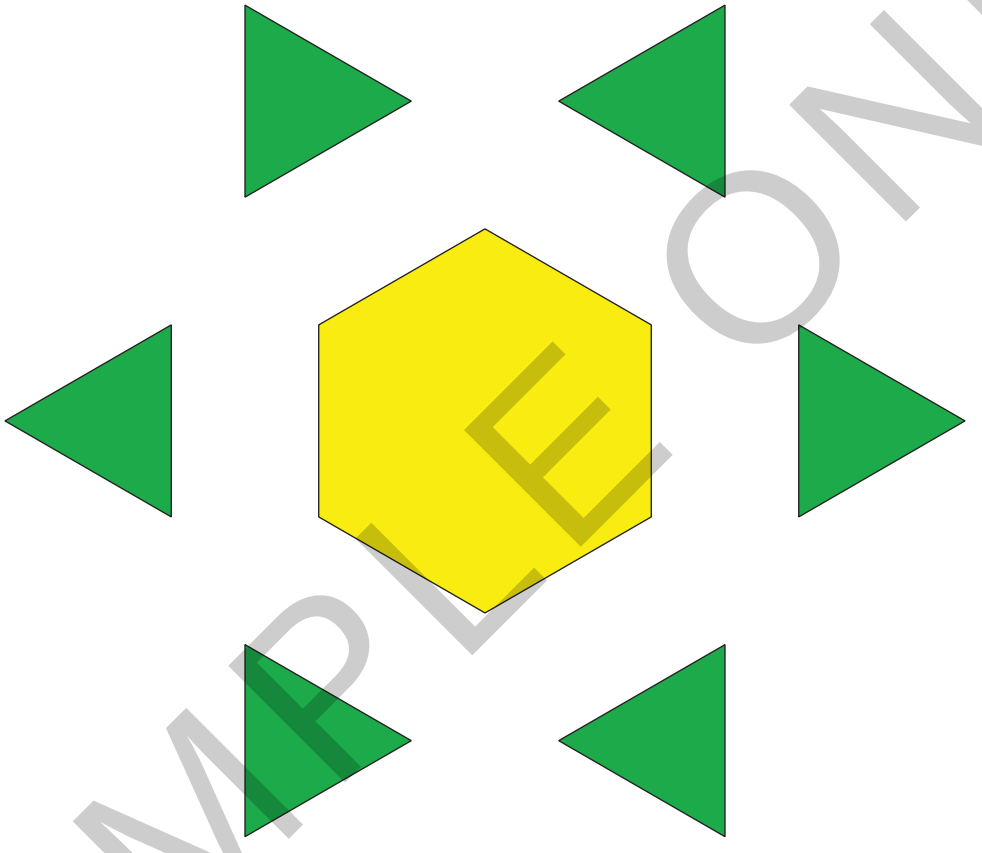
Activity 1

Introduce Connecting Cubes—Build to Match



Activity 2

Introduce Pattern Blocks—Puzzles

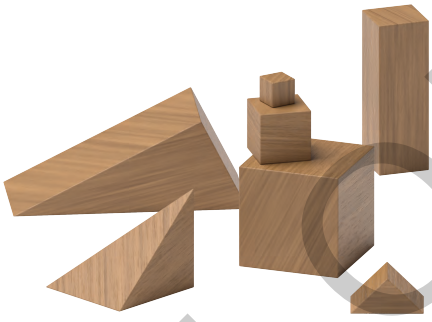


Activity 3

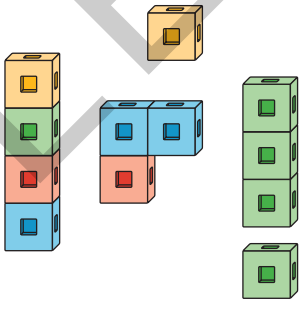
Centers: Choice Time

Choose a center.

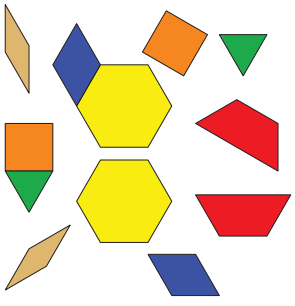
Geoblocks



Connecting Cubes



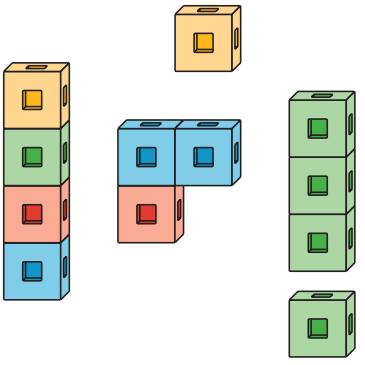
Pattern Blocks



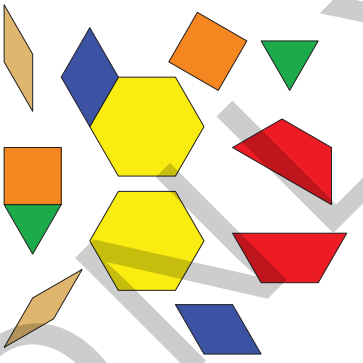
Section A Summary

We can use many math tools.

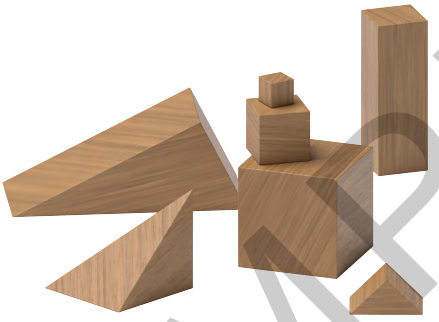
connecting cubes



pattern blocks



geoblocks



2-color counters

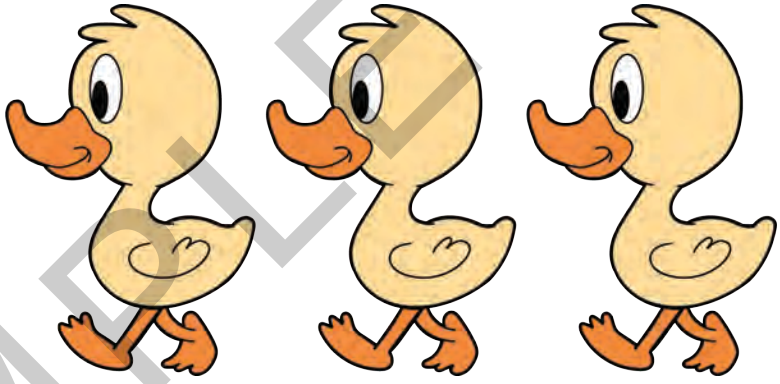
5-frames

Look for Small Groups

Let's look for small groups of objects.

Warm-up

Act It Out: Introduction

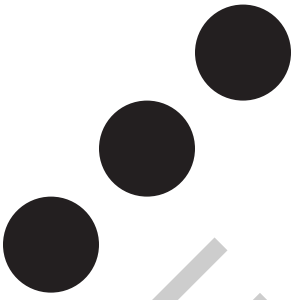


3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

Activity 1

How Many Do You See: Introduction

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

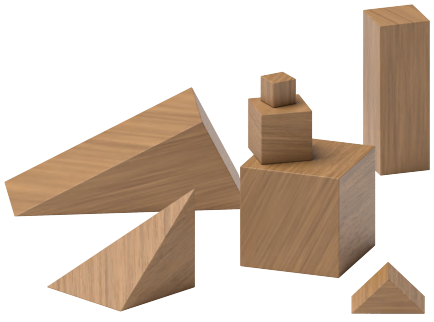


Activity 3

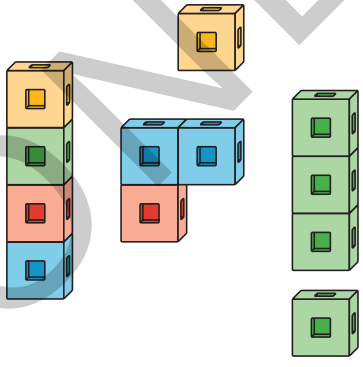
Centers: Choice Time

Choose a center.

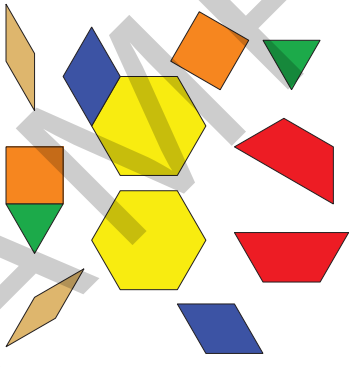
Geoblocks



Connecting Cubes



Pattern Blocks



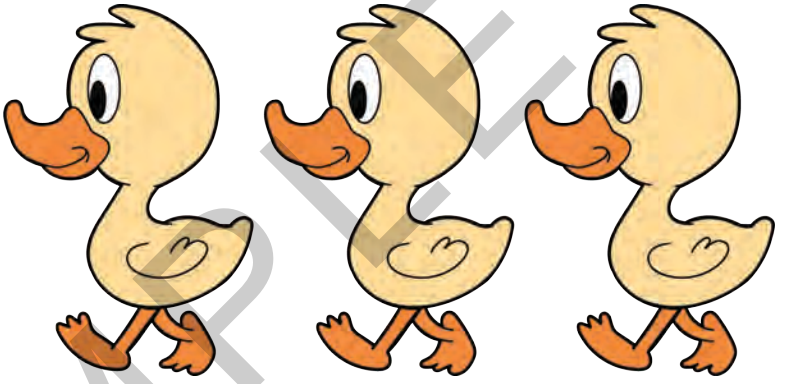
Picture Books

Classroom Scavenger Hunt

Let's look for groups of objects in the classroom.

Warm-up

Act It Out: How Can We Show It?



3 little ducks went out one day,
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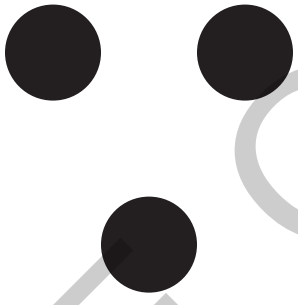
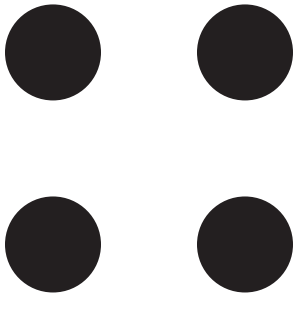
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

Activity 1

How Many Do You See: Two Images

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





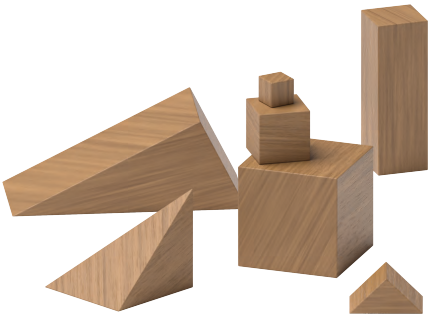
Activity 3

Centers: Choice Time

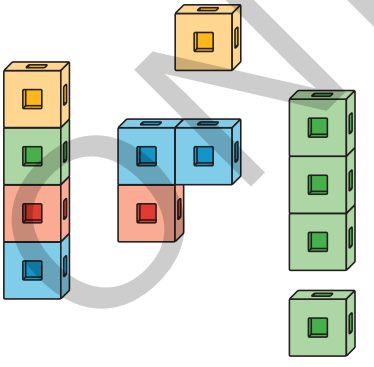
Choose a center.

Sec B

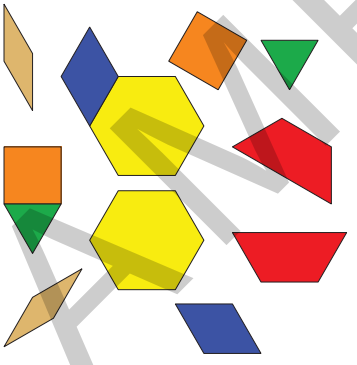
Geoblocks



Connecting Cubes



Pattern Blocks



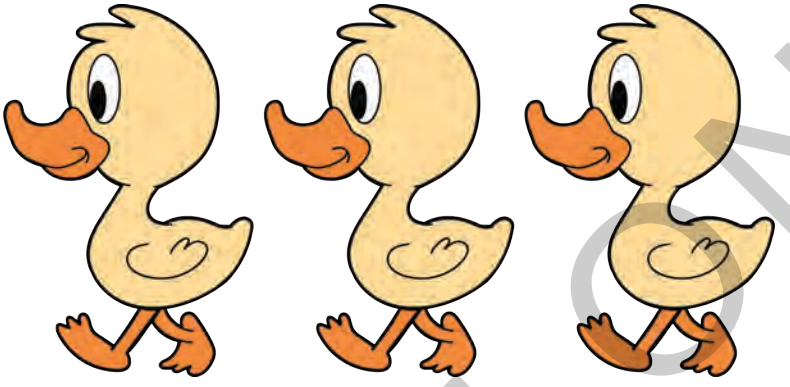
Picture Books

Different Groups, Same Quantity

Let's find groups that have the same number of things.

Warm-up

Act It Out: Another Way

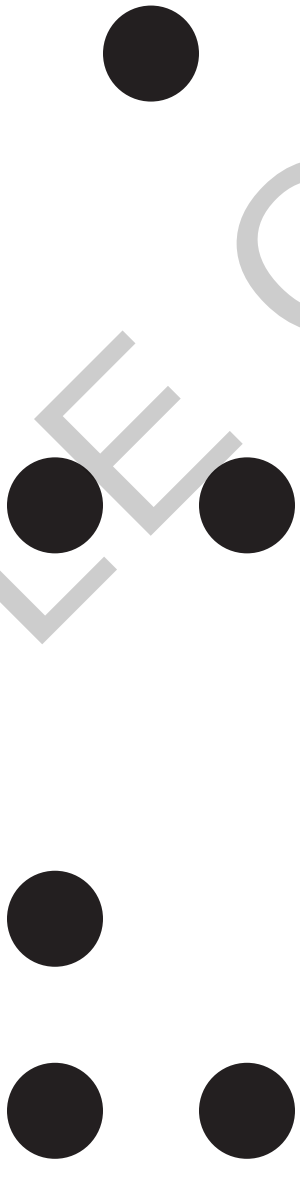


3 little ducks went out one day,
over the hill and far away.
Mother duck said, “Quack, quack, quack.”
Then 3 little ducks came back.

Activity 1

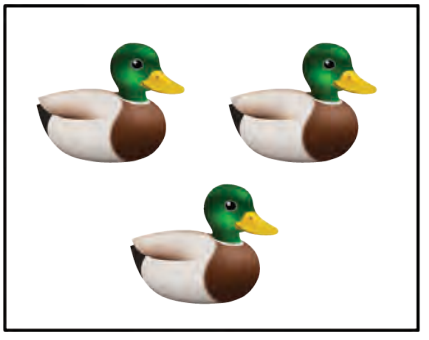
How Many Do You See: 1, 2, 3

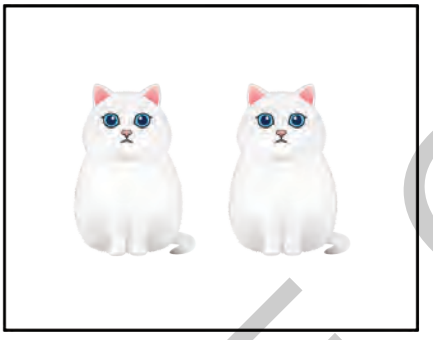
How many do you see?
How do you see them?

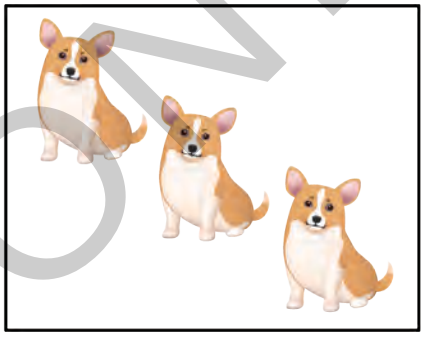


Activity 2

Card Sort: Different Groups, Same Quantity





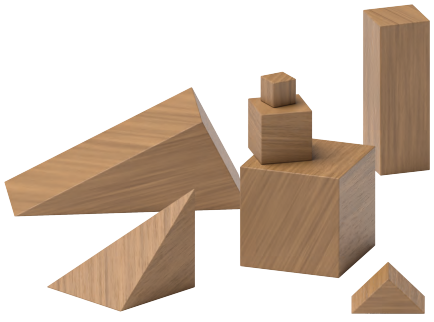


Activity 3

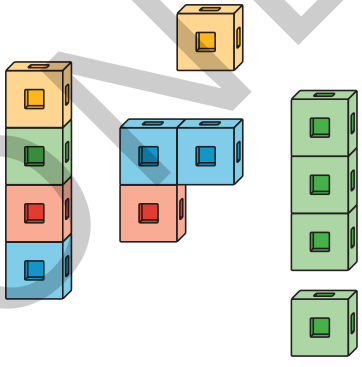
Centers: Choice Time

Choose a center.

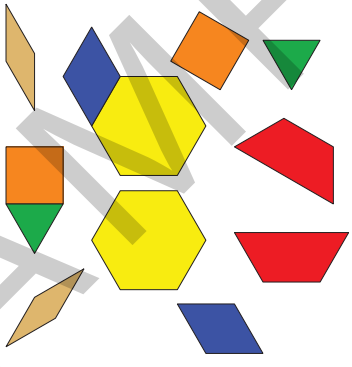
Geoblocks



Connecting Cubes



Pattern Blocks



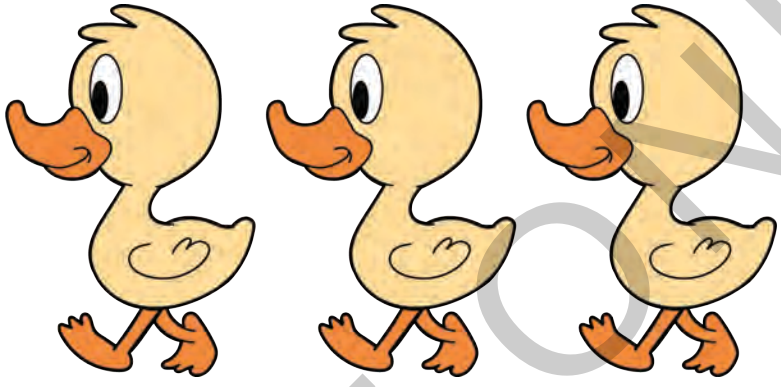
Picture Books

Create Picture Books

Let's make picture books about our classroom.

Warm-up

Act It Out: The Story Changes



3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 2 little ducks came back.

Activity 1

How Many Do You See: What Do You Notice?

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

Activity 2

Introduce Picture Books—Create

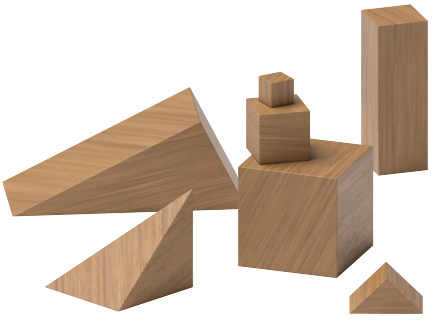
Activity 3

Centers: Choice Time

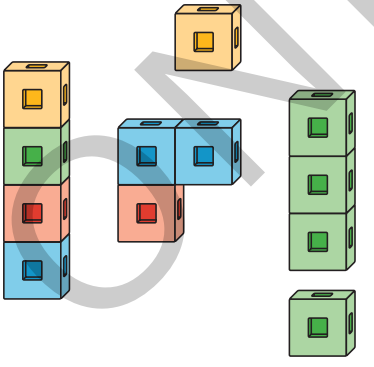
Choose a center.

Sec B

Geoblocks



Connecting Cubes



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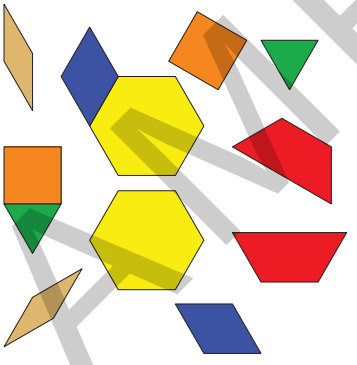
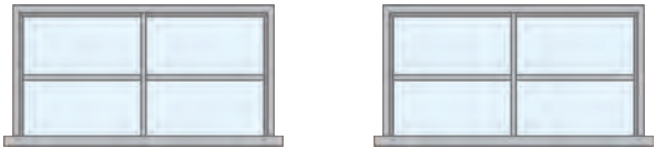


Picture Books

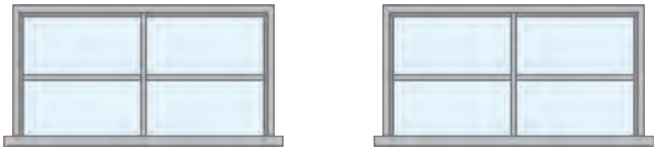
Section B Summary

We can find groups.
We can tell how many.



2

We can find different groups that have the same number of things.



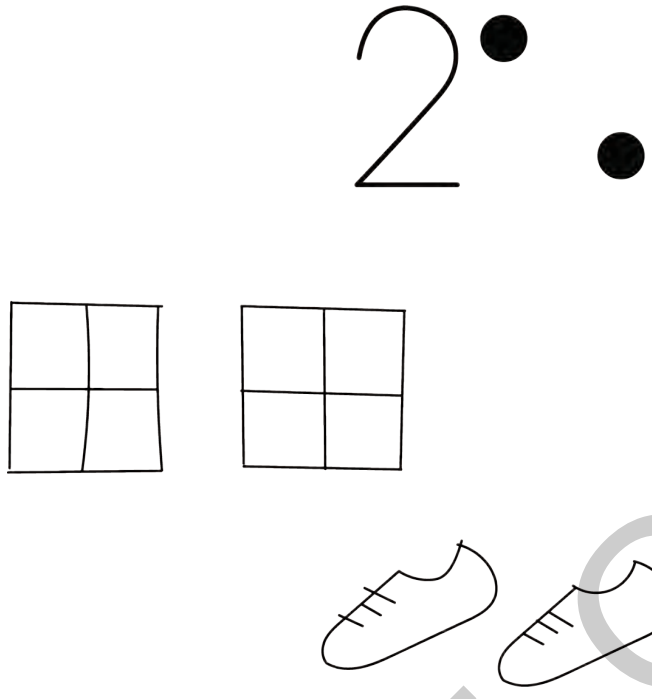
2 windows

2 tables

3 stars

3 balls

groups of 2 in our classroom



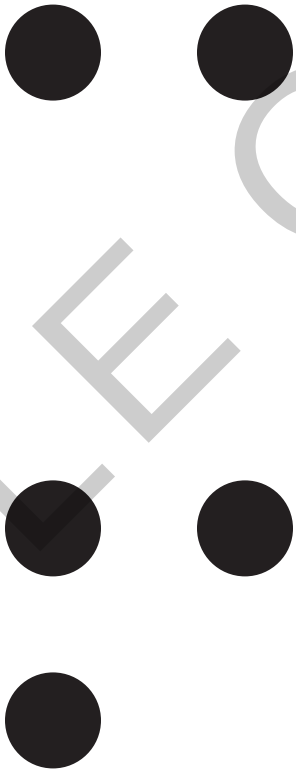
Are There Enough?

Let's figure out if there are enough supplies for everyone.

Warm-up

How Many Do You See: Building On

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



Activity 1

Act It Out: 4 Frogs (Part 1)

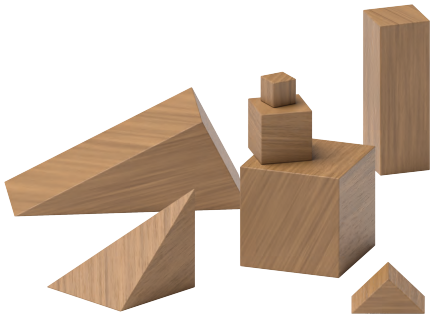
4 little speckled frogs sat on a speckled log,
eating the most delicious bugs. Yum! Yum!
1 jumped into the pool, where it was nice and cool.
Now there are 3 green speckled frogs. Glub! Glub!

Activity 3

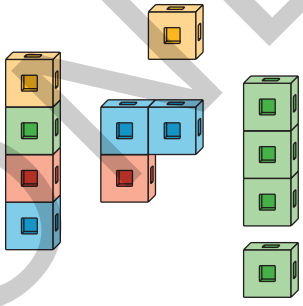
Centers: Choice Time

Choose a center.

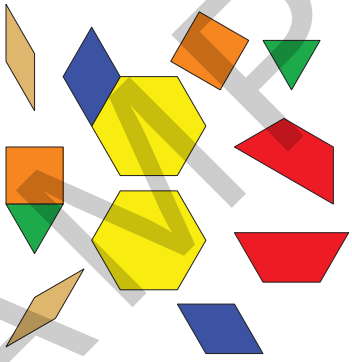
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Get Enough

Let's get enough pencils for everyone.

Warm-up

How Many Do You See: In a Flash

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

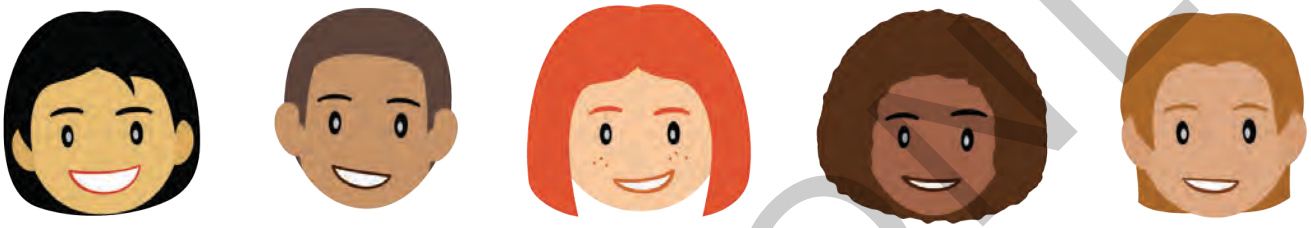
Activity 1

Act It Out: 4 Frogs (Part 2)

4 little speckled frogs sat on a speckled log,
eating the most delicious bugs. Yum! Yum!
1 jumped into the pool, where it was nice and cool.
Now there are 3 green speckled frogs. Glub! Glub!

Activity 2

Get Enough

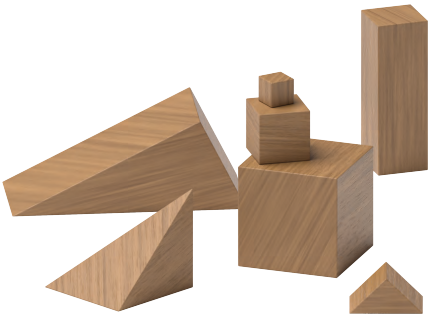


Activity 3

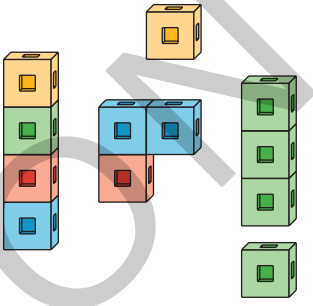
Centers: Choice Time

Choose a center.

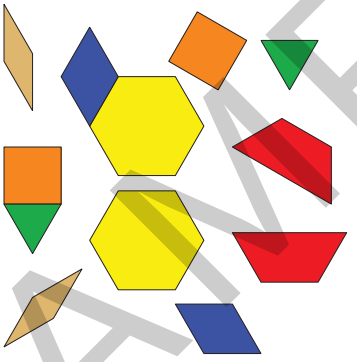
Geoblocks



Connecting Cubes

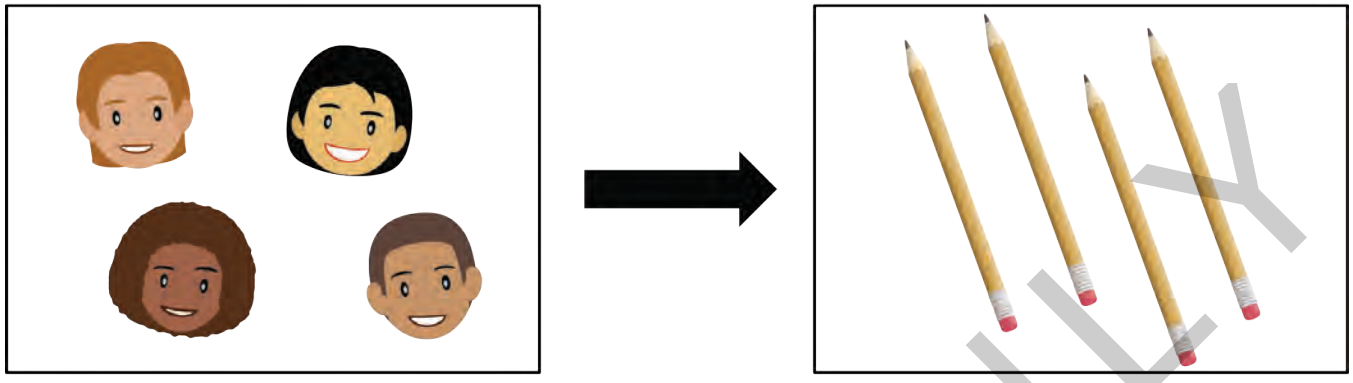


Pattern Blocks



Picture Books

Section C Summary



We can tell if there are enough.

1 pencil for each person

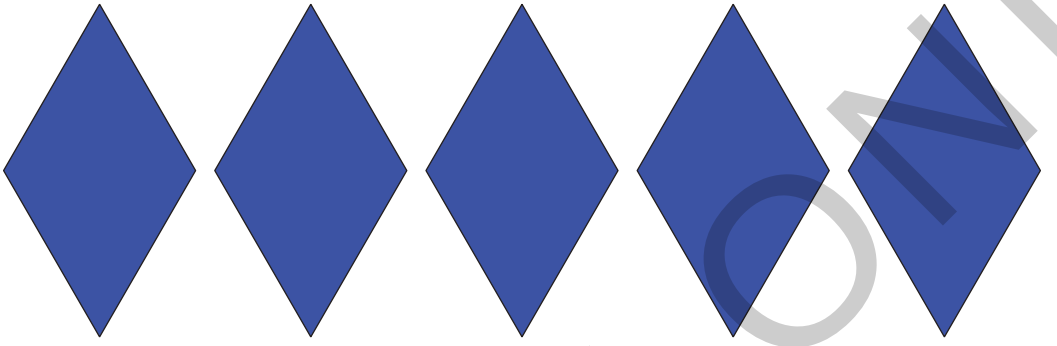
How Many Are There? (Part 1)

Let's count collections of objects.

Activity 3

Introduce Pattern Blocks—Get and Build

5



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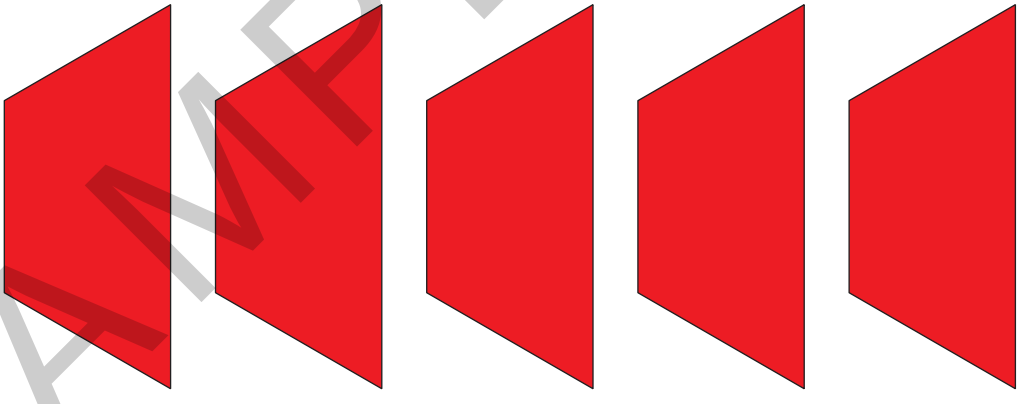
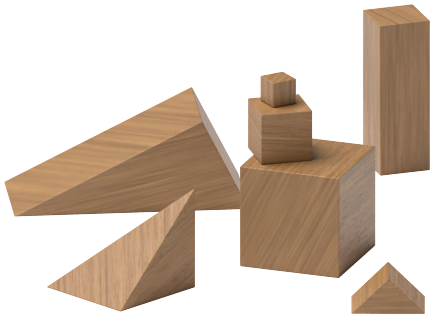
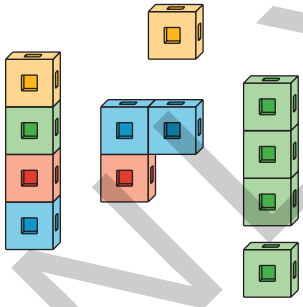


Choose a center.

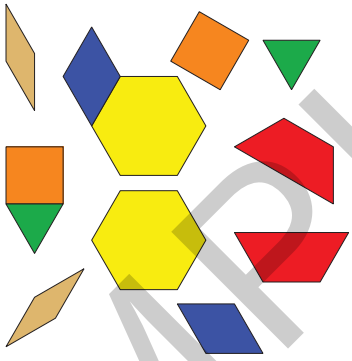
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

How Many Are There? (Part 2)

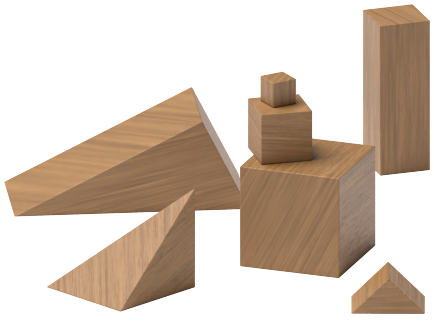
Let's count collections of objects.

Activity 3

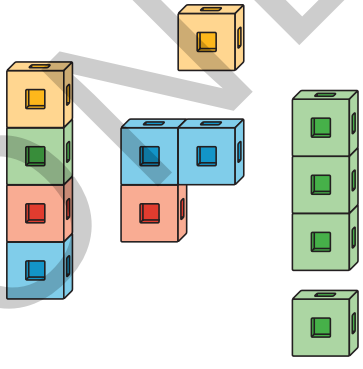
Centers: Choice Time

Choose a center.

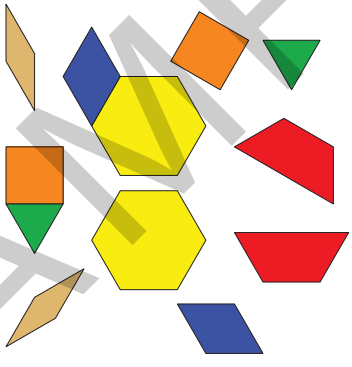
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Answer "How Many?" Questions

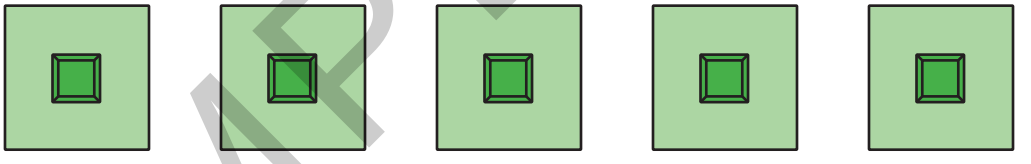
Let's count to figure out how many objects are in our collections.

Activity 3

Introduce Connecting Cubes—Get and Build

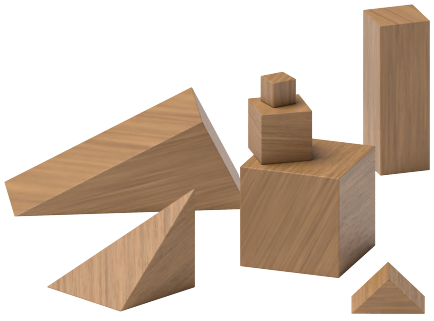
4

5

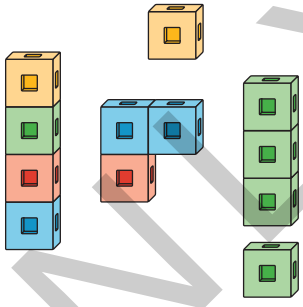


Choose a center.

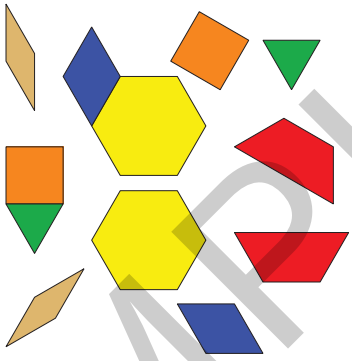
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Explain How You Counted

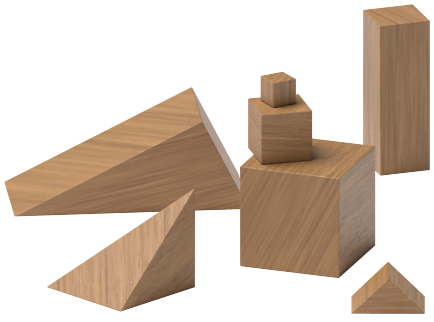
Let's count collections of objects and tell our partners how we counted.

Activity 3

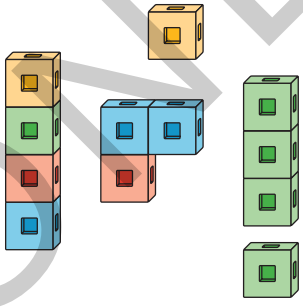
Centers: Choice Time

Choose a center.

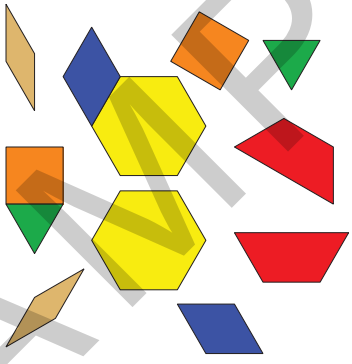
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Represent Our Collections

Let's count collections of objects and show how we counted.

Activity 1

Counting Collections: Show How Many

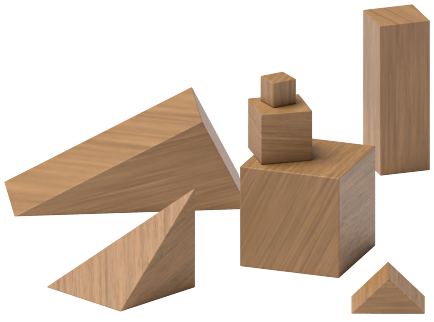
Show how many objects are in your collection.

Activity 3

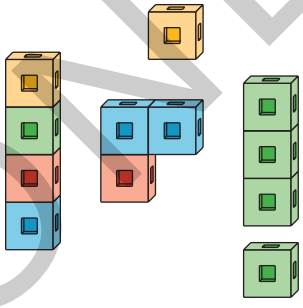
Centers: Choice Time

Choose a center.

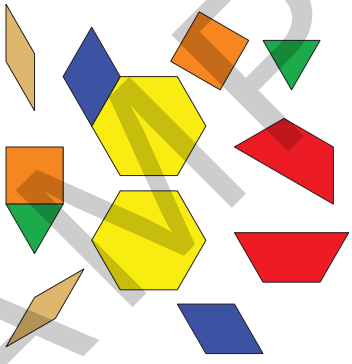
Geoblocks



Connecting Cubes



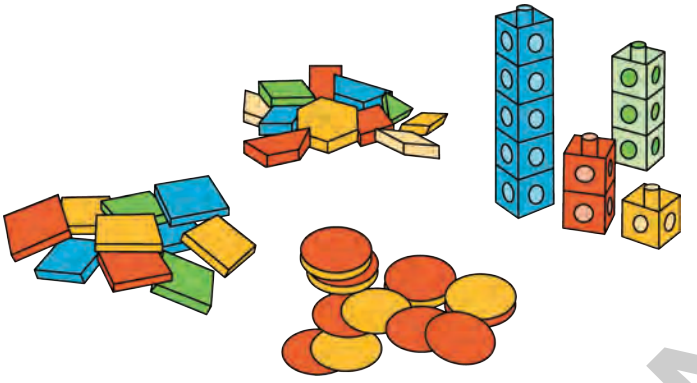
Pattern Blocks



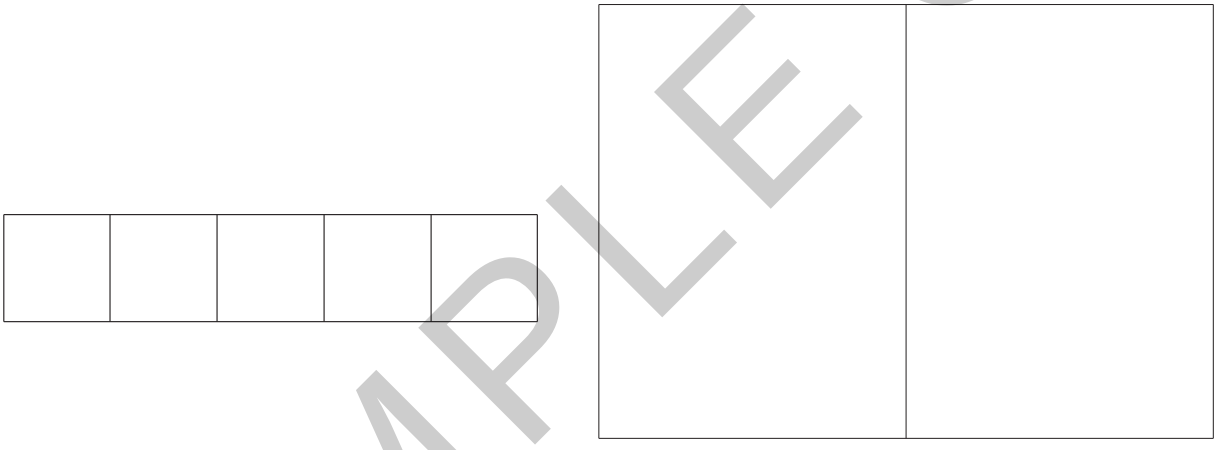
Picture Books

Section D Summary

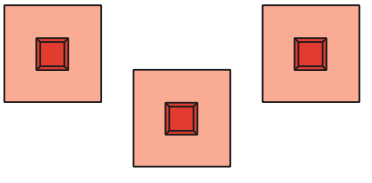
We can count groups of objects.



We can use 5-frames and counting mats to help us.



We can say a number to tell how many objects.



3

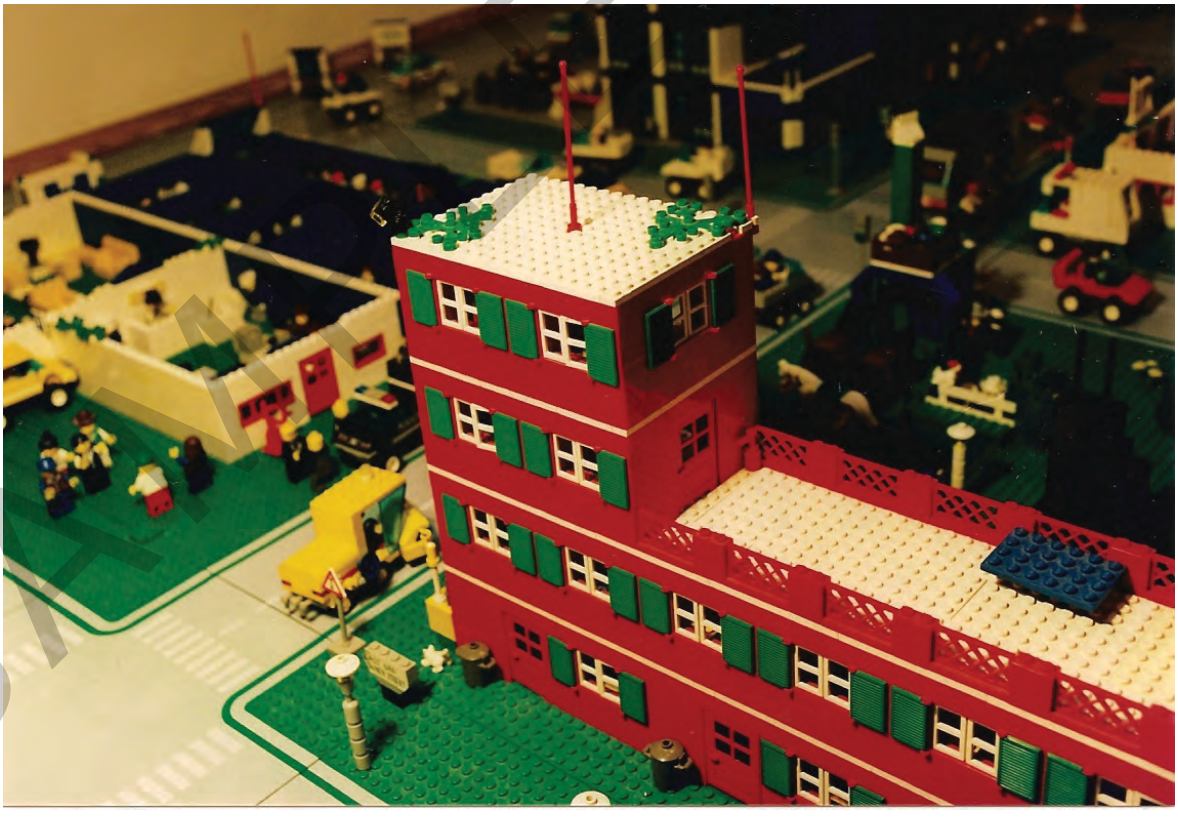
Model with Math Tools

Let's use math tools to create things in our classroom.

Warm-up

Notice and Wonder: Made of Bricks

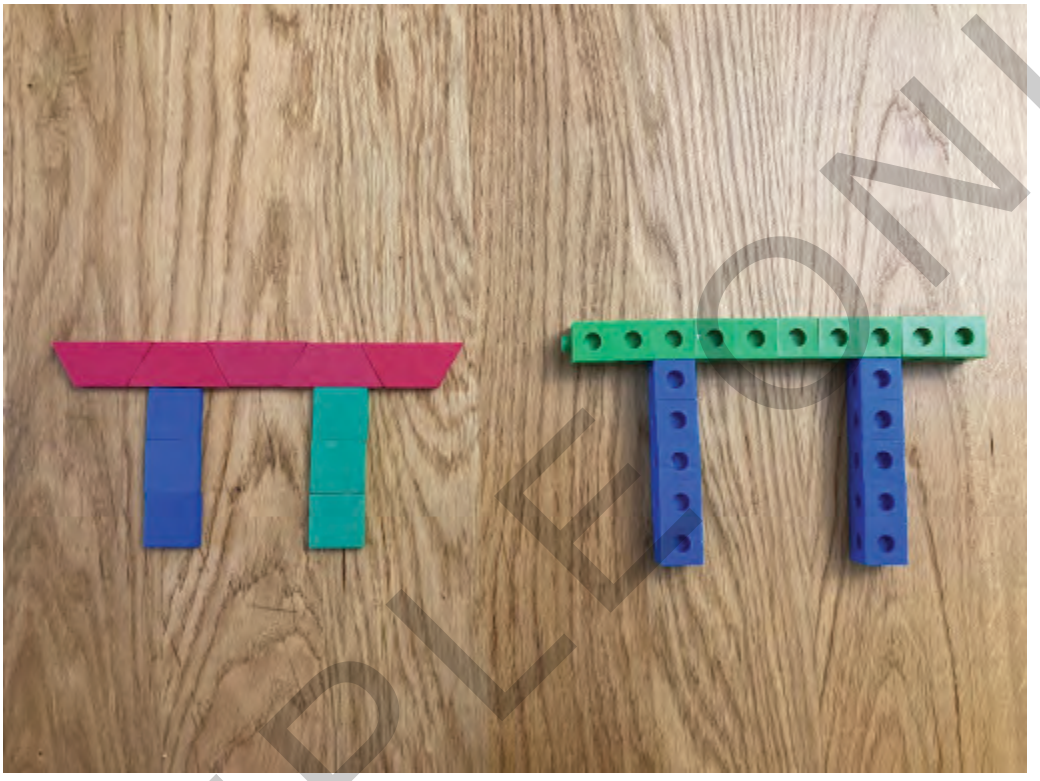
What do you notice?
What do you wonder?



Activity 1

Creating Classroom Objects

What object?



What tool?

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KINDERGARTEN

Teacher Guide

UNIT

1

Book 1
Certified by Illustrative Mathematics®

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Table of Contents

Unit 1: Math in Our World

Goals

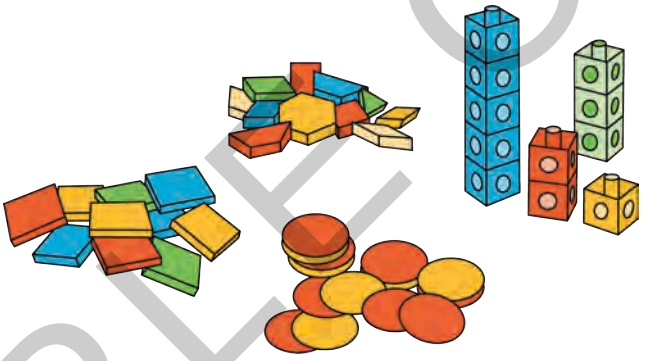
- Students recognize numbers and quantities in their world.

Narrative

In this unit, students explore mathematical tools and notice numbers and quantities around them. Teachers gather information about students' counting skills and understanding of number concepts.

Students enter kindergarten with a range of counting experiences, concepts, and skills. So, this unit is designed to be accessible to all learners regardless of their prior experience. In the first three sections, activities do not require counting, though students may choose to count. Students also have opportunities to work with math tools and topics related to geometry, measurement, and data through a variety of centers.

In the last section, students count collections of objects and groups of people to answer, "how many?" questions. These questions reinforce the idea that counting is a way to tell how many objects there are. Counting up to 10 objects will support students in the next unit, which will focus more deeply on numbers 1–10.



The content of this unit is designed to establish the structures and routines for centers, to create norms for classroom learning, and to begin building a mathematical community. In the first section, lessons are shorter to give students time to learn these routines and norms and to develop a mathematical community.

At different points throughout the unit, consider asking individual students to count a small group of objects. As the student works, observe the skills or understandings in the Checklist provided at the beginning of each section and in the Unit 1 Sections A–D Checkpoint document in the teacher resource packet. The end-of-unit assessment (a one-on-one interview) is another opportunity to find out what students know and can do. This assessment is not necessary for students who have demonstrated the skills on the checklist throughout the unit.

Throughout The Unit

Students are introduced to several routines that will be used throughout the year over the course of this unit: *Notice and Wonder, Act It Out, How Many Do You See, and Questions about Us.*

Students are also introduced to the structure and habits of centers in this unit. Activity 3 of each lesson gives students the opportunity to work in a center of their choice or to rotate through several centers. For those lessons, teachers may choose to complete the *Lesson Synthesis* after Activity 2, before students transition to working in centers.

In the Synthesis for several lessons in Sections A–C, students practice the verbal count sequence to 10. This will help prepare students for the counting work in Section D. While students practice verbally counting, a visual display of numbers 1–10 should be posted in the room. As much as possible, display a written number for quantities that students subitize or count. This will prepare students to recognize and write numbers in the next unit.

Materials Needed

Lesson	Materials to Gather	Materials to Copy
Lesson 1	• Chart paper: Lesson • Connecting cubes: Warm-up, Activity 1	
Lesson 2	• Math community poster: Lesson • Pattern blocks: Warm-up, Activity 1	
Lesson 3	• Math community poster: Lesson • Two-color counters: Activity 1	• 5-frame (1 copy for every 1 students): Activity 1
Lesson 4	• Math community poster: Lesson • Geoblocks: Activity 1, Activity 2 • Solid shapes: Activity 2	• Geoblocks Stage 2 Cards (1 copy for every 8 students): Activity 2
Lesson 5	• Math community poster: Lesson • Connecting cubes: Activity 1 • Pattern blocks: Activity 2 • Materials from previous centers: Activity 3	• Connecting Cubes Stage 2 Cards (1 copy for every 2 students): Activity 1 • Pattern Blocks Stage 2 Mats (1 copy for every 2 students): Activity 2

Lesson 6	• Math community poster: Lesson • Picture books: Activity 2 • Materials from previous centers: Activity 3	
Lesson 7	• Materials from previous centers: Activity 3	
Lesson 8	• Materials from previous centers: Activity 3	• Card Sort Different Groups Same Quantity Cards (1 copy for every 2 students): Activity 2
Lesson 9	• Colored pencils or crayons: Activity 2 • Materials from previous centers: Activity 3	• Picture Books Stage 2 Recording Sheet (1 copy for every 1 students): Activity 2
Lesson 10	• Erasers: Activity 2 • Pencils: Activity 2 • Materials from previous centers: Activity 3	
Lesson 11	• Pencils: Activity 2 • Materials from previous centers: Activity 3	

Lesson 12	• 5-frames: Activity 1 • Bags: Activity 1 • Collections of up to 20 small objects: Activity 1 • Materials from previous centers: Activity 3 • Pattern blocks (at least 5 of each block): Activity 3	• Counting Mat (1 copy for every 1 students): Activity 1 • Pattern Blocks Stage 3 Directions (1 copy for every 2 students): Activity 3
Lesson 13	• 5-frames: Activity 1 • Bags: Activity 1 • Collections of up to 20 small objects: Activity 1 • Counting mats: Activity 1 • Collections of up to 10 small objects: Activity 2 • Materials from previous centers: Activity 3	
Lesson 14	• Chart paper: Warm-up • 5-frames: Activity 1 • Collections of up to 10 small objects: Activity 1, Activity 2 • Counting mats: Activity 1 • Egg cartons: Activity 2 • Connecting cubes: Activity 3 • Materials from previous centers: Activity 3	• Egg Carton Counting Handout (1 copy for every 1 students): Activity 2 • Connecting Cubes Stage 3 Directions (1 copy for every 2 students): Activity 3

Lesson 15	• Chart paper: Warm-up • 5-frames: Activity 1 • Collections of up to 20 small objects: Activity 1 • Counting mats: Activity 1, Activity 2 • Collections of up to 10 small objects: Activity 2 • Materials from previous centers: Activity 3	
Lesson 16	• Chart paper: Warm-up • 5-frames: Activity 1 • Collections of 6–10 small objects: Activity 1 • Counting mats: Activity 1, Activity 2 • Collections of up to 20 small objects: Activity 2 • Egg cartons: Activity 2 • Materials from previous centers: Activity 3	• Questions about Us Attendance Display 5-frames Template (1 copy for every 30 students): Warm-up • Questions about Us Attendance Display 5-frames Template (1 copy for every 30 students): Activity 1
Lesson 17	• Connecting cubes: Activity 1 • Geoblocks: Activity 1 • Pattern blocks: Activity 1 • Two-color counters: Activity 1 • Materials from a previous activity: Activity 2	

Section A: Explore Our Math Tools

Standards

Addressing	**K.G.A, K.G.B, K.G.B.5**
Building Towards	**K.CC.B, K.G.A, K.G.A.1, K.G.A.2, K.G.B, K.G.B.6, K.MD.A, K.MD.B, K.MD.B.3**

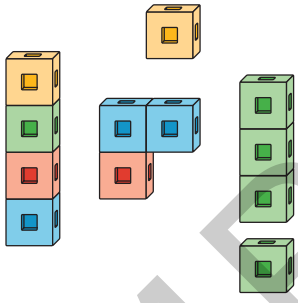
Goals

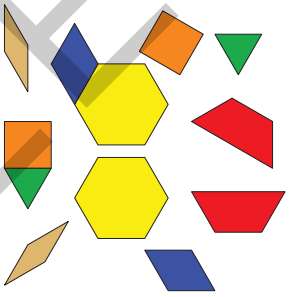
- Explore and use math tools.
- Share mathematical ideas with a partner.

Narrative

In this section, students build a shared understanding of what it means to do math and to be a part of a mathematical community, where everyone's contributions are valued. Students collaborate to create norms for their work together. They are encouraged to share their ideas and listen to the ideas of others, to make connections, and to see themselves as productive mathematical thinkers.

Students also interact with tools that they will use in math activities and centers throughout the year —connecting cubes, pattern blocks, two-color counters, geoblocks, and 5-frames. Students have the opportunity to freely explore the tools and think of their mathematical purposes before choosing they are asked to use them to represent mathematical situations in structured activities and centers.





The lessons in this section are intentionally shorter to allow time for students to learn the structure and routines of math lessons and to give teachers an opportunity to determine what students know about number concepts.

Throughout the section, observe students for the look-fors on the Unit 1, Sections A–D Checkpoint. Or use the Checklist at the beginning of the section.

Section A Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- Show quantities on fingers.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Identify groups with the same number of objects (for groups of up to 4 objects).

Explore Connecting Cubes

Standards

Building Towards	**K.CC.B, K.G.B, K.MD.A, K.MD.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

Goals

- Comprehend (in spoken language) the term "connecting cubes" refers to a tool used to do math.
- Explore connecting cubes and describe (orally) the exploration.

Student Facing Learning Goals

Let's explore connecting cubes.

Lesson Purpose

The purpose of this lesson is for students to explore connecting cubes. Teachers also have an opportunity to gather formative assessment data about students' counting concepts and skills.

Narrative

First, students share their thoughts and ideas about connecting cubes during the *Notice and Wonder* routine. Then they try their ideas during free exploration in a center. During this work, students likely will build objects. As you monitor, consider asking:

- "How many red connecting cubes do you have in your object? How could you find out?"
- "What color are those connecting cubes? How did you decide which color to use?"
- "How many connecting cubes are on the bottom of your object?"

These questions help teachers learn more about each student.

Math Community

In the *Lesson Synthesis*, students discuss what it means to be a part of a mathematical community. Prepare a Math Community poster by drawing a two-column chart as shown. Note that there are sections for students and the teacher to emphasize that both parties are responsible for the way math is done in the classroom. In this lesson, students add their ideas to the "Doing Math" column. In upcoming lessons, students will add to and revise these ideas, including drafting classroom goals and expectations for the "Norms" column. Keep the poster displayed in the classroom.

Math Community	
Doing Math	*Norms*
Students	Students
Teacher	Teacher

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Chart paper: Lesson
- Connecting cubes: Warm-up, Activity 1

Required Preparation

Create a Math Community poster as described in the *Lesson Narrative*.

Lesson Timeline

Warm-up	15 mins
Activity 1	15 mins
Synthesis Estimate	10 mins

Teacher Reflection Questions

What part of the lesson went really well today in terms of students' learning? What did you do that made that part go well?

Warm-up

15 mins

Notice and Wonder: Connecting Cubes

Standards

Building Towards **K.CC.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

The purpose of this *Warm-up* is to introduce the students to a new routine called *Notice and Wonder*, which will be used throughout the year. This routine provides an opportunity for all students to contribute to the conversation and for the teacher to listen to what knowledge students already have. In this *Notice and Wonder*, students share ideas they have about connecting cubes.

A picture of connecting cubes is provided. However, it is preferable to display a collection of actual connecting cubes.

Students should have at least one connecting cube to examine up close.

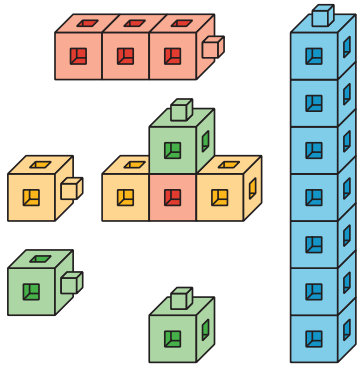
Required Materials

Materials To Gather

- Connecting cubes: Warm-up

Student Task Statement

What do you notice?
What do you wonder?



Student Response

Students may notice:

- They look like boxes.
- They are different colors (blue, green, red, and yellow).
- I can put my connecting cubes together with my partner's.

Students may wonder:

- How many connecting cubes are there?
- How many different colors are there?
- Which color has the most connecting cubes?
- Can I connect cubes to make a tower as tall as I am?

Launch

- Groups of 2
- Give each student at least1 connecting cube
- Display a collection of connecting cubes or the image in the student book.
- "What do you notice? Think quietly to yourself, and then you will share with a partner."
- 30 seconds: quiet think time

Activity

- "Tell your partner what you noticed."
- 1 minute: partner discussion
- Share and record responses.
- "What do you wonder?"
- 30 seconds: quiet think time
- "Tell your partner what you wondered."
- 1 minute: partner discussion
- Share and record responses.

Activity Synthesis

- "These are called connecting cubes. What is one thing you think you could do or make with the connecting cubes?"

Activity 1

15 mins

Introduce Connecting Cubes, Explore

Standards

Building Towards **K.CC.B, K.G.B, K.MD.A, K.MD.B**

The purpose of this activity is for students to learn Stage 1 of the *Connecting Cubes* center. Students have free exploration time with connecting cubes. As students explore, observe whether they sort or count the cubes or use comparison language to describe them.

Access for English Language Learners

MLR8 Discussion Supports. Create a visual display of what students want to do or make with the connecting cubes. As students share ideas, include a drawing or annotation to illustrate connections.
Advances: Speaking, Representing

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Students might need guidance as to what actions happen during partner work time. Invite students to discuss what it looks like when they are working with their partner while exploring the connecting cubes. Generate a list of shared expectations for partner work.
Supports accessibility for: Social-Emotional Functioning

Required Materials

Materials To Gather

- Connecting cubes: Activity 1

Student Response

Sample responses:

- Student creates buildings or other structures with connecting cubes.
- Student counts connecting cubes.
- Student sorts connecting cubes by color.
- Student creates patterns with connecting cubes.
- Student uses comparison language, such as "more,""bigger," or "smaller," when discussing their creations.

Launch

- Groups of 2
- "A tool is a thing that you use to help you do something. A crayon is a tool. I use crayons to add different colors to the pictures that I draw. What are some tools that you and your family use at home?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.
- "We will use many different tools during math this year. Connecting cubes are one of these tools."
- Give a container of connecting cubes to each group.
- "Let's explore connecting cubes. Have you used connecting cubes or another tool like this before? What do you want to make or do with the connecting cubes?"
- 30 seconds: quiet think time
- Share responses.

Activity

- 10 minutes: partner work time
- "Share with your partner one thing you did or made

with the connecting cubes."

- 2 minutes: partner discussion

Activity Synthesis

- Invite 3–4 students to share what they did or made with connecting cubes.
- "Who heard something they want to try next time with the connecting cubes?"

Lesson Synthesis

Math Community
Display the Math Community poster. As you ask questions, record student responses in the "Doing Math" column of the chart.

"Today we explored connecting cubes and told our partners what we did. What does it look and sound like to do math together as a mathematical community? What was I doing? What were you doing?"

Observation

Lesson Observations for Unit 1, Section A

Standards

Building Towards **K.CC.B**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 2

Explore Pattern Blocks

Standards

Building Towards **K.CC.B, K.G.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

Goals

- Comprehend (in spoken language) the term "pattern blocks" refers to a tool used to do math.
- Explore pattern blocks and describe (orally) the exploration.

Student Facing Learning Goals

Let's explore pattern blocks.

Lesson Purpose

The purpose of this lesson is for students to explore pattern blocks. Teachers also have an opportunity to gather formative assessment data about students' counting concepts and skills.

Narrative

First, students share their thoughts and ideas about pattern blocks during the *Notice and Wonder* routine. Then they try their ideas during free exploration in a center. During this work, students likely will build or create designs with the pattern blocks. As you monitor, consider asking:

- "How many red pattern blocks do you have in your object? How could you find out?"
- "What color are those pattern blocks? How did you decide which pattern blocks to use?"
- "How many pattern blocks are on the bottom of your object?"

These questions help teachers learn more about each student.

Math Community
Point out the Math Community poster. Tell students they will have a chance to revise their math community ideas at the end of this lesson. As they work today, students should think about actions that may be missing from the current list in the chart.

Access For Students with Disabilities

- Action and Expression

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Math community poster: Lesson
- Pattern blocks: Warm-up, Activity 1

Lesson Timeline

Warm-up	10 mins
Activity 1	15 mins
Synthesis Estimate	10 mins

Teacher Reflection Questions

Reflect on who participated in math class today. What assumptions are you making about those who didn't participate? How can you leverage each of your students' ideas to support them in being seen and heard in tomorrow's math class?

Warm-up

10 mins
PLC Activity

Notice and Wonder: Pattern Blocks

Standards

Building Towards **K.CC.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

The purpose of this *Warm-up* is to elicit ideas students have about pattern blocks. This allows teachers to hear the vocabulary students use to describe shapes (MP6). There is no need to introduce formal geometric language at this point since this will happen in a later unit.

A picture of pattern blocks is provided. However, it is preferable to display a collection of actual pattern blocks. Students also should have a few pattern blocks to examine up close.

Access for English Language Learners

MLR8 Discussion Supports. Display and encourage students to use the following sentence frames: "I noticed . . ." and "I wonder . . . ."
Advances: Speaking, Reading

Required Materials

Materials To Gather

- Pattern blocks: Warm-up

Student Task Statement

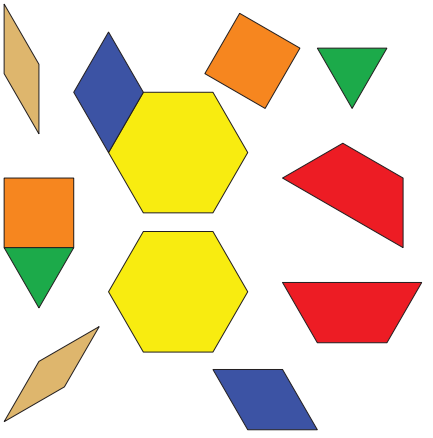
What do you notice?
What do you wonder?

Launch

- Groups of 2
- Give each student a few pattern blocks.
- Display a collection of pattern blocks or the image in the student book.
- "What do you notice? Think quietly to yourself, and then you will share with a partner."
- 30 seconds: quiet think time

Activity

- "Tell your partner what you noticed."
- 1 minute: partner discussion



Student Response

Students may notice:

- I see different shapes.
- I see red shapes, blue shapes, green shapes, and yellow shapes.
- There are triangles and squares.
- If you put 2 of the green triangles together, you can make the blue shape.
- I can make a flower with one yellow shape and a lot of red shapes.

Students may wonder:

- What is the name of the yellow shape?
- How many shapes are there?
- Which shape is there the most of?

- Share and record responses.
- "What do you wonder?"
- 30 seconds: quiet think time
- "Tell your partner what you wondered."
- 1 minute: partner discussion
- Share and record responses.

Activity Synthesis

- "These are called pattern blocks. What is one thing that you think you could do or make with the pattern blocks?"

Activity 1

15 mins

Introduce Pattern Blocks — Explore

Standards

Building Towards **K.CC.B, K.G.B, K.MD.B.3**

The purpose of this activity is for students to learn Stage 1 of the *Pattern Blocks* center. Students have free exploration time with pattern blocks. As students explore, observe whether they sort or count the pattern blocks or use geometric language to describe them. (MP6)

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to plan a strategy before they begin. If time allows, invite students to share their plan with a partner.
Supports accessibility for: Organization, Conceptual Processing

Required Materials

Materials To Gather

- Pattern blocks: Activity 1

Student Response

Sample responses:

- Student creates designs with the pattern blocks.
- Student sorts the pattern blocks by color or shape.
- Student counts the pattern blocks.
- Student builds a variety of shapes with the pattern blocks and notices how the shapes fit together.
- Student uses geometric language to describe the pattern blocks and their creations.

Launch

- Groups of 2
- Give a container of pattern blocks to each group.
- "Let's explore pattern blocks. Have you used pattern blocks or another tool like this before? What do you want to make or do with the pattern blocks?"
- 30 seconds: quiet think time
- Share and record responses.

Activity

- 10 minutes: partner work time
- "Share with your partner one thing you did or made with the pattern blocks."
- 2 minutes: partner discussion

Activity Synthesis

- Invite 3–4 students to share what they did or made with pattern blocks.
- "Some of us used the pattern blocks to make designs and pictures. What kinds of tools can you use at home to make designs or pictures?"

Lesson Synthesis

Math Community
"Today, we explored pattern blocks and told our partners what we did. Let's add to our chart from yesterday about what doing math together looks like."

Display the Math Community poster from the previous lesson and read it to students.

"What did you or I do today that we can add to our chart?"

Observation

Lesson Observations for Unit 1, Section A

Standards

Building Towards **K.CC.B**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Explore 2-Color Counters and 5-Frames

Standards

Building Towards **K.CC.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

Goals

- Comprehend (in spoken language) the terms "counters" and "5-frame" refer to tools used to do math.
- Explore counters and 5-frames and describe (orally) the exploration.

Student Facing Learning Goals

Let's explore 2-color counters and 5-frames.

Lesson Purpose

The purpose of this lesson is for students to explore two-color counters and 5-frames. Teachers also have an opportunity to gather formative assessment data about students' counting concepts and skills.

Narrative

As students explore two-color counters and 5-frames, they likely will create designs or place counters on the 5-frames. As you monitor, consider asking:

- "How many two-color counters are in the 5-frame?"
- "How many red counters do you have?"
- "Do you have enough counters to fill the 5-frame?"

These questions help teachers learn more about each student.

The 5-frame is a useful tool for students to develop a visualization of the number 5. Various arrangements of counters on the frame prompt different visualizations of numbers and strategies for manipulating these numbers in relation to 5. Students will use the 5-frame, and later the 10-frame, throughout the year.

In the *Lesson Synthesis*, students think about which math tools they would choose for certain tasks (MP5). They also practice saying the verbal count sequence to 10 in preparation for counting objects in an upcoming section. Add variety to the choral count by providing movement. For example, students can count as they clap, stomp their feet, or jump.

Math Community

Tell students that, at the end of the lesson, we will revisit the Math Community poster. Students will be asked to identify specific actions from the "Doing Math" list that they personally experienced during this lesson.

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Math community poster: Lesson
- Two-color counters: Activity 1

Materials To Copy

- 5-frame (1 copy for every 1 students): Activity 1

Lesson Timeline

Warm-up	15 mins
Activity 1	15 mins
Synthesis Estimate	10 mins

Teacher Reflection Questions

Unlike talking, listening can be difficult to observe. At what points in the lesson did you observe students listening to one another's ideas today in class? What indicators do you have that they were listening and making sense of what was being said?

Warm-up

15 mins

Notice and Wonder: Counters and 5-Frames

Standards

Building Towards **K.CC.B, K.MD.B.3**

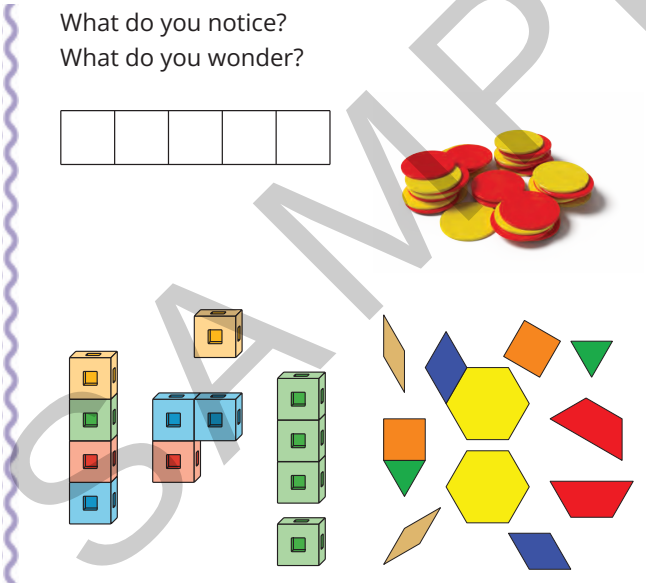
Instructional Routines

- Notice and Wonder

This *Warm-up* prompts students to notice and wonder about four different math tools, two tools they have previously worked with, and two new tools they explore in this lesson. The structure of the image is the same as what students will see in the *Which Three Go Together?* routine that they will be introduced to in a future unit. To prepare for that routine, the *Activity Synthesis* focuses on comparing the different tools. Listen to the language students use to describe and explain to others how they see the different math tools (MP3, MP6).

Student Task Statement

What do you notice?
What do you wonder?



Launch

- Groups of 2
- Display the image.
- "What do you notice?"
- 30 seconds: quiet think time

Activity

- "Tell your partner what you noticed."
- 1 minute: partner discussion
- "Share something that your partner noticed."
- Share and record responses.
- "What do you wonder?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- "Share something that your partner wondered."

Student Response

Students may notice:

- The circles are new.
- The circles have one red side and one yellow side.
- The first tool is the only one without colors.

Students may wonder:

- Are we going to get to use the round tools?
- What can you do with the first tool?
- Can we use the tools together?

- Share and record responses.

Activity Synthesis

- "These tools are called two-color counters."
- Students will discuss the name of 5-frames in the next activity. For now, ask: "What do you think this tool should be called?"
- If needed, ask: "How are these math tools the same? How are they different?"

Activity 1

15 mins

Explore Counters and 5-frames

Standards

Building Towards **K.CC.B, K.MD.B.3**

The purpose of this activity is for students to explore and use two-color counters and 5-frames. As students explore, observe whether they count the two-color counters or use the 5-frames to organize the two-color counters.

The 5-frames are provided as a blackline master. Students will continue to use these throughout the year. Consider copying them on cardstock or laminating them and keeping them organized to be used repeatedly.

Access for English Language Learners

MLR8 Discussion Supports. After students share responses, use multimodal examples to show the meaning of 5 in the 5-frame. Point to each square and count to 5. Invite students to chorally read numbers 1–5 aloud.
Advances: Listening, Representing, Speaking

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Some students may benefit from feedback that emphasizes effort and time on task. For example, moving counters in the squares of the 5-frame or filling the 5-frame with one counter in each square.
Supports accessibility for: Attention, Social-Emotional Functioning

Required Materials

Materials To Gather

- Two-color counters: Activity 1

Materials To Copy

- 5-frame (1 copy for every 1 students): Activity 1

Student Response

Sample responses:

- Student sorts two-color counters by color.
- Student creates patterns.
- Student uses 5-frames to organize two-color counters.

Launch

- Groups of 2
- Give each student a 5-frame.
- "As you explore the two-color counters, you will also explore a new tool called a 5-frame."
- Display the 5-frame.
- "Why do you think we call this a 5-frame?" (It has 5 spaces or squares. The squares are empty like a frame.)
- 30 seconds: quiet think time
- Share responses.
- Give each group of students a container of two-color counters.
- "Let's explore two-color counters and 5-frames."

Activity

- 10 minutes: independent work time
- "Share one thing you did or made with the two-color counters and 5-frames with your partner."
- 2 minutes: partner discussion

Activity Synthesis

- Ask 3–4 groups of students to share what they did or made with two-color counters and 5-frames.

Lesson Synthesis

Display the image from the *Warm-up.*

"We've learned about tools that can help us do math—connecting cubes, pattern blocks, two-color counters, and 5-frames."

"Which tools can you use to count? Share with your partner."

Invite students to share an idea that their partner shared.

"Which tools can you use to make shapes? Share with your partner."

Invite students to share an idea that their partner shared.

"Let's practice counting to 10."

Demonstrate counting to 10. Count to 10 as a class 1–2 times.

Math Community

Display the Math Community poster. Read the student actions listed under "Doing Math."

"Which of these did you do today? How did they help you in class?"

"Is there anything else we should add to the chart?"

Observation

Lesson Observations for Unit 1, Section A

Standards

Building Towards **K.CC.B**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 4

Explore Geoblocks

Standards

Addressing	**K.G.B.5**
Building Towards	**K.CC.B, K.G.A, K.G.A.1, K.G.A.2, K.G.B, K.G.B.6, K.MD.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

Goals

- Comprehend (in spoken language) the term "geoblocks" refers to a tool used to do math.
- Explore geoblocks and describe (orally) the exploration.

Student Facing Learning Goals

Let's explore geoblocks.

Lesson Purpose

The purpose of this lesson is for students to explore geoblocks. Teachers also have an opportunity to gather formative assessment data about students' counting concepts and skills.

Narrative

First, students share their thoughts and ideas about geoblocks during the *Notice and Wonder* routine. Then they try their ideas during free exploration in centers. During this exploration, students likely will build objects with the geoblocks. As you monitor, consider asking:

- "How many geoblocks did you use? How could you find out?"
- "How did you decide which geoblocks to use?"
- "Which geoblocks do you like best? Why?"

These questions help teachers learn more about each student.

In the *Lesson Synthesis*, students practice saying the verbal count sequence to 10 in preparation for counting objects in an upcoming section. Add variety to the choral count by providing movement. For example, students can count as they clap, stomp their feet, or jump.

Math Community
Before the lesson, explain to students that norms are expectations that help everyone in the room feel safe, comfortable, and productive doing math together. Offer an example, such as: "It may help us share our ideas as a whole class if we have the norm 'Listen as others share their ideas.'" Tell students to think about norms that help everyone do math as they work today. Record these norms during the lesson synthesis.

Access For Students with Disabilities

- Action and Expression

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Math community poster: Lesson
- Geoblocks: Activity 1, Activity 2
- Solid shapes: Activity 2

Materials To Copy

- Geoblocks Stage 2 Cards (1 copy for every 8 students): Activity 2

Lesson Timeline

Warm-up	10 mins
Activity 1	15 mins
Activity 2	10 mins
Synthesis Estimate	10 mins

Teacher Reflection Questions

Students shared their thinking multiple times in this lesson. What have you noticed about the language students use? What support can you offer to students who struggle to communicate their ideas orally?

Warm-up

10 mins

Notice and Wonder: Geoblocks

Standards

Building Towards **K.G.A, K.MD.B.3**

Instructional Routines

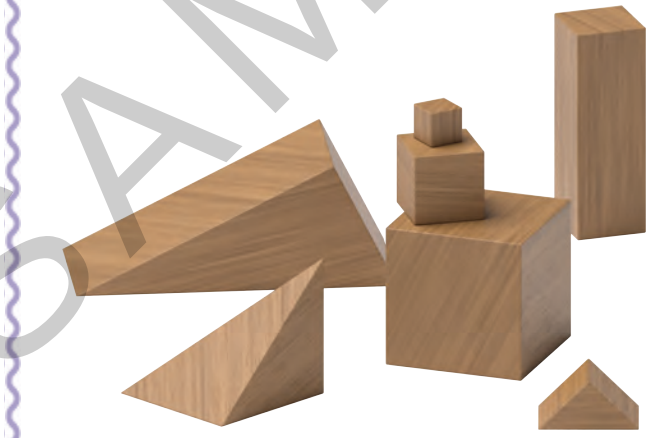
- Notice and Wonder

The purpose of this activity is to elicit ideas students have about geoblocks. This allows teachers to see what language students use to describe shapes (MP6). There is no need to introduce formal geometric language at this point since this will happen in a later unit.

A picture of geoblocks is provided. However, it is preferable to display a collection of actual blocks. Students also should have a few geoblocks to examine up close.

Student Task Statement

What do you notice?
What do you wonder?



Launch

- Groups of 2
- Give each student a few geoblocks
- Display a collection of geoblocks or the image in the student book.
- "What do you notice?"
- 30 seconds: quiet think time

Activity

- "Tell your partner what you noticed."
- 1 minute: partner discussion
- Share and record responses.
- "What do you wonder?"

Student Response

Students may notice:

- I see different shapes.
- There are different sizes. Some are big and some are small.
- Some look like triangles and some look like squares.

Students may wonder:

- How many blocks are there?
- Which block is there the most of?
- Why are some blocks pointy and some blocks flat?
- Can I stack all of the blocks to make a tower?

- 1 minute: quiet think time
- "Tell your partner what you wondered."
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.

Activity Synthesis

- "These are called geoblocks. What is one thing that you think you could do or make with the geoblocks?"

Activity 1

15 mins

Introduce Geoblocks, Explore

Standards

Building Towards **K.CC.B, K.G.A, K.G.B, K.MD.B**

The purpose of this activity is to learn Stage 1 of the Geoblocks center. Students have free exploration time with geoblocks. As students explore, observe whether they sort or count the geoblocks or use geometric language to describe them.

Access for English Language Learners

MLR8 Discussion Supports. Create a visual display of what students want to do or make with geoblocks. As students share ideas, include a drawing or annotation to illustrate connections.
Advances: Speaking, Representing

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to plan a strategy, including what they want to do or make with the geoblocks. If time allows, invite students to share their plan with a partner before they begin.
Supports accessibility for: Conceptual Processing, Organization

Required Materials

Materials To Gather

- Geoblocks: Activity 1

Student Response

Sample responses:

- Student uses the geoblocks to build towers, buildings, and other objects.
- Student sorts the geoblocks by shape.
- Student uses comparison language, such as "more," "bigger," or "smaller," when discussing their creations.
- Student uses shape names to describe the blocks.

Launch

- Groups of 2
- Give a container of geoblocks to each group.
- "When do you see people build things in your family or your community? What kind of tools do they use when they build?"
- "Let's explore geoblocks. Have you used geoblocks or another tool like this before? What do you want to make or do with the geoblocks?"
- 30 seconds: quiet think time
- Share responses.

Activity

- 10 minutes: partner work time
- "Share with your partner one thing you did or made with the blocks."
- 2 minutes: partner discussion

Activity Synthesis

- Ask 3–4 students to share what they did or made with geoblocks.
- "One thing that we did with the geoblocks was build. What kinds of tools can you use at home to build things?"

Activity 2

10 mins

Introduce Geoblocks—Build to Match

Standards

Addressing	**K.G.B.5**
Building Towards	**K.G.A.1, K.G.A.2, K.G.B.6**

The purpose of this activity is for students to learn Stage 2 in the *Geoblocks* center. Students use geoblocks to build objects pictured on cards. The focus is on how students choose which geoblocks to use and the language they use to describe their creations, rather than on creating a perfect representation of the object (MP6). When students make and describe their own choices for how they represent real-world objects with geometric shapes, they prepare to model real-world problems with mathematics (MP4).

Standard geoblock sets do not include cylinders, spheres, and cones. When these shapes are required, solid shapes are indicated in the required materials. The solid shapes are still called "geoblocks" to keep things simple for students.

Required Materials

Materials To Gather

- Geoblocks: Activity 2
- Solid shapes: Activity 2

Materials To Copy

- Geoblocks Stage 2 Cards (1 copy for every 8 students): Activity 2

Student Task Statement

Use geoblocks to build a house.

Launch

- Groups of 2
- Display the image in the student book.
- "What do you notice? What do you wonder?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.

Activity

- Give each group of students geoblocks, solid shapes, and a copy of the blackline master.
- "This page shows a picture of a house. Work with your partner to use the shapes to create a house."
- 3 minutes: partner work time
- "Choose another picture that you'd like to build."
- 2–3 minutes: independent work time
- As students work, consider asking:
  - "Which shapes can you use to make the roof of the house?"
  - "How did you create ____?"

Activity Synthesis

- Invite 3–4 students to share their creations.
- "What new ideas did you hear your partner talk about today when they used the geoblocks? What did you see your partner do with their geoblocks?"

Lesson Synthesis

"Today we explored geoblocks. What was your favorite thing that you did or made with the geoblocks? Why was it your favorite?"

"Let's practice counting to 10."

Demonstrate counting to 10. Count to 10 as a class 1–2 times.

Math Community

Ask students to reflect on both individual and group actions while considering the question "What norms should we set for our class?"

Record and display their responses in the "Norms"column of the chart on the Math Community poster.

Observation

Lesson Observations for Unit 1, Section A

Standards

Building Towards **K.CC.B**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 5

Explore Math Tools

Standards

Addressing	**K.G.A, K.G.B**
Building Towards	**K.CC.B, K.G.A, K.G.B, K.MD.B.3**

Instructional Routines

- Notice and Wonder

Goals

- Comprehend (in spoken language) the term "math tool" refers to a thing that you use to help you do math.
- Describe (orally) an object made with math tools.

Student Facing Learning Goals

Let's explore our math tools.

Lesson Purpose

The purpose of this lesson is for students to explore math tools.

Narrative

Students learn new stages of the *Connecting Cubes* and *Pattern Blocks* centers. Then students choose between the centers that have been previously introduced and rotate between centers. This is an opportunity to set up structures for students to move between centers.

Math Community
Tell students they will have a chance to revise their math community ideas at the end of this lesson. As students work today, they should think about norms that may be missing from the current list.

This lesson has a Student Section Summary.

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Math community poster: Lesson
- Connecting cubes: Activity 1
- Pattern blocks: Activity 2
- Materials from previous centers: Activity 3

Materials To Copy

- Connecting Cubes Stage 2 Cards (1 copy for every 2 students): Activity 1
- Pattern Blocks Stage 2 Mats (1 copy for every 2 students): Activity 2

Lesson Timeline

Warm-up	10 mins
Activity 1	10 mins
Activity 2	15 mins
Activity 3	15 mins
Synthesis Estimate	10 mins

Teacher Reflection Questions

Reflect on how comfortable your students are asking questions of you and of one another. What can you do to encourage students to ask questions?

Warm-up

10 mins

Notice and Wonder: Using Different Tools

Standards

Building Towards **K.CC.B, K.G.A, K.G.B, K.MD.B.3**

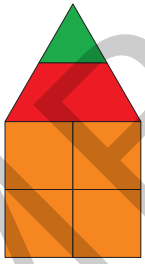
Instructional Routines

- Notice and Wonder

The purpose of this *Warm-up* is for students to consider how different tools can be used to represent the same thing. When students describe how each object represents a house and make connections between the objects, they show their ability to reason abstractly and quantitatively (MP2). In the *Lesson Synthesis*, students repeat what their partner has said to continue building their skill with listening to the ideas of others (MP3).

Student Task Statement

What do you notice?
What do you wonder?



Launch

- Groups of 2
- Display the images in the student book.
- "What do you notice? What do you wonder?"
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- 1 minute: partner discussion

Activity Synthesis

- Invite several students to share what they heard their partner say.

Student Response

Students may notice:

- They are all houses.
- The houses are made out of our different math tools.

- It looks like there are triangles on the top.

Students may wonder:

- What else can you make out of the math tools?
- Where are the windows?
- Why are there more connecting cubes than geoblocks?

Activity 1

10 mins

Introduce Connecting Cubes—Build to Match

Standards

Addressing	**K.G.B**
Building Towards	**K.CC.B**

The purpose of this activity is for students to learn Stage 2 of the *Connecting Cubes* center. Students use connecting cubes to make objects pictured on cards. As they work, observe whether students match the connecting cubes to the image or count the number of connecting cubes in the image to create their own object (MP6).

Required Materials

Materials To Gather

- Connecting cubes: Activity 1

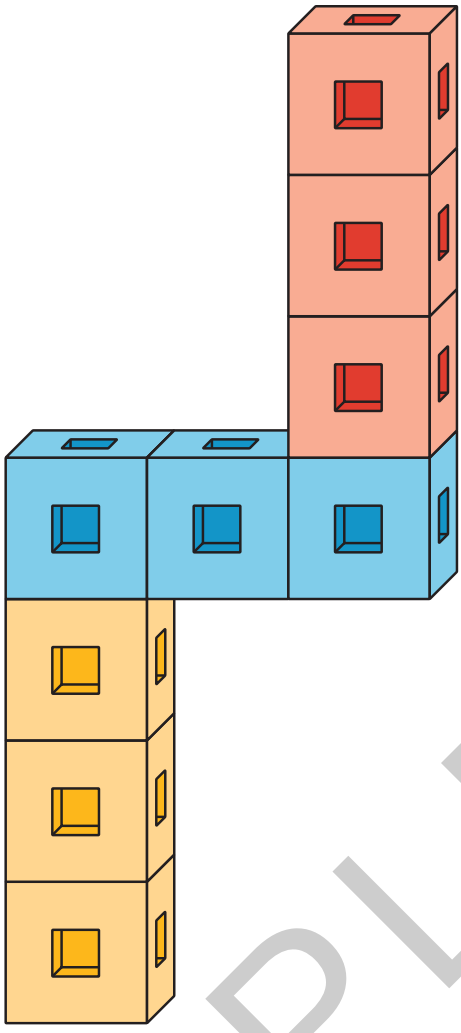
Materials To Copy

- Connecting Cubes Stage 2 Cards (1 copy for every 2 students): Activity 1

Required Preparation

Create a set of cards from the blackline master for each group of 2 students.

Student Task Statement



Student Response

Sample responses:

- Student creates an object that matches the image in shape.
- Student creates an object that matches the image in shape and color.
- Student counts the connecting cubes in the image to make the object.

Launch

- Groups of 2
- "We are going to look at a new center that you can choose during center choice time."
- Display the image in the student book.
- "How could you use connecting cubes with this picture?" (We can make things with our connecting cubes that look like the picture in the book.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.

Activity

- Give each group of students connecting cubes and a set of cards.
- Display the image on the student page.
- "Use your connecting cubes to build this object."
- 3 minutes: independent work time
- "Choose another card and use your connecting cubes to build the object."
- 3 minutes: independent work time

Activity Synthesis

- "Show your partner what you made, and describe it to them."
- 2 minutes: partner discussion
- Invite several students to share what they heard their partner say.

Activity 2

15 mins

Introduce Pattern Blocks—Puzzles

Standards

Addressing **K.G.A, K.G.B**

The purpose of this activity is for students to learn Stage 2 of the *Pattern Blocks* center. Students use pattern blocks to fill in simple puzzles where the edges of each shape do not touch.

Access for English Language Learners

MLR8 Discussion Supports. Point to each shape and invite students to chorally repeat the name of the color in unison 1–2 times: "green shape" and "yellow shape."
Advances: Speaking, Representing

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Some students may benefit from feedback that emphasizes effort and time on task. For example, using pattern blocks to fill in the pictures, or describing which pattern blocks were used to fill a picture.
Supports accessibility for: Attention, Social-Emotional Functioning

Required Materials

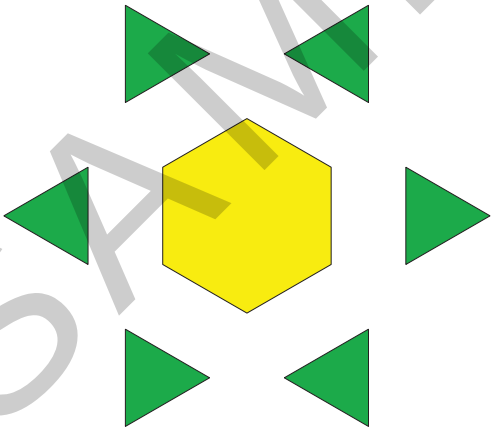
Materials To Gather

- Pattern blocks: Activity 2

Materials To Copy

- Pattern Blocks Stage 2 Mats (1 copy for every 2 students): Activity 2

Student Task Statement



Launch

- Groups of 2
- "We are going to look at a new center that you can choose during center choice time."
- Display the image in the student book.
- "How could you use pattern blocks with this picture?"

Activity

- Give each group pattern blocks and a mat. Explain that the mat shows a puzzle.
- "Use your pattern blocks to fill in the puzzle."
- 4 minutes: independent work time
- "Show your partner how you filled in the puzzle. Tell them which pattern blocks you used."

Student Response

Sample response:

- Student recognizes a shape in the puzzle and finds the matching pattern block.
- Student uses trial and error to find the pattern block that fits the puzzle.

- 2 minutes: partner discussion
- "Choose another puzzle to fill in with your pattern blocks."
- 2–3 minutes: independent work time

Activity Synthesis

- "Which puzzle was your favorite?"
- 30 seconds: quiet think time
- "Tell your partner why it was your favorite."
- 1 minute: partner discussion

Activity 3

15 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools.

Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks

The center choices will remain the same in the upcoming lessons. Keep the materials from these centers organized to use each day.

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

Required Preparation

- Gather Materials from:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2
  - Geoblocks, Stages 1 and 2

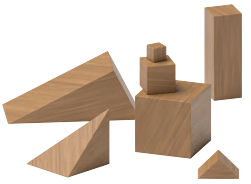
Student Task Statement

Choose a center.

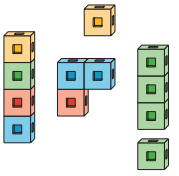
Geoblocks

Launch

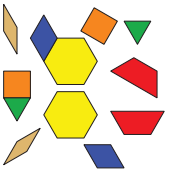
- "Today you will get to choose the math tool you want to work with."
- Display the center choices in the student book.



Connecting Cubes



Pattern Blocks



- "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
- Monitor for students who create objects, patterns, or buildings the class can describe during the *Activity Synthesis*.

Activity Synthesis

- Invite previously selected students to share their work.
- "Tell your partner how ____ described their work."

Lesson Synthesis

"Today, we got to choose a math tool to work with. We also listened carefully to other students so we could repeat their math ideas."

"Let's practice counting to 10."

Demonstrate counting to 10. Count to 10 as a class 1–2 times.

Math Community

Display the Math Community poster and review the norms listed.

"Is there anything else we should add to our list of norms?"

Observation

Lesson Observations for Unit 1, Section A

Standards

Building Towards **K.CC.B**

Look Fors

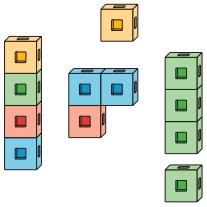
- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.

- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

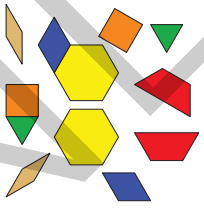
Section A Summary

We can use many math tools.

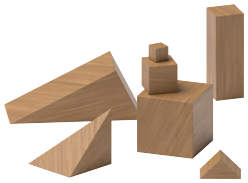
connecting cubes



pattern blocks



geoblocks



2-color counters

5-frames

Section B: Recognize Quantities

Standards

Addressing	**K.CC.B.4**
Building Towards	**K.CC.B.4, K.CC.C.6**

Goals

- Recognize and name groups of up to 4 objects and images without counting.

Narrative

In this section, students continue to explore numbers and quantities in their classroom, focusing on small groups of objects or images they can quantify without counting. They match groups that have the same number of images and notice that the same quantity can be arranged in many different ways. Students continue to develop the language to express these ideas and to listen to ideas of their peers.

Students are sometimes asked to show quantities up to 5 on their fingers. This is a chance to formatively observe if students are comfortable showing quantities on their fingers (any way is acceptable). For example, they may put up 4 fingers to show how many objects there are before saying the number word "four."

Throughout the section, observe students for the look-fors on the Unit 1, Sections A–D Checkpoint. Or use the Checklist at the beginning of the section.

Section B Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- Show quantities on fingers.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Identify groups with the same number of objects (for groups of up to 4 objects).

Unit 1, Lesson 6

Look for Small Groups

Standards

Building Towards **K.CC.B.4**

Goals

- Describe (orally) the number of objects in an image within 4.
- Use fingers to represent a group of images within 4.

Instructional Routines

- Act It Out
- How Many Do You See?

Student Facing Learning Goals

Let's look for small groups of objects.

Lesson Purpose

The purpose of this lesson is for students to recognize and name small groups of objects and images without counting.

Narrative

This skill (subitizing) is essential to students' number work. Students communicate how many there are by showing quantities on their fingers and saying number words (MP6). Although some students may count to determine how many, the focus of this lesson is on recognizing groups of objects without counting.

Students learn two new routines that will be used throughout the year to develop counting concepts.

In the *Lesson Synthesis*, students practice saying the verbal count sequence to 10 in preparation for counting objects in an upcoming section. Add variety to the choral count by providing movement. For example, students can count as they clap, stomp their feet, or jump.

Math Community
Tell students they will reflect on their identified norms at the end of this lesson.

Access For Students with Disabilities

- Representation

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Math community poster: Lesson
- Picture books: Activity 2
- Materials from previous centers: Activity 3

Lesson Timeline

Warm-up	10 mins

Teacher Reflection Questions

Think about who volunteered to share their thinking with the class today. Are the same students always

Activity 1	10 mins
Activity 2	10 mins
Activity 3	25 mins
Synthesis Estimate	5 mins

volunteering, while some students never offer to share? What can you do to help the class understand the value of hearing the ideas of every mathematician?

Warm-up

10 mins

Act It Out: Introduction

Standards

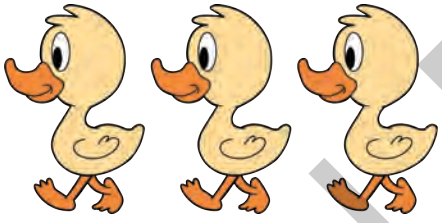
Building Towards **K.CC.B.4**

Instructional Routines

- Act It Out

The purpose of this *Warm-up* is to introduce the students to a new routine called *Act it Out*, which will be used throughout the year. This routine allows students to participate by listening to language and repeating a simple poem related to numbers. Students share initial thoughts about what the story is about. Then they revisit this story in the next lesson and represent it. Students continue to engage in this routine throughout the section and participate in the full routine by the end of the section.

Student Task Statement



3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

Student Response

Sample responses:

- ducks
- ducks playing

Launch

- Groups of 2
- Display and read the story.

Activity

- "What is the story about?"
- 30 seconds: quiet think time
- Share responses.
- Read the story again.
- Read the story together.

Activity Synthesis

- "We will come back to this story tomorrow and think about what happens in the story."

Activity 1

10 mins

How Many Do You See: Introduction

Standards

Building Towards **K.CC.B.4**

Instructional Routines

- How Many Do You See?

The purpose of this activity is to introduce the students to a new routine called *How Many Do You See?*, which will be used throughout the year. In this activity, students experience the first part of this routine. They continue to engage in this routine throughout the section and participate in the full routine by the end of the section. In the *Activity Synthesis*, students explain how they saw the dots. This is an opportunity to hear the language students use to explain their thinking. The number "3" is displayed during the *Activity Synthesis* to give students opportunities to recognize numbers and connect numbers and quantities.

Access for English Language Learners

MLR8 Discussion Supports. Think aloud and use gestures to point to the relevant parts of the display.
Advances: Listening, Representing

Student Task Statement

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

Student Response

Sample responses:

3: I counted 1, 2, 3. I saw 3. It looks like a number cube.

Launch

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

Activity

- "Use your fingers to show your partner how many dots you see."
- 30 seconds: partner work time
- "Tell your partner how many dots you see and how you see them."
- 1 minute: partner discussion
- Share and record responses.

Activity Synthesis

- Display or write "3."
- "There are 3 dots."

Activity 2

10 mins

Introduce Picture Books, Explore

Standards

Building Towards **K.CC.B.4**

The purpose of this activity is for students to learn Stage 1 of the *Picture Books* center. Students recognize and name quantities in picture books. Read the book aloud to students as a part of the *Launch*. Students may notice and wonder many things about the page in the book, especially after hearing the story. This should be encouraged and recorded as students are making sense of the context.

If students do not mention the groups of objects displayed on the page, ask them "What things on the page remind you of things we have been doing in math class?" to encourage them to mathematize the situation (MP4). This prepares students to see and analyze quantities so that they can use mathematics to describe their world.

Some examples of picture books include:

- *Grandma's Purse* by Vanessa Brantley-Newton
- *My Heart Fills with Happiness* by Monique Gray Smith
- *Pablo's Tree* by Pat Mora
- *Saturday* by Oge Mora
- *There Is a Bird on Your Head* by Mo Willems
- *Last Stop on Market Street* by Matt de la Peña
- *Miss Bindergarten Gets Ready for Kindergarten* by Joseph Slate
- *Big Red Lollipop* by Rukhsana Khan
- *Count on Me* by Miguel Tanco
- *The Girl with the Parrot on Her Head* by Daisy Hirst

Throughout the year, books that are read to students or used by students in centers are referred to as *picture books* in these materials. The term "picture book" refers to books with only pictures or books with both pictures and words.

Access for Students with Disabilities

Representation: Access for Perception. Synthesis: Use gestures to emphasize the number of items in a group. For example, point to the picture in the book when students share how many things they found in their book.
Supports accessibility for: Visual-Spatial Processing, Conceptual Processing

Required Materials

Materials To Gather

- Picture books: Activity 2

Student Response

Sample responses:

- I found 3 dogs.

Launch

- Groups of 2
- Display a page from a picture book that has multiple

- I found 2 cats.

groups with up to 4 things.

- "What do you notice? What do you wonder?"
- 1 minute: quiet think time
- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Share and record responses.
- "How many ____ are there? Show your partner on your fingers, or tell them how many ____ there are."
- 30 seconds: quiet think time
- 1 minute: partner discussion
- "We can use our fingers or say numbers to show how many things there are."

Activity

- Give each group of students access to at least 1 picture book.
- "Look for groups of things in your book. Use your fingers to show your partner and tell your partner how many things there are in the groups you find."
- 5 minutes: partner work time
- Monitor for students who recognize groups of 1–4 things without counting.

Activity Synthesis

- "What groups of things did you find in your book? How many things are in the group?"
- Invite previously identified students to share.
- As students share, display or write the number they identify and say, "There are ____ in the group."

Activity 3

25 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools. Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks

- Picture Books

Students will choose from the same centers throughout the section. Keep materials from these centers organized to use each day.

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

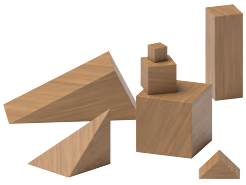
Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stage 1

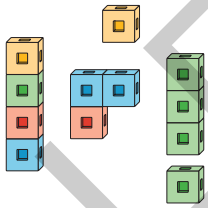
Student Task Statement

Choose a center.

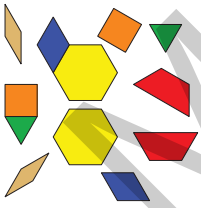
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today you will work in centers with our math tools and picture books. During center time today, one of the choices is to continue exploring picture books."
- Display the center choices in the student book.
- "Think about what you would like to work with 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 work with next."
- 10 minutes: center work time
- While students work in centers, consider asking:
  - "What did you do with the connecting cubes, pattern blocks, or geoblocks?"
  - "What groups of things did you see in your book? How many things are there?"
- Monitor for students who create objects, patterns, or buildings that the class can describe during the *Activity Synthesis*.

Activity Synthesis

- Invite previously selected students to share their

work.

- "How can we describe what _____ made?"

Lesson Synthesis

Revisit the norms established as a class about doing mathematics.

"Today we worked with partners and shared our ideas as we looked for groups of things in books. What went well? What can we continue to work on?"

Add any new ideas students suggest to the list of norms.

"Let's practice counting to 10."

Demonstrate counting to 10. Count to 10 as a class 1–2 times.

Math Community

Point out the Math Community poster. Revisit the norms established as a class about doing mathematics.

"Is there anything from today we should add to our list of norms?"

Add new ideas students suggest to the list of norms."Which one of the norms did you feel was most important in your work today? Why?"

Tell students that as their math community works together over the course of the year, the group will continually add to and revise its "Doing Math" and "Norms" actions and expectations.

Observation

Lesson Observations for Unit 1, Section B

Standards

Building Towards **K.CC.B.4**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Classroom Scavenger Hunt

Standards

Building Towards **K.CC.B.4**

Goals

- Explain (orally) strategies for determining the number of images or objects in a group.
- Use fingers to represent groups of images or objects.

Instructional Routines

- Act It Out
- How Many Do You See?

Student Facing Learning Goals

Let's look for groups of objects in the classroom.

Lesson Purpose

The purpose of this lesson is for students to recognize and name small groups of objects and images without counting.

Narrative

In a previous lesson, students subitized, or determined how many without counting, small groups of things in picture books. In this lesson, students continue their work with subitizing as they recognize and name small groups of up to 4 objects in the classroom without counting. Although some students may count to determine how many in larger groups of objects, the focus is on finding small groups of objects that can be recognized and named without counting. This lesson helps students gain familiarity with their classroom and encourages them to mathematize their environment (MP4).

In a future lesson, students will create their own picture books to show quantities that they identified in the classroom.

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

Lesson Timeline

Warm-up	10 mins
Activity 1	10 mins
Activity 2	10 mins
Activity 3	25 mins
Synthesis Estimate	5 mins

Teacher Reflection Questions

Were you able to circulate and hear student thinking while students worked in centers? If so, what routines or structures helped students work independently? If not, what routines or structures can you establish to ensure that you are able to circulate and talk to students as they work?

Warm-up

10 mins

Act It Out: How Can We Show It?

Standards

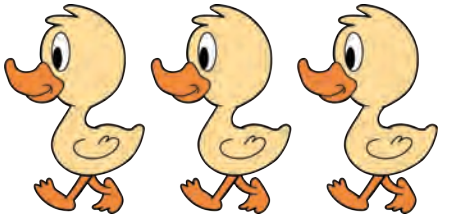
Building Towards **K.CC.B.4**

Instructional Routines

- Act It Out

The purpose of this activity is for students to revisit a story and consider ways to act it out. In addition to explaining what the story is about, students also think of ways the class could act out the story. When students act out the story, they make sense of the context and develop strategies for making sense of problems and persevering in solving them (MP1). Monitor for suggestions of acting out the story with concrete objects, such as cubes, fingers, or students, as well as representing the story with pictures. In the *Activity Synthesis*, the class will act out the story in one of the ways suggested by the students. In a later lesson, students act out the same story in another way in order to see different representations of the same story.

Student Task Statement



3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

Student Response

Sample responses:

- Three children could pretend to be ducks.
- We could draw 3 ducks.
- We could show the 3 ducks on our fingers.

Launch

- Groups of 2
- Display and read the story.
- "What is the story about?"
- 30 seconds: quiet think time
- Share responses.
- Read the story again.
- "How can you act out this story?"
- 30 seconds: quiet think time

Activity

- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Monitor for students who suggest using physical objects, such as fingers, cubes, or students, to represent the ducks, or drawing pictures to represent the story.

Activity Synthesis

- Read the story.
- Act out the story as a class using a previously identified suggestion of using concrete objects or pictures. Only use one method to act out the story. The class will use a different method to act it out in the next lesson.

Activity 1

10 mins

How Many Do You See: Two Images

Standards

Building Towards **K.CC.B.4**

Instructional Routines

- How Many Do You See?

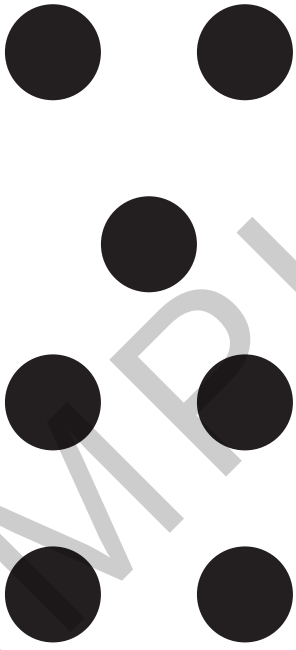
The purpose of this *How Many Do You See?* is for students to recognize quantities without counting and to describe how they know how many dots are displayed.

Access for English Language Learners

MLR8 Discussion Supports. Invite students to begin partner interactions by restating the questions, "How many dots do you see? How do you see them?" This gives both partners multiple opportunities to produce language.
Advances: Conversing

Student Task Statement

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



Launch

- Groups of 2
- Display the first image.
- "How many do you see? How do you see them?"
- 30 seconds: quiet think time

Activity

- "Use your fingers to show your partner how many dots you see."
- 30 seconds: partner work time
- "Tell your partner how many dots you see and how you see them."
- 1 minute: partner discussion
- Record responses.
- Repeat for the second image.

Activity Synthesis

- "We used our fingers to show how many dots there are. Use your fingers to show how many teachers are in our classroom."
- "Tell your partner how many teachers are in our classroom."

Student Response

Sample responses:

- 3: I just know it is 3. I counted 1, 2, 3. I saw 2 on the top and 1 more.
- 4: There are 2 on the top and 2 on the bottom. I know 2 and 2 is 4. I counted 1, 2, 3, 4. It has 1 more

dot than the first image.

Activity 2

10 mins

Classroom Scavenger Hunt

Standards

Building Towards **K.CC.B.4**

The purpose of this activity is for students to recognize small groups of objects in their classroom environment. Students recognize and name groups of objects as well as images of objects they see in the classroom. Small groups of up to 4 objects, such as 2 pencils or 3 books, may be strategically placed around the classroom before the activity begins. While students may find or count larger groups of objects, monitor for students who identify small groups of objects without counting. When students use number names to describe groups of objects in the classroom, students are relating quantity to physical objects (MP2).

Access for Students with Disabilities

Engagement: Provide Access by Recruiting Interest. Use visible timers or audible alerts to help learners anticipate and prepare to transition back to their seats.
Supports accessibility for: Social-Emotional Functioning, Attention

Student Response

Sample responses:

- I see 3 pencils on the table.
- There is 1 clock on the wall.
- There are 4 books on the shelf. There are 2 on the top and 2 on the bottom.

Launch

- Groups of 2
- Display the image of 3 dots from the warm-up.
- "Where do you see a group of three objects in our classroom?"
- 30 seconds: quiet think time
- Share responses.

Activity

- "Walk around the room with your partner and find groups of objects. When you find a group, show your partner how many objects, using your fingers. Then tell your partner how many and how you know."
- 5 minutes: partner work time
- Monitor for students who find groups of 2, 3, or 4 objects without counting.

Activity Synthesis

- "What groups of objects did you find in our classroom?"

- "How did you know how many objects were in the group?" (I just saw it. I counted. I saw 2 and 1 more and I know that is 3.)

Advancing Student Thinking

If students find groups of objects that are too large to subitize, consider asking:

- "How do you count the objects?"
- "Identify a group of 1–4 objects. How many ____ are there? How do you know?"

Activity 3

25 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools and recognizing quantities without counting.

Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

Required Preparation

- Gather materials from previous centers:
  - Pattern Blocks, Stages 1 and 2
  - Connecting Cubes, Stages 1 and 2
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stage 1

Student Task Statement

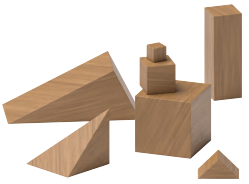
Choose a center.

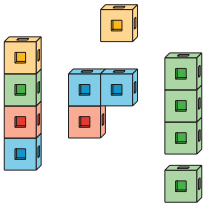
Geoblocks

Connecting Cubes

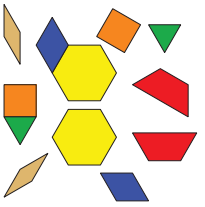
Launch

- "Today you will work in centers with our math tools and picture books."
- Display the center choices in the student book.
- "Think about what you would like to work with first."





Pattern Blocks



Picture Books

- 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 work with next."
- 10 minutes: center work time
- While students work in centers, consider asking:
  - "What did you do with the connecting cubes, pattern blocks, or geoblocks?"
  - "What groups of things did you see in your book? How many things are there?"
- Monitor for students who create objects, patterns, or buildings that the class can describe during the *Activity Synthesis*.

Activity Synthesis

- Invite previously selected students to share their work.
- "How can we describe what _____ made?"

Lesson Synthesis

"Today we found groups of objects in the classroom. Tell your partner how you knew how many objects were in each group you found."

Observation

Lesson Observations for Unit 1, Section B

Standards

Building Towards **K.CC.B.4**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.

- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 8

Different Groups, Same Quantity

Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Instructional Routines

- Act It Out
- Card Sort
- How Many Do You See?

Goals

- Comprehend (in spoken language) the phrase "the same number of" means there is a one-to-one correspondence between two groups.
- Match (orally) groups of images that represent the same number of objects.

Student Facing Learning Goals

Let's find groups that have the same number of things.

Lesson Purpose

The purpose of this lesson is for students to identify and match groups with the same number of objects or images without counting.

Narrative

In previous lessons, students recognized and named groups of up to 4 objects in the classroom and picture books. In this lesson, students identify and match groups of up to 4 that have the same number of things. This builds students' understanding that the same number can be represented in many different ways.

Students practice recognizing and naming small groups of objects in the *How Many Do You See*? routine. Then they look at groups of images and determine which groups have the same quantity. While students might count the images in each group in order to match the groups with the same quantity, the focus is on matching the quantities without counting.

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

Materials To Copy

- Card Sort Different Groups Same Quantity Cards (1 copy for every 2 students): Activity 2

Lesson Timeline

Warm-up	10 mins

Teacher Reflection Questions

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

Activity 1	10 mins
Activity 2	10 mins
Activity 3	25 mins
Synthesis Estimate	5 mins

Warm-up

10 mins

Act It Out: Another Way

Standards

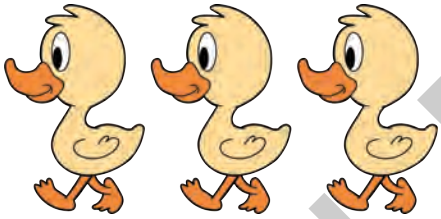
Building Towards **K.CC.B.4**

Instructional Routines

- Act It Out

The purpose of this activity is for students to consider different ways of acting out a story. Students revisit the duck story from previous lessons. They suggest different ways the story could be acted out. Acting out gives students opportunities to make sense of a context (MP1). In the *Activity Synthesis*, the class acts out the story with either concrete objects or drawings, whichever was not done in the previous lesson.

Student Task Statement



3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

Student Response

Sample responses:

- Three children could pretend to be ducks.
- We could draw 3 ducks.
- We could show the 3 ducks on our fingers.

Launch

- Groups of 2
- Display and read the story.
- "What is the story about?"
- 30 seconds: quiet think time
- Share responses.
- Read the story again.
- "How can you act out this story?"
- 30 seconds: quiet think time

Activity

- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Monitor for students who suggest using physical objects, such as fingers, cubes or students, to represent the story, or drawing pictures to represent the story.
- Share responses.

Activity Synthesis

- Read the story.
- Act out the story as a class using either concrete

objects or pictures, whichever was not done during the previous lesson.

Activity 1

10 mins

How Many Do You See: 1, 2, 3

Standards

Building Towards **K.CC.B.4**

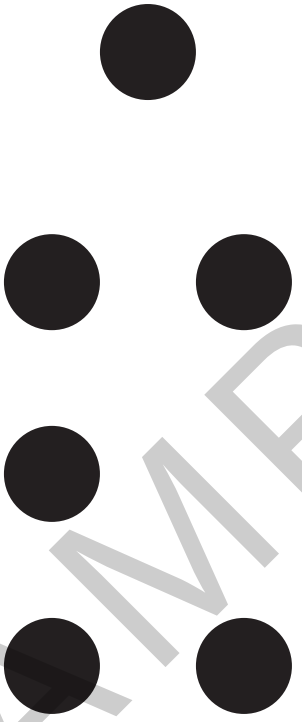
Instructional Routines

- How Many Do You See?

The purpose of this *How Many Do You See?* is for students to recognize and name small groups of dots and describe how they see them.

Student Task Statement

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



Student Response

Sample responses:

- 1: There is only 1 dot.
- 2: I just see 2. There is 1 more dot.

Launch

- Groups of 2
- Display the first image.
- "How many do you see? How do you see them?"
- 30 seconds: quiet think time

Activity

- "Use your fingers to show your partner how many dots you see."
- "Tell your partner how many dots you see and how you see them."
- 1 minute: partner discussion
- Record responses.
- Repeat with the second image.

Activity Synthesis

- "We're going to play a game called "Is it 3?" When I show you fingers or dots, think about if it is 3. If it is 3, give a thumbs up. If it is not 3, touch your shoes."
- Display each image and ask "Is it 3?" each time.
- Display 1 finger, 4 fingers, and 3 fingers and ask "Is it 3?" each time.

- 3: There are 2 and 1. I see 3 dots.

Activity 2

10 mins

Card Sort: Different Groups, Same Quantity

Standards

Building Towards **K.CC.C.6**

Instructional Routines

- Card Sort

The purpose of this activity is for students to recognize, name, and match groups with the same number of images. This matching task gives students opportunities to analyze the same number of images organized in different arrangements and make connections (MP7). When students say that two cards match because they have the same number of objects, they attend to precision in their language (MP6). While students may count the groups of images on each card, the number of images in each group stays within 4 so that students can subitize and match the quantities without counting.

Access for English Language Learners

MLR8 Discussion Supports. Use multimodal examples to show the meaning of "the same." Use verbal descriptions along with gestures or drawings to show what it means to have the same number of things.
Advances: Listening, Representing

Access for Students with Disabilities

Engagement: Develop Effort and Persistence. Chunk this task into more manageable parts. Some students may benefit from looking at fewer cards to start with. Introduce the remaining cards once students have completed their initial set of matches.
Supports accessibility for: Visual-Spatial Processing, Organization

Required Materials

Materials To Copy

- Card Sort Different Groups Same Quantity Cards (1 copy for every 2 students): Activity 2

Required Preparation

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

Student Task Statement

Student Response

Matches:

- A, G

Launch

- Groups of 2
- Give each group a set of cards.
- Display the image from the student book.
- "When I point to each group, show your partner with your fingers and tell your partner how many things there are."
- Point to the ducks.
- 30 seconds: partner work time

- B, D
- C, E
- F, H

Sample response: A and G match because they both have 4 things.

- Repeat the steps with the cats and dogs.
- "Which groups have the same number of things? How do you know?" (There are 3 ducks and 3 dogs. They are both 3.)
- 30 seconds: quiet think time
- Share responses.
- Display or write "3."
- "There are 3 ducks and 3 dogs. They both have the same number of things."

Activity

- "This set of cards includes groups of things. Match the cards that have the same number of things. Work with your partner to explain why the cards go together."
- 4 minutes: partner work time

Activity Synthesis

- Display cards A and E.
- "What is the same about these cards? What is different?" (They both have yellow things. The number is different. There are 4 bananas and 3 stars.)
- Display cards A and G.
- "What is the same about these cards? What is different?" (They both have 4 things. One has bananas and one has umbrellas.)
- Display or write "4."
- "These cards both have the same number of things. They both have 4."

Advancing Student Thinking

If students match cards that have different numbers of images, consider asking:

- "Tell me more about how you decided to put this card and this card together."
- Display a card with 3 images and ask: "How many things are on this card?". If students answer "3," ask: "Can you find another card that also has 3 things?"

Activity 3

25 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools and recognizing and naming quantities without counting.

Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

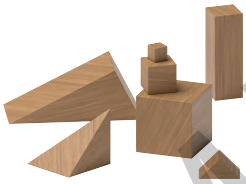
Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2
  - Geoblocks, Stages 1 and 2
  - Picture Blocks, Stage 1

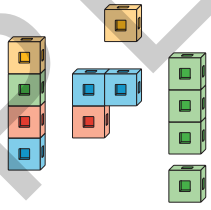
Student Task Statement

Choose a center.

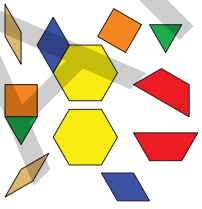
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today you will work in centers with our math tools and 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
- While students work in centers, consider asking:
  - "What did you do with the connecting cubes, pattern blocks, or geoblocks?"
  - "What groups of things did you see in your book? How many things are there?"

Activity Synthesis

- Invite previously selected students to share their picture book page.
- "What groups do you see in _____'s picture book page?"

Lesson Synthesis

"Today we matched groups that had the same number of things."

Display card C from the second activity.

"Show or tell your partner how many things are on this card." (3 Shows 3 fingers.)

"What are some groups of things in our classroom that have 3 things?"

Observation

Lesson Observations for Unit 1, Section B

Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Create Picture Books

Standards

Addressing	**K.CC.B.4**
Building Towards	**K.CC.B.4**

Instructional Routines

- Act It Out
- How Many Do You See?

Goals

- Identify (orally) groups with a given number of objects.
- Use drawings of objects to represent a given written number.

Student Facing Learning Goals

Let's make picture books about our classroom.

Lesson Purpose

The purpose of this lesson is for students to recognize and represent groups of up to 4 objects and images without counting.

Narrative

This lesson builds on the work of previous lessons where students recognized small groups of things without counting and matched groups with the same quantity. In this lesson, students create a page in a picture book where they record different groups of objects with the same quantity that they see in the classroom. Students can make more picture book pages in centers in this and future lessons.

In the *Lesson Synthesis*, students practice saying the verbal count sequence to 10 in preparation for counting objects in an upcoming section. Add variety to the counting by providing movement. For example, students can count as they clap, stomp their feet, or jump.

Access For Students with Disabilities

- Action and Expression

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Colored pencils or crayons: Activity 2
- Materials from previous centers: Activity 3

Materials To Copy

- Picture Books Stage 2 Recording Sheet (1 copy for every 1 students): Activity 2

Lesson Timeline

Warm-up	10 mins
Activity 1	10 mins

Teacher Reflection Questions

How did the work of matching groups with the same number of objects or images prepare students for the work in this lesson?

Activity 2	10 mins
Activity 3	25 mins
Synthesis Estimate	5 mins

Warm-up

10 mins

Act It Out: The Story Changes

Standards

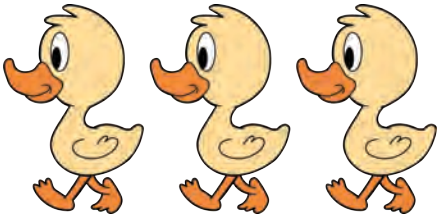
Building Towards **K.CC.B.4**

Instructional Routines

- Act It Out

The purpose of this activity is for students to consider different ways of acting out a story. Students revisit the story from previous lessons, which has another verse added to it. They suggest different ways the story could be acted out. Acting out gives students opportunities to make sense of a context (MP1).

Student Task Statement



3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 2 little ducks came back.

Student Response

Sample responses:

- Three of us could pretend to be ducks. Two of us could pretend to come back.
- We could draw 3 ducks.
- We could show the 3 ducks on our fingers.
- We could use connecting cubes to show the 3 ducks.

Launch

- Groups of 2
- Display and read the story.
- "What is the story about?"
- 30 seconds: quiet think time
- Share responses.
- "What has changed about the story?" (There is a new part. Only 2 ducks came back.)
- Read the story again.
- "How can you act out this story?"
- 30 seconds: quiet think time

Activity

- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Share responses.

Activity Synthesis

- Read the story together.
- Act out the story as a class using a student suggestion. After acting out the first verse, reread the second verse and ask: "What will be different about how we act out the story this time?" (Only two ducks came back.)

Activity 1

10 mins

How Many Do You See: What Do You Notice?

Standards

Building Towards **K.CC.B.4**

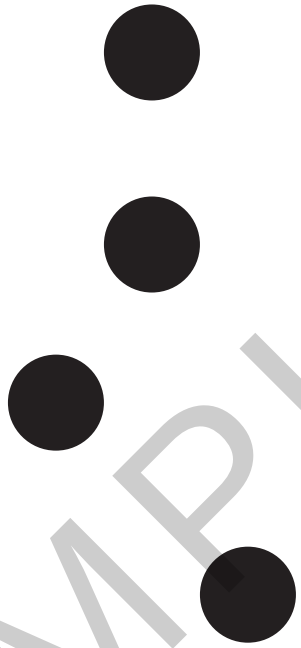
Instructional Routines

- How Many Do You See?

The purpose of this *How Many Do You See?* is for students to recognize and name small groups of dots and describe how they see them. In the *Activity Synthesis*, students discuss what they notice about different images of 2 dots. Students will continue considering different arrangements of the same number in the next activity. The number "2" is displayed at the end of the activity to give students opportunities to recognize numbers and connect numbers and quantities.

Student Task Statement

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



Student Response

Sample responses:

- 2: I just know it is 2. There is 1 dot on the top and 1 dot on the bottom.
- 2: It is the same, just turned. I counted 1, 2.

Launch

- Groups of 2
- Display the first image.
- "How many dots do you see? How do you see them?"
- 30 seconds: quiet think time

Activity

- "Use your fingers to show your partner how many dots you see."
- 30 seconds: partner work time
- "Tell your partner how many dots you see and how you see them."
- 1 minute: partner discussion
- Record responses.
- Repeat with the second image.

Activity Synthesis

- "What did you notice about the groups of dots?" (They both have 2 dots. They look different. They are the same but one is turned sideways.)
- Display or write "2."
- "There are 2 dots."

Activity 2

Introduce Picture Books—Create

10 mins
PLC Activity

Standards

Addressing **K.CC.B.4**

The purpose of this activity is for students to learn Stage 2 of the *Picture Books* center. Students identify and record small groups of objects in their classroom with the same quantity to create their own picture book representing different numbers (1–4).

In this activity, students identify and record groups of 2 objects. They see the groups of 2 objects recorded by other students, students are invited to notice that many different groups of objects can have the same number. Students create one page of a picture book, which is printed in their student book. They have the opportunity to complete more pages in a picture book during centers. A blackline master of the picture book template is included. Each page of the picture book includes a written number in addition to dots so that students can begin to connect numbers and quantities.

Access for English Language Learners

MLR8 Discussion Supports. Before beginning independent work time, invite a student to share an example of two things in the classroom. Listen for and clarify any questions.
Advances: Speaking, Representing

Access for Students with Disabilities

Action and Expression: Provide Access for Physical Action. To help generate ideas, invite students to tell their partner what they plan to draw before they begin.
Supports accessibility for: Language, Visual-Spatial Processing

Required Materials

Materials To Gather

- Colored pencils or crayons: Activity 2

Materials To Copy

- Picture Books Stage 2 Recording Sheet (1 copy for every 1 students): Activity 2

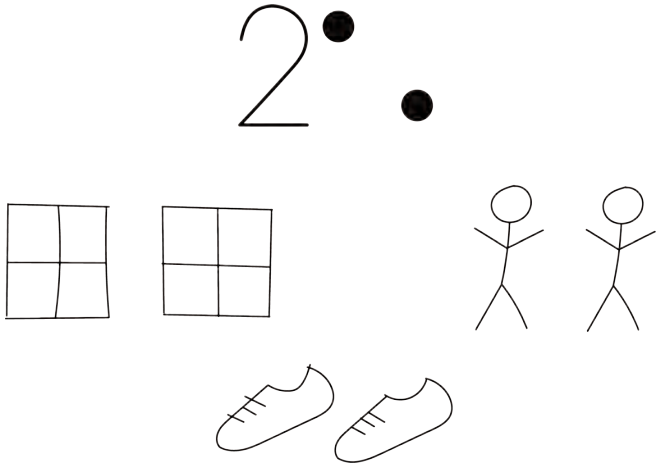
Student Task Statement

Launch

- Display the number and image in the student book.
- Give students access to colored pencils or crayons.
- "What do you notice? What do you wonder?" (There are 2 dots. There is a number. The rest of the page is blank.)
- 30 seconds: quiet think time
- Share responses.
- "We have found groups of things in our classroom. We also matched groups that have the same number

Student Response

Sample response:



of things. Can you find something in our classroom that there are two of that you want to include in your picture book?"

- 30 seconds: quiet think time

Activity

- "You are going to make a page for a picture book like the ones we looked at earlier. There are two dots at the top of the page, so on this page you should draw things that there are two of in our classroom."
- 3 minutes: independent work time
- "Share your work with your partner. Did you both draw the same group of objects?"
- 30 seconds: quiet think time
- 2 minutes: partner discussion
- "Find other groups of 2 things in the classroom to add to this page in your picture book."
- 3 minutes: independent work time

Activity Synthesis

- Invite students to share the groups of 2 that they drew.
- Record responses.
- "What is the same about all of these groups of things?" (We found them all in the classroom. They all have 2.)
- "You will be able to make more pages for your picture book in centers."

Advancing Student Thinking

If students draw groups with more or fewer than 2 things, consider asking:

- "Can you tell me about this group of things that you drew? How many _____ are there?"
- "What things do you see that are in a group of 2?" If needed, identify some objects in the room and ask "Are there 2 _____?"

Activity 3

25 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools and recognizing

quantities without counting.

Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

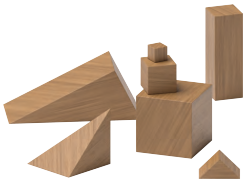
Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stages 1 and 2

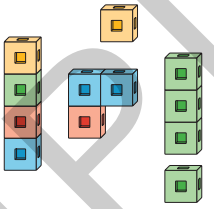
Student Task Statement

Choose a center.

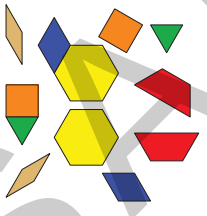
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today you will work in centers with our math tools and picture books. During center time today, one of the choices is to make another page for your picture book."
- 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
- While students work in centers, consider asking:
  - "What did you do with the connecting cubes, pattern blocks, or geoblocks?"
  - "What groups of things did you see in your book? How many things are there?"
  - "What groups of objects did you draw in your picture book?"

- Monitor for students who draw accurate groups of 1–4 objects for a new page in their picture book.

Activity Synthesis

- Invite previously selected students to share their picture book page. The *Lesson Synthesis* will focus on these pages.

Lesson Synthesis

"Today we all made a page in our picture books with different groups of two things from around our classroom. Some of us created more pages for our picture books during center time."

"What groups of objects do you see on _____'s page?"

"Let's practice counting to 10."

Demonstrate counting to 10. Count to 10 as a class 1–2 times.

Observation

Lesson Observations for Unit 1, Section B

Standards

Building Towards **K.CC.B.4**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Section B Summary

We can find groups.
We can tell how many.

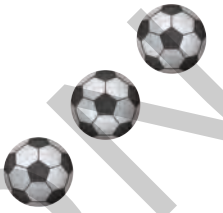

2

We can find different groups that have the same number of things.


2 windows

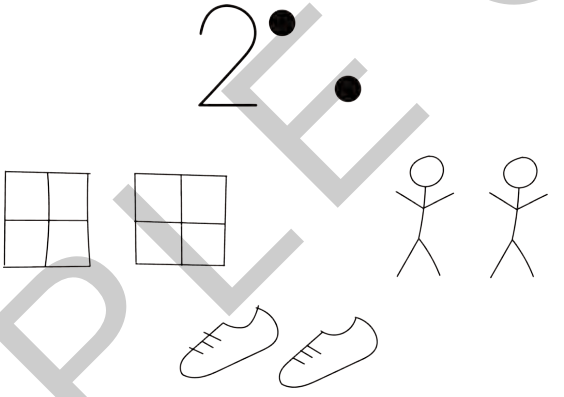
2 tables

3 stars



3 balls

groups of 2 in our classroom



Section C: Are There Enough?

Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Goals

- Answer "are there enough?" questions for up to 5 objects.

Narrative

In this section, students work on the concept of one-to-one correspondence. They match one object to one person or image to answer “are there enough” questions and to gather objects. This matching skill will be useful in the next section and in future counting when students match one number word to one object.

“Are there enough?” and “can you get enough?” questions encourage students to mathematize situations. Look for ways to incorporate these prompts into other parts of the school day, for example, when books or classroom supplies are being distributed.

Throughout the section, observe students for the look-fors on the Unit 1, Sections A–D Checkpoint. Or use the Checklist at the beginning of the section.

Section C Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- Show quantities on fingers.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Identify groups with the same number of objects (for groups of up to 4 objects).

Unit 1, Lesson 10

Are There Enough?

Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Goals

- Comprehend (in spoken language) the question "are there enough?" means that it needs to be determined if there is one object in a group for every object in another group.
- Determine (orally) whether there are enough in a given situation.

Instructional Routines

- Act It Out
- How Many Do You See?

Student Facing Learning Goals

Let's figure out if there are enough supplies for everyone.

Lesson Purpose

The purpose of this lesson is for students to develop and practice one-to-one correspondence in the context of answering "are there enough?" questions.

Narrative

While some students might count the number of objects and compare that number to the number of students, the focus of the activity is on matching one object to each person to see if there are enough.

The lesson begins with a *How Many Do You See*? routine to build on the subitizing work in a previous section. Students then extend the *Act It Out* routine with a new story.

Throughout the section, observe students for the look-fors on the Unit 1, Sections A–D Checkpoint.

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Erasers: Activity 2
- Pencils: Activity 2
- Materials from previous centers: Activity 3

Lesson Timeline

Warm-up	10 mins

Teacher Reflection Questions

Reflect on how you can reinforce the work done in today's lesson outside of math class. When can you ask students questions about whether there are enough? How can you

Activity 1	10 mins
Activity 2	10 mins
Activity 3	25 mins
Synthesis Estimate	5 mins

incorporate it into snack time, transitions, or when distributing materials?

Warm-up

10 mins

How Many Do You See: Building On

Standards

Building Towards **K.CC.B.4**

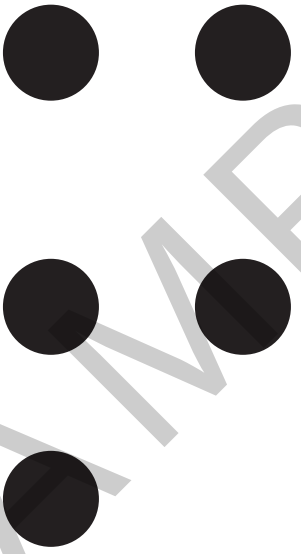
Instructional Routines

- How Many Do You See?

The purpose of this *How Many Do You See?* is for students to recognize and name small groups of dots and describe how they see them. In the *Activity Synthesis*, students orally describe how they see the dots. Students may notice that the images are the same, with one additional dot.

Student Task Statement

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



Launch

- Groups of 2
- Display the first image.
- "How many dots do you see? How do you see them?"
- 30 seconds: quiet think time

Activity

- "Use your fingers to show your partner how many dots you see."
- 30 seconds: partner work time
- "Tell your partner how many dots you see and how you see them."
- 1 minute: partner discussion
- Record responses.
- Repeat with the second image.

Activity Synthesis

- "Did anyone see the dots the same way but would explain it differently?"

Student Response

Sample responses:

- 2: I can tell it is 2 from looking. I counted 1, 2.

- 3: It looks the same but has 1 more dot on the bottom. I see 2 on the side and 1 next to them.

Activity 1

10 mins

Act It Out: 4 Frogs (Part 1)

Standards

Building Towards **K.CC.B.4**

Instructional Routines

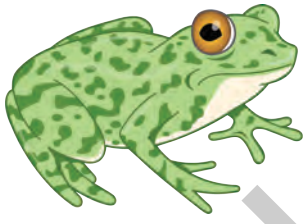
- Act It Out

The purpose of this activity is for students to be introduced to a new story. Students make sense of and orally explain what the story is about.

Access for English Language Learners

MLR8 Discussion Supports. Listen for and clarify any questions about the context.
Advances: Listening, Speaking

Student Task Statement



4 little speckled frogs sat on a speckled log,
eating the most delicious bugs. Yum! Yum!
1 jumped into the pool, where it was nice and cool.
Now there are 3 green speckled frogs. Glub! Glub!

Student Response

Sample Responses:

- frogs
- frogs on a log
- frogs jumping into a pool
- frogs eating bugs

Launch

- Groups of 2
- Display and read the story.

Activity

- "What is the story about?"
- 30 seconds: quiet think time
- Share responses.
- Read the story again.
- Read the story together.

Activity Synthesis

- "We will come back to this story tomorrow and think about what happens in the story and how we can act it out."

Activity 2

Are There Enough?

10 mins
PLC Activity

Standards

Building Towards **K.CC.C.6**

The purpose of this activity is for students to determine if there are enough pencils and erasers for each student in their group to get one. Students can do this in any way that makes sense to them. The *Activity Synthesis* will focus on determining if there are enough by giving one object to each student in the group.

Access for Students with Disabilities

Engagement: Internalize Self Regulation. Remind students that they want to find out if there will be enough pencils and erasers for each student. Acknowledge that it is okay if someone does not get an item.
Supports accessibility for: Social-Emotional Functioning

Required Materials

Materials To Gather

- Erasers: Activity 2
- Pencils: Activity 2

Required Preparation

- Each group of 4 students needs 4 pencils and 3 erasers.

Student Response

- There are enough pencils.
- There are not enough erasers.

Launch

- Groups of 4
- Place 4 erasers and 3 pencils at each table of 4 students.
- "Are there enough pencils at your table for each student to get one?"
- 30 seconds: quiet think time

Activity

- "Share your ideas for how you can figure out if there are enough pencils. Then find out if there are enough pencils."
- 2 minutes: small-group work time
- Share responses.
- "Are there enough erasers at your table for each student to get one?"

- 30 seconds: quiet think time
- "Share your ideas for how you can figure out if there are enough erasers. Then find out if there are enough erasers."
- 2 minutes: small-group work time
- Share responses.
- Monitor for students who give each student 1 pencil and 1 eraser to see if there are enough.

Activity Synthesis

- Invite previously identified students to share.
- "How did you find out if there were enough erasers?" (We tried to pass out 1 eraser to each person, but not everyone got one.)

Activity 3

25 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools and recognizing quantities without counting.

Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

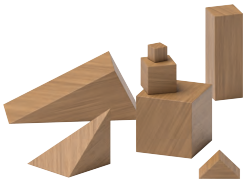
Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stages 1 and 2

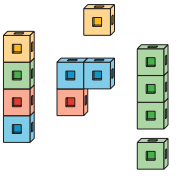
Student Task Statement

Choose a center.

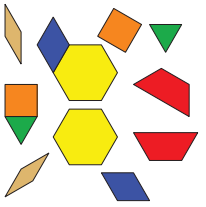
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today we are going to choose from centers we have already learned."
- 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
- While students work in centers, consider asking:
  - "What did you do with the connecting cubes, pattern blocks, or geoblocks?"
  - "What groups of things did you see in your book? How many things are there?"
- Monitor for student work that can be discussed during the *Activity Synthesis* (picture book pages, pattern block designs, or connecting cube buildings).

Activity Synthesis

- Invite previously selected students to share their work.
- "Tell your partner about _____'s work."
- Invite students to share what their partner said about the student work.

Lesson Synthesis

Select four students to stand together in the front of the room.

"Today, we figured out if we had enough pencils and erasers for everyone in our group. Now we are going to see if there are enough markers for everyone in this group."

Show that you ave a group of 5 markers. Give one marker to each student in the group. Show one marker remaining in your hand.

"Are there enough markers for everyone in the group? How do you know?" (There are enough. Everyone has one. There is one extra. There are too many.)

Observation

Lesson Observations for Unit 1, Section C

Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 11

Get Enough

Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Instructional Routines

- Act It Out
- How Many Do You See?

Goals

- Explain (orally) strategies for making groups with enough objects to match a given group of objects or images.

Student Facing Learning Goals

Let's get enough pencils for everyone.

Lesson Purpose

The purpose of this lesson is for students to develop and practice one-to-one correspondence as they make groups with enough objects.

Sec C

Narrative

In a previous lesson, students answered "are there enough?" questions, which encouraged them to carefully match one object to one person. In this lesson, students continue to develop one-to-one correspondence as they work together to get enough pencils for each student. As students notice that when you get enough of an object for each student to have one, the number of students and the number of objects are the same, they look for and express regularity in repeated reasoning (MP8).

In the *Lesson Synthesis*, students practice saying the verbal count sequence to 10 in preparation for counting objects in an upcoming section. Add variety to the choral count by providing movement. For example, students can count as they clap, stomp their feet, or jump.

This lesson has a Student Section Summary.

Access For Students with Disabilities

- Engagement

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Pencils: Activity 2
- Materials from previous centers: Activity 3

Lesson Timeline

Warm-up	10 mins
Activity 1	10 mins

Teacher Reflection Questions

In a future unit, students will compare groups of objects and images. What do you notice in their work from today's lesson that you might leverage in that future

Activity 2	10 mins
Activity 3	25 mins
Synthesis Estimate	5 mins

lesson?

Warm-up

10 mins

How Many Do You See: In a Flash

Standards

Building Towards **K.CC.B.4**

Instructional Routines

- How Many Do You See?

The purpose of this *How Many Do You See?* is for students to recognize and name small groups of dots and describe how they see them. This is the first time the images are quickly flashed instead of being displayed for students to look at for as long as necessary. This encourages students to determine the number of dots without counting. From this point on, images in the *How Many Do You See?* routine will be flashed rather than displayed.

Access for English Language Learners

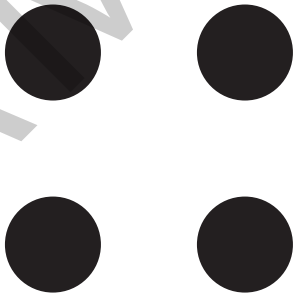
MLR8 Discussion Supports. Use gestures to emphasize a countdown to when the image is flashed. This will help students learn the cues that require their attention.
Advances: Listening, Representing

Access for Students with Disabilities

Engagement: Provide Access by Recruiting Interest. Use a countdown such as "Ready, set, show!" to support student focus and attention. Reassure students who miss the first flash that the image will be shown a second time.
Supports accessibility for: Attention, Social-Emotional Functioning

Student Task Statement

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

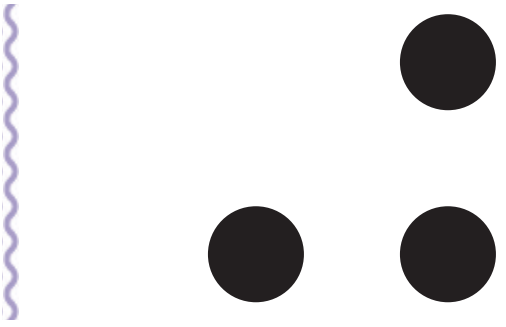


Launch

- Groups of 2
- "This time I am going to show you a group of dots very quickly. Be ready to see how many dots there are."
- Flash the first image.
- "How many do you see? How do you see them?"

Activity

- Flash the image again.
- "Use your fingers to show your partner how many dots you see."
- 30 seconds: partner work time



Student Response

Sample responses:

- 4: I see 2 and 2. There are 4. I counted 1, 2, 3, 4.
- 3: I see 3 all together. I see 2 and 1. There is 1 dot missing from the first picture.

- "Tell your partner how many dots you see and how you see them."
- 1 minute: partner discussion
- Repeat with the second image.

Activity Synthesis

- "How could you tell how many dots there were when I flashed the dots so quickly?"

Activity 1

10 mins

Act It Out: 4 Frogs (Part 2)

Standards

Building Towards **K.CC.B.4**

Instructional Routines

- Act It Out

The purpose of this activity is for students to think of different ways a story can be represented. Students hear the forg story for the second time. In addition to explaining what the story is about, students also think of ways the class could act out the story. Acting out gives students opportunities to make sense of a context (MP1). Monitor for suggestions of acting out the story with concrete objects, such as cubes, fingers, or students, as well as representing the story with pictures. In the *Activity Synthesis*, the class acts out the story in one of the ways suggested by the students.

Student Task Statement

4 little speckled frogs sat on a speckled log,
eating the most delicious bugs. Yum! Yum!
1 jumped into the pool, where it was nice and cool.
Now there are 3 green speckled frogs. Glub! Glub!

Launch

- Groups of 2
- Display and read the story.
- "What is the story about?"
- 30 seconds: quiet think time
- Share responses
- Read the story again.
- "How can you act out this story?"
- 30 seconds: quiet think time

Activity

- "Discuss your thinking with your partner."

Student Response

Sample responses:

- We could draw pictures of frogs on a log.
- We could put up 4 fingers and pretend they are frogs.
- We could have 4 students pretend to be frogs. One can pretend to jump into the pool.

- 1 minute: partner discussion
- Share responses.

Activity Synthesis

- Read the story.
- Act out the story as a class using a previously identified suggestion of using concrete objects or pictures. Only use one method to act out the story. The class will use a different method to act it out in the next lesson.

Activity 2

10 mins

Get Enough

Standards

Building Towards **K.CC.C.6**

The purpose of this activity is for students to get enough pencils for each group of students. Students might get enough pencils for their group by giving one pencil to each person in the group. Students may also notice that the number of students and pencils are the same when they make a group of pencils with one pencil for every student.

Required Materials

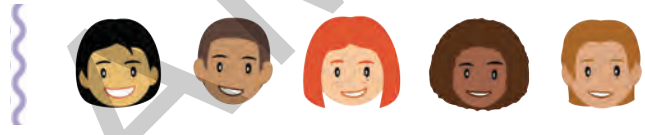
Materials To Gather

- Pencils: Activity 2

Required Preparation

- Each group of 4 students needs at least 8 pencils.

Student Task Statement



Student Response

Students create a group of 4 pencils by giving each student in the group 1 pencil.

Students create a group of 5 pencils for each student in the image.

Launch

- Groups of 4
- Give each group access to at least 8 pencils.

Activity

- "Work together with your group to get enough pencils so that everyone in your group has one pencil."
- 2 minutes: small-group work time
- "Put your group of pencils on the table."

- "How many pencils are in the group you made?"
- "How many people are at your table?"
- "What do you notice?" (There are the same number of pencils and people.)
- "Work with your group to get enough pencils so that each student pictured in your student book gets one."
- 2 minutes: small-group work time

Activity Synthesis

- "How did you know that you had enough pencils for each student in the picture to get 1? (I put 1 pencil next to each picture.)
- "I need to get enough pencils so that each student has one. What should I do?" (You should give each student 1 pencil. You should count the students and see how many there are. Then you can get that many pencils.)

Activity 3

25 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools and recognizing quantities without counting.

Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

Required Preparation

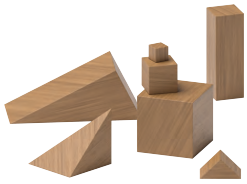
- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2

- Geoblocks, Stages 1 and 2
- Picture Books, Stages 1 and 2

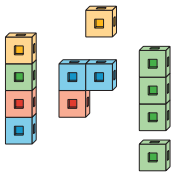
Student Task Statement

Choose a center.

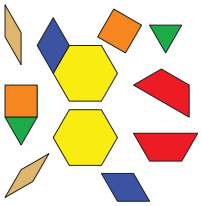
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today we are going to choose from centers we have already learned."
- 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 work with next."
- 10 minutes: center work time
- While students work in centers, consider asking:
  - "What did you do with the connecting cubes, pattern blocks, or geoblocks?"
  - "What groups of things did you see in your book? How many things are there?"

Activity Synthesis

"Think of one thing someone did during center time today that helped you with your work."

Lesson Synthesis

Display the image of 5 students from Activity 2.

"This group of students is working with geoblocks during center time. How many blocks do we need so that each student can have one? How do you know?"

"Now, let's count to 10."

Demonstrate counting to 10. Count to 10 as a class 1–2 times.

Observation

Lesson Observations for Unit 1, Section C

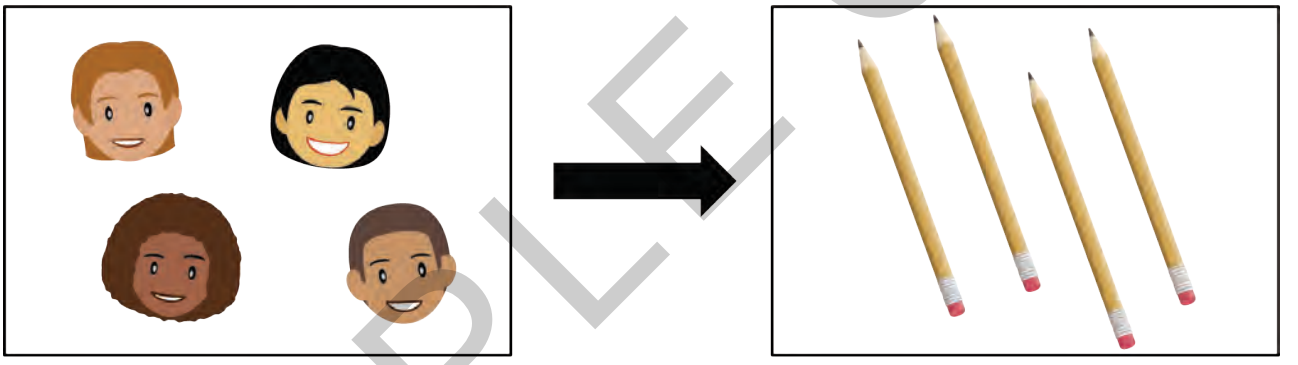
Standards

Building Towards **K.CC.B.4, K.CC.C.6**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Section C Summary



We can tell if there are enough.

1 pencil for each person

Section D: Counting Collections

Standards

Addressing	**K.CC.A.1, K.CC.B, K.CC.B.4, K.CC.B.4.a, K.G.B**
Building Towards	**K.CC.B, K.CC.B.4.a, K.G.B, K.OA.A.1**

Goals

- Count groups of up to 10 objects.

Narrative

In this section, students focus on counting up to 10 objects and answering "how many?" questions. They learn a new routine, *Questions about Us*, and consider the question "how many of us are here today?" The routine offers opportunities to highlight one-to-one matching and keeping track of what is being counted.

Students also count collections of objects from the classroom or from home. To initiate counting, ask "how many?" instead of saying "count the objects." This helps to reinforce counting as a way to quantify a collection and the idea of cardinality—that the last number said while counting tells us how many there are.

Students may use counting mats, 5-frames, or other tools to help them count. Representing the numbers 6–10 on a 5-frame, for instance, helps students see the $5 + n$ structure of these numbers. (The 10-frame will be introduced in a future unit.)

Some students may be able to subitize, or recognize how many objects there are without counting. Those who can do so accurately should not be required to count individual objects. Consider differentiating the size of collections students count based on observations of students' counting.

An optional activity is included in each lesson of this section. These activities support students in certain aspects of counting—verbalizing the count sequence, one-to-one tagging, and organizing objects to count.

Throughout the section, observe students for the look-fors on the Unit 1, Sections A–D Checkpoint. Or use the Checklist at the beginning of the section.

Section D Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- Show quantities on fingers.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Identify groups with the same number of objects (for groups of up to 4 objects).

How Many Are There? (Part 1)

Standards

Addressing	**K.CC.A.1, K.CC.B.4, K.CC.B.4.a, K.G.B**
Building Towards	**K.CC.B.4.a**

Instructional Routines

- Questions about Us

Goals

- Determine (orally) the number of objects within 10.

Student Facing Learning Goals

Let's count collections of objects.

Lesson Purpose

The purpose of this lesson is for students to count collections of objects. The focus is saying one number for each object.

Narrative

Students are introduced to a new routine called *Questions about Us*. In this version, they figure out how many students are in the classroom today. Students then count objects in different collections in a way that makes sense to them. The second activity is an optional activity that provides support in orally counting to 10.

Throughout the section, observe students for the look-fors on the Unit 1, Sections A–D Checkpoint.

Access For Students with Disabilities

- Action and Expression

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Bags: Activity 1
- Collections of up to 20 small objects: Activity 1
- Materials from previous centers: Activity 3
- Pattern blocks (at least 5 of each block): Activity 3

Materials To Copy

- Counting Mat (1 copy for every 1 students): Activity 1
- Pattern Blocks Stage 3 Directions (1 copy for every 2 students): Activity 3

Lesson Timeline

Warm-up	10 mins

Teacher Reflection Questions

Each lesson in this section includes an optional activity with additional support in developing counting concepts.

Activity 1	15 mins
Activity 2	10 mins
Activity 3	20 mins
Synthesis Estimate	5 mins

What have you observed that indicates whether or not students may benefit from these activities?

Warm-up

10 mins

Questions About Us: How Many of Us Are Here Today?

Standards

Addressing	**K.CC.A.1**
Building Towards	**K.CC.B.4.a**

Instructional Routines

- Questions about Us

The purpose of this *Warm-up* is to introduce the students to a new routine called *Questions About Us*, which will be used throughout the year. In this *Warm-up*, students experience part of the routine. They will continue to engage in this routine throughout the section, focused on answering "How many of us are here today?" In this activity, students associate one number with one person as the teacher counts the students in class. As students share answers to questions such as "How can we figure out how many of us are here?" and "Did I count the students correctly?" they are beginning to explain their reasoning and construct viable arguments (MP3).

While the teacher counts the students in the class, students count along to practice the verbal count sequence.

Student Response

Sample response:

- We can count all of the students.

Launch

- "How can we figure out how many of us are here?"
- 30 seconds: quiet think time
- Share responses.
- Monitor for students who suggest touching and counting each student.

Activity

- Count the students, saying one number for each student.
- "How many of us are here today?"

Activity Synthesis

- Bring 5 students to the front of the class.
- Demonstrate counting the students incorrectly by saying 2 numbers for 1 student.
- "Did I count the students correctly?"

Activity 1

Counting Collections

15 mins
PLC Activity

Standards

Addressing **K.CC.B.4.a**

The purpose of this activity is for students to count their collection in a way that makes sense to them. The focus is on saying one number for each object. Most students should be given collections with 6 – 10 objects. Based on formative assessment data collected in previous sections, adjust the number of objects in collections for individual students. Students are provided with counting mats and 5-frames to help them accurately count or organize their collections. Students use appropriate tools strategically as they choose which tools help them count their collections (MP5).

Collections can be created from classroom objects, such as connecting cubes, two-color counters, pattern blocks, or buttons. Students can also bring in collections of objects to count from home. Collections of 6-10 objects will be used throughout this section.

A counting mat is provided as a blackline master. Students will continue to use this mat throughout the year. Consider copying the mat on cardstock or laminating it and keeping it organized to be used repeatedly.

Access for English Language Learners

MLR8 Discussion Supports. Students who are working toward verbal output will benefit from additional opportunities to count aloud. Invite students to chorally repeat each count, in unison 1–2 times.
Advances: Listening, Speaking

Access for Students with Disabilities

Action and Expression: Internalize Executive Functions. Invite students to verbalize their strategy for counting the objects in their collection before they begin. Students can speak quietly to themselves or share with a partner.
Supports accessibility for: Organization, Conceptual Processing, Language

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Bags: Activity 1
- Collections of up to 20 small objects: Activity 1

Materials To Copy

- Counting Mat (1 copy for every 1 students): Activity 1

Required Preparation

- Based on their formative assessment data, each student needs:
  - Collection of 1–5 objects.
  - Collection of 6–10 objects.
  - Collection of more than 10 objects (optional).

Student Response

Students say one number for each object as they count.

Launch

- Display a collection of 6–10 objects.
- "How can we figure out how many objects are in this collection?"
- 30 seconds: quiet think time
- Share responses.

Activity

- Give each student a bag of objects. Give students access to 5-frames and a counting mat.
- "Figure out how many objects are in your collection. Use the tools if they are helpful."
- 2 minutes: independent work time
- "Switch collections with a partner. Figure out how many objects are in your new collection."
- 2 minutes: independent work time
- Monitor for students who say one number for each object.

Activity Synthesis

- Invite previously identified students to demonstrate how they counted their collection.
- "What do you notice about how they counted?"
- If needed, say, "They said one number as they touched each object."
- After each student shares, write or display the number and say, "There are _____ objects in their collection."

Advancing Student Thinking

If students say more than one number for each object, consider asking:

- "How can the counting mat help you say one number for one object?"
- If needed, prompt students to count as you move each object slowly from one side of the counting mat to the other.

Students may also benefit from the optional activities in the next two lessons.

Activity 2: Optional

10 mins

Count to 10

Standards

Addressing **K.CC.A.1**

The purpose of this optional activity is for students to practice the verbal count sequence to 10. This activity is optional because it is an opportunity for extra practice that not all students may need. Use the formative assessment data and observation from previous sections and the first activity of this section to identify students who are not yet saying the count sequence to 10. English learners in particular will benefit from an additional opportunity to practice the verbal count sequence.

This activity can be used with a small-group or the whole class. Students who do not need this extra practice may benefit from additional time working in centers. Some students may benefit from working on the concepts in this optional activity more than once. Consider incorporating counting and counting songs throughout the day and during transitions.

Student Response

Students say the verbal count sequence to 10 and pair one gesture or movement with each number.

Launch

- Groups of 2
- "I'm going to count to 10."
- Count to 10.

Activity

- "Let's count to 10 all together."
- Count to 10 all together.
- "Let's count to 10 and clap our hands when we say each number."
- Count to 10 and clap all together.
- "Let's count to 10 and touch the table when we say each number."
- Count to 10 and touch the table all together.
- "Let's count to 10 and put up 1 finger when we say each number."
- Count to 10 and put up each finger all together until you have all 10 fingers up.

Activity Synthesis

- "Take turns counting to 10 with your partner. You can clap your hands or touch the table when you say each number. You can also think of your own movement for each number."
- 1 minute: partner discussion

Activity 3

20 mins

Introduce Pattern Blocks—Get and Build

Standards

Addressing **K.CC.B.4, K.G.B**

The purpose of this activity is for students to learn Stage 3 of the *Pattern Blocks* center. Students use the direction sheet to get a specified number of each pattern block and build a creation of their choice. While the written number is provided, students can use the images to determine how many pattern blocks they need. For example, 5 blue rhombuses are pictured next to the number "5." Students can place pattern blocks on top of the images of rhombuses to determine how many they need, which gives students practice in creating groups with the same number. Students may also count to determine how many of each pattern block they need.

After they participate in the center, students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Students will choose from these centers throughout the section. Keep materials from these centers organized to use each day.

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3
- Pattern blocks (at least 5 of each block): Activity 3

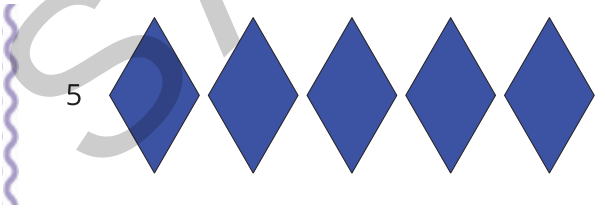
Materials To Copy

- Pattern Blocks Stage 3 Directions (1 copy for every 2 students): Activity 3

Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1 and 2
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stages 1 and 2

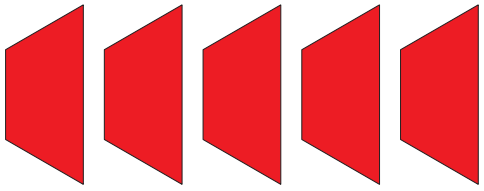
Student Task Statement



Launch

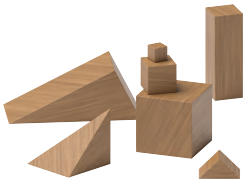
- Groups of 2
- Display the student book.
- "What do you notice? What do you wonder?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.

5

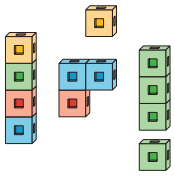


Choose a center.

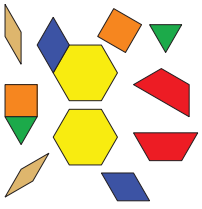
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

- "We are going to learn a new way to do the *Pattern Blocks* center. It is called *Pattern Blocks - Get and Build*."
- Give each group a container of pattern blocks.
- "This page shows you which pattern blocks you need. Work with your partner to take out all of the pattern blocks that you need."
- 3 minutes: partner work time
- Monitor for students who place the pattern blocks on top of the images to determine how many pattern blocks they need.
- Invite previously identified students to share how they determined which pattern blocks they needed.
- "Now you can use your pattern blocks to create whatever you'd like. You can make an object, a design, or something else."

Activity

- 3 minutes: partner work time
- "Now you can choose another center. You can also keep playing *Pattern Blocks*."
- If students want to continue with Stage 3 of *Pattern Blocks*, give them a copy of the blackline master with more pattern blocks they can use.
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 10 minutes: center work time
- If time allows, invite students to choose another center.

Activity Synthesis

- "How did you figure out how many pattern blocks you needed?"

Lesson Synthesis

"Today we counted collections of objects. Where do you see people count?"

Observation

Lesson Observations for Unit 1, Section D

Standards

Addressing **K.CC.A.1, K.CC.B.4.a**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 13

How Many Are There? (Part 2)

Standards

Addressing	**K.CC.A.1, K.CC.B, K.CC.B.4.a**
Building Towards	**K.CC.B.4.a**

Instructional Routines

- Questions about Us

Goals

- Explain (orally) methods for keeping track of objects while counting.

Student Facing Learning Goals

Let's count collections of objects.

Lesson Purpose

The purpose of this lesson is for students to count collections of up to 10 objects. The focus is keeping track of which objects have been counted.

Narrative

Students figure out how many students are in class during the *Questions about Us* routine. Students then count objects in different collections in a way that makes sense to them. The second activity is an optional activity that provides support in pairing the verbal count sequence with objects.

Access For Students with Disabilities

- Representation

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Bags: Activity 1
- Collections of up to 20 small objects: Activity 1
- Counting mats: Activity 1
- Collections of up to 10 small objects: Activity 2
- Materials from previous centers: Activity 3

Lesson Timeline

Warm-up	10 mins
Activity 1	15 mins
Activity 2	10 mins

Teacher Reflection Questions

In the next unit, students will count groups of images in different arrangements. How does the work in this lesson help prepare students to count images?

Activity 3	20 mins
Synthesis Estimate	5 mins

Warm-up

10 mins

Questions About Us: Attendance

Standards

Addressing	**K.CC.A.1**
Building Towards	**K.CC.B.4.a**

Instructional Routines

- Questions about Us

The purpose of this *Warm-up* is for students to experience part of the *Questions about Us* routine. Students continue to engage in this routine throughout the section, focused on answering, "How many of us are here today?" In this activity, students develop ideas for how to keep track of which students have been counted. This skill will help students as they count collections in the next activity. As students share answers to questions such as "How can we figure out how many of us are here?" and "Did I count the students correctly?" they are beginning to construct viable arguments and attend to precision (MP3, MP6).

Student Response

Sample responses:

- We can line up and count each person.
- We can have everyone move off the carpet when we count them.
- We can have everyone stand up. When we count each person, they sit down.

Launch

- "We need to figure out how many of us are here. How can we make sure that we count each person one time?"
- 30 seconds: quiet think time
- Share responses.
- Monitor for students who suggest a way to organize the students, such as having all students line up.

Activity

- Count the students using two methods suggested by students.
- "How many of us are here today?"

Activity Synthesis

- "Did we count everyone one time? How do you know?"

Activity 1

15 mins

Counting Collections

Standards

Addressing **K.CC.B**

The purpose of this activity is for students to count their collection in a way that makes sense to them and to keep track of which objects have been counted. Keeping track of which objects have been counted helps students count accurately and ensure they count all of the objects and do not count each object more than once. Most students should be given collections with 6 - 10 objects. Based on formative assessment data collected in previous sections or lessons, adjust the number of objects in collections for individual students.

Access for Students with Disabilities

Representation: Internalize Comprehension. Activate or supply background knowledge. Ask, "How did you count the objects in your collection yesterday?" and "How did you know that you counted each object?" Invite students to share how they will count the objects in today's collection before they begin.
Supports accessibility for: Conceptual Processing, Memory, Organization

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Bags: Activity 1
- Collections of up to 20 small objects: Activity 1
- Counting mats: Activity 1

Student Response

Sample responses:

- Student moves each object from one side of the counting mat to the other as they count.
- Student lines up the objects, and then touches and counts each object.

Launch

- "Today you're going to count another collection of objects. As you're working, think about how to make sure you count each object."
- Give each student a bag of up to 10 objects. Give students access to 5-frames and a counting mat.

Activity

- "Figure out how many objects are in your collection."
- 2 minutes: independent work time
- "Switch collections with a partner. Figure out how many objects are in your new collection."
- 2 minutes: independent work time
- Monitor for students who have a method of keeping track of which objects have been counted, such as

moving and counting or lining up the objects and counting them in order. In particular look for students who move objects as they are counted or who line up objects and count them in order.

Activity Synthesis

- Invite previously identified students to share.
- After each student shares, write or display the number they counted and say, "There are _____ objects in their collection."
- "What is the same about how they figured out how many objects were in their collection?" (They counted all of their objects. They said the same numbers. They both moved the objects.)
- "What is different about how they figured out how many objects were in their collection?" (One used a counting mat and one didn't. One lined up objects and one didn't.)
- If needed, ask:
  - "How did ___ know that they counted all of the objects?" (They moved each object from one side of the mat to the other so they knew which objects they had counted and which they still needed to count.)
  - "How did ___ know that they counted all of the objects?" (They lined up all of the objects first, and then counted them in order.)

Advancing Student Thinking

If students count only part of the collection, or count objects more than once, consider asking:

- "Can you show me how you counted?"
- "How can the counting mat help you make sure that you count each object one time?"

Students may also benefit from the optional activity in the next lesson.

Activity 2: Optional

10 mins

Pair Objects and Numbers

Standards

Addressing **K.CC.B.4.a**

The purpose of this optional activity is for students to pair the verbal count sequence with objects.

This activity will help students who are not yet connecting the verbal count sequence and counting objects. Use the formative assessment data from previous sections and observation during the first activity in this lesson to identify these students.

This activity can be used with a small group or the whole class. Students who do not need the extra practice may benefit from additional time working in centers. Some students may benefit from working on the concepts in this optional activity more than once.

Access for English Language Learners

MLR8 Discussion Supports. Some students may benefit from a demonstration. Count aloud and use exaggerated gestures to demonstrate moving objects one by one into the bucket.
Advances: Listening, Representing

Required Materials

Materials To Gather

- Collections of up to 10 small objects: Activity 2

Required Preparation

Each student needs a bucket or container to place their objects in as they count them.

Student Response

- Students say one number for each object as they count.
- Students keep track of which objects they have counted.

Launch

- "Let's practice counting to 10."
- Count to 10.
- Give each student a bag of objects and a bucket or container to put their objects in as the count.

Activity

- "Move the objects in your collection into the bucket one at a time."
- 1 minute: independent work time
- "Move the objects in your collection into the bucket one at a time. Say a number each time you put an object in the bucket to count the objects."
- 1 minute: independent work time

Activity Synthesis

- "I'm going to move each object into the bucket. When I move an object, say a number."
- Move each object into the bucket while students count.
- "Why do we say one number as we move each

object?" (To make sure that we count each object only one time.)

- If needed, say, "When we count, we say one number for each object."

Activity 3

20 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools. Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

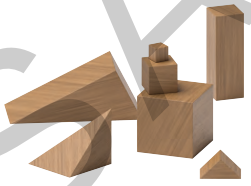
Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1, 2, and 3
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stages 1 and 2

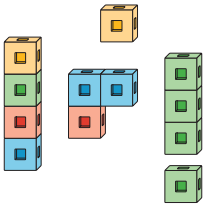
Student Task Statement

Choose a center.

Geoblocks



Connecting Cubes



Pattern Blocks

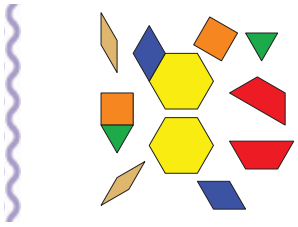
Picture Books

Launch

- "Today we are going to choose from centers we have already learned."
- Display the center choices in the student book.
- "Think about what you would like to do first."
- 30 seconds: quiet think time

Activity

- 10 minutes: center work time
- "Choose what you would like to do next."



- 10 minutes: center work time

Activity Synthesis

- "When did you see a partner count during centers today?"

Lesson Synthesis

"Today we counted collections of objects."

"We used different ways to keep track of objects as we counted them."

"What is something that you can count at home?"

Observation

Lesson Observations for Unit 1, Section D

Standards

Addressing **K.CC.B, K.CC.B.4.a**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 14

Answer "How Many?" Questions

Standards

Addressing	**K.CC.A.1, K.CC.B, K.CC.B.4, K.CC.B.4.a, K.G.B**
Building Towards	**K.CC.B, K.OA.A.1**

Instructional Routines

- Questions about Us

Goals

- Ask (orally) and answer "how many?" questions.

Student Facing Learning Goals

Let's count to figure out how many objects are in our collections.

Lesson Purpose

The purpose of this lesson is for students to count collections of up to 10 objects. The focus is understanding that the last number tells us how many objects there are (cardinality).

Sec D

Narrative

In the *Questions about Us* routine, students brainstorm different ways to represent how many students are at school in class today. Students then ask and answer "how many?" questions as they count objects in different collections in a way that makes sense to them. The second activity is an optional activity that provides support in matching each object with one number.

Access For Students with Disabilities

- Representation

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Chart paper: Warm-up
- 5-frames: Activity 1
- Collections of up to 10 small objects: Activity 1, Activity 2
- Counting mats: Activity 1
- Egg cartons: Activity 2
- Connecting cubes: Activity 3
- Materials from previous centers: Activity 3

Materials To Copy

- Egg Carton Counting Handout (1 copy for every 1 students): Activity 2
- Connecting Cubes Stage 3 Directions (1 copy for every 2 students): Activity 3

Lesson Timeline

Warm-up	10 mins
Activity 1	15 mins
Activity 2	10 mins
Activity 3	20 mins
Synthesis Estimate	5 mins

Teacher Reflection Questions

In this lesson, students had access to a 5-frame and a counting mat to help them organize and count their collections. How did students use the 5-frame or counting mat to keep track of which objects have been counted? If they did not use the 5-frame or counting mat, how did they keep track of which objects have been counted?

Warm-up

10 mins

Questions about Us: Represent Attendance (Part 1)

Standards

Addressing	**K.CC.A.1**
Building Towards	**K.CC.B**

Instructional Routines

- Questions about Us

The purpose of this *Warm-up* is for students to experience part of the *Questions About Us* routine. Students continue to engage in this routine throughout the section, focused on answering, "How many of us are here in the class today?" In this activity, students develop ideas for how to represent how many students are here today. Student ideas should drive which representation is created. Representing their classmates with drawings helps students to move toward an abstract representation of objects and, eventually later in the year, a written number (MP2).

Access for English Language Learners

MLR8 Discussion Supports. Synthesis: Verbalize what is drawn, using phrases such as, "I can draw a stick figure for each person."
Advances: Representation

Required Materials

Materials To Gather

- Chart paper: Warm-up

Student Response

Sample responses:

- We can draw a picture of each person.
- We can write the names of all the people who are here.

Launch

- Display a blank poster.
- "How can we show how many of us are here today?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- Monitor for students who suggest drawing a stick figure of each student or writing each student's name.

- Draw a stick figure for each student, or write each student's name.

Activity

- "How can we figure out how many of us are here?" (We can count each person. We can count each stick figure or name.)
- Count each student.
- "How many of us are here today?"
- Count each name or stick figure.
- "How many of us are here today?"

Activity Synthesis

- "What did we do to show each student in our class?"

Activity 1

15 mins

Counting Collections: How Many?

Standards

Addressing **K.CC.B**

The purpose of this activity is for students to count their collection in a way that makes sense to them and to say the last number counted when asked "how many?" (cardinality). Some students initially may recount the collection of objects when asked "how many?" As students develop an understanding that the last number spoken tells the number of objects counted, they will no longer have to recount and will instead answer "how many?" by restating the last number.

Students are provided with counting mats and 5-frames to help them accurately count or organize their collections. Students use appropriate tools strategically as they choose which tools help them count their collections (MP5). Additional collections can be provided to allow students to choose a new collection to count.

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Collections of up to 10 small objects: Activity 1
- Counting mats: Activity 1

Student Response

Students say the last number when asked "how many?" without recounting the group of objects.

Launch

- Groups of 2
- Give each student a bag of objects. Give students

access to 5-frames and a counting mat.

Activity

- "Figure out how many objects are in your collection."
- 2 minutes: independent work time
- "Switch collections with a partner. Figure out how many objects are in your new collection."
- 2 minutes: independent work time
- "Ask your partner 'How many objects are in your collection?'"
- 2 minutes: partner discussion

Activity Synthesis

- Invite a student to demonstrate how they counted their collection.
- "How many objects are in _____'s collection? How do you know?" (There are _____ objects. I know because that's the last number they said.)
- If needed, say, "The last number we say when we count tells us how many objects there are."
- After each student shares, write or display the number counted and say, "There are _____ objects in their collection."

Advancing Student Thinking

If students recount the group of objects when asked "how many?" consider asking:

- "What do you know about the objects you counted?"
- "Can you tell me how many objects there are without counting them again?"

Activity 2: Optional

10 mins

Egg Carton Counting

Standards

Addressing **K.CC.B.4.a**

The purpose of this optional activity is for students to use an egg carton as a tool to help them match one object with one number. This activity will help students who are not yet matching each object with one and only one number. Use formative assessment data from previous sections and observation during the first activity of this lesson to identify those students.

If egg cartons are not available, the blackline master can be provided to students. Other items with clear sections, such as muffin tins, can be used. This activity also serves as further formative assessment on students' counting concepts, including one-to-one correspondence, keeping track of objects that have been counted, and understanding that the last number tells us "how many." The egg carton helps students see the importance of counting each object exactly once in order to get an accurate count (MP6).

This activity can be used with a small group or the whole class. Students who do not need this optional activity may benefit from additional time working in centers.

Access for Students with Disabilities

Representation: Internalize Comprehension. Invite students to count together in unison and demonstrate moving objects one by one into the egg carton. Emphasize the correspondence of one object for each count.
Supports accessibility for: Organization, Conceptual Processing, Language

Required Materials

Materials To Gather

- Collections of up to 10 small objects: Activity 2
- Egg cartons: Activity 2

Materials To Copy

- Egg Carton Counting Handout (1 copy for every 1 students): Activity 2

Student Response

Students say one number as they place each object into one section of the egg carton or one square on the counting mat.

Launch

- Display an egg carton and a collection of 6–10 small objects.
- "How can the egg carton help us make sure that we say one number for each object while we count?"
- 30 seconds: quiet think time
- Share responses.

Activity

- Give each student a bag of 6–10 cubes and an egg carton.
- "Use the egg carton to figure out how many objects are in your collection."
- 2 minutes: independent work time
- As they count, monitor for students who say one number as they put each object into a section of the egg carton.

Activity Synthesis

- Invite previously identified students to demonstrate how they used the egg carton to count their collection.
- "Take turns counting your collection with your

partner. As you place each object in the egg carton, your partner says one number."

- 2 minutes: partner work time
- If needed, "When we count, we say 1 number for each object."

Advancing Student Thinking

If students say more than one number for each object, give them larger objects to count and consider asking:

- "How many objects are there?"
- "Can you show me again and count like this?" Demonstrate counting slowly and using an exaggerated gesture while counting each object.

Activity 3

20 mins

Introduce Connecting Cubes—Get and Build

Standards

Addressing	**K.CC.B.4, K.G.B**
Building Towards	**K.OA.A.1**

The purpose of this activity is for students to learn Stage 3 of the *Connecting Cubes center*. Students choose a directions sheet to get a specified number of each color of connecting cubes. They use these connecting cubes to build an object of their choice. While the written number is provided, students can use the images to determine how many connecting cubes they need. For example, 4 blue connecting cubes are pictured next to the number "4." Students can place blue connecting cubes on top of the connecting cubes in the picture to determine how many they need. Students may also count to determine how many connecting cubes they need.

The blackline master for this center will be used again in future lessons. Consider laminating the copies of them or placing them in sheet protectors.

After they participate in this center, students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Connecting cubes: Activity 3
- Materials from previous centers: Activity 3

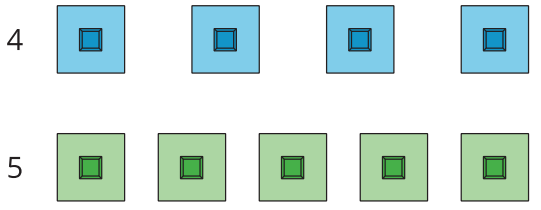
Materials To Copy

- Connecting Cubes Stage 3 Directions (1 copy for every 2 students): Activity 3

Required Preparation

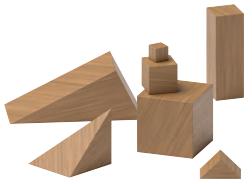
- Gather materials from previous centers:
  - Connecting Cubes, Stages 1 and 2
  - Pattern Blocks, Stages 1, 2, and 3
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stages 1 and 2

Student Task Statement

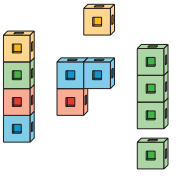


Choose a center.

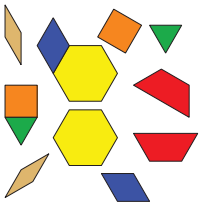
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- Groups of 2
- Display the student book.
- "What do you notice? What do you wonder?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.
- Give each group of students connecting cubes.
- "This page shows me which connecting cubes I need. Work with your partner to take out all of the connecting cubes that you need."
- 3 minutes: partner work time
- Monitor for students who place connecting cubes on top of the images to determine how many connecting cubes they need.
- Invite previously identified students to share how they determined how many connecting cubes they needed.
- "Now you can use your connecting cubes to create whatever you'd like. You can make an animal or a tower or something else."
- 4 minutes: partner work time

Activity

- "Now you can choose another center. You can also choose to continue working with *Connecting Cubes*."
- If students choose to continue with *Connecting Cubes*, give them a copy of the blackline master with more directions of connecting cubes they can use.
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 10 minutes: center work time
- If there is time, invite students to choose another

center.

Activity Synthesis

- Invite 2 students to share what they built with connecting cubes.
- "Tell your partner what is the same about what _____ and _____ made."

Lesson Synthesis

"Today we counted collections to figure out how many objects there are. Ask your partner a question about our classroom that starts with "how many."

Observation

Lesson Observations for Unit 1, Section D

Standards

Addressing **K.CC.B, K.CC.B.4.a**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Unit 1, Lesson 15

Explain How You Counted

Standards

Addressing	**K.CC.A.1, K.CC.B**
Building Towards	**K.CC.B**

Instructional Routines

- Questions about Us

Goals

- Explain (orally) methods for counting a collection of objects.

Student Facing Learning Goals

Let's count collections of objects and tell our partners how we counted.

Lesson Purpose

The purpose of this lesson is for students to count collections of objects. The focus is for students to show and explain how they counted to a partner.

Narrative

In the *Questions about Us* routine, students brainstorm different ways to represent how many students are in class today. Students then count objects in different collections in a way that makes sense to them and share how they counted the collection with a partner. The second activity is an optional activity that provides support in matching each object with one number.

Access For Students with Disabilities

- Representation

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Chart paper: Warm-up
- 5-frames: Activity 1
- Collections of up to 20 small objects: Activity 1
- Counting mats: Activity 1, Activity 2
- Collections of up to 10 small objects: Activity 2
- Materials from previous centers: Activity 3

Lesson Timeline

Warm-up	10 mins

Teacher Reflection Questions

Who did math today in class and how do you know? Identify the norms or routines that allowed those

Activity 1	15 mins
Activity 2	10 mins
Activity 3	20 mins
Synthesis Estimate	5 mins

students to engage in mathematics. How can you adjust these norms and routines so all students do math tomorrow?

Warm-up

10 mins

Questions about Us: Represent Attendance (Part 2)

Standards

Addressing	**K.CC.A.1**
Building Towards	**K.CC.B**

Instructional Routines

- Questions about Us

The purpose of this *Warm-up* is for students to experience part of the *Questions about Us* routine. Students continue to engage in this routine throughout the section, focused on answering, "How many of us are here today?" In this activity, students develop ideas for how to represent how many students are in class today. Student ideas should drive which representation is created. Save the poster from this Warm-up for comparison in the next lesson. As students observe that counting their classmates and counting a representation of their classmates give the same result, they are building an understanding of how numbers represent how many there are in a collection (MP2).

Required Materials

Materials To Gather

- Chart paper: Warm-up

Student Response

Sample responses:

- We can draw a picture of each person.
- We can write the names of all the people who are here.

Launch

- Display a blank poster.
- "How can we show how many of us are here today?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- Monitor for students who suggest drawing a stick figure of each student or writing each student's name.
- Choose one student suggestion and demonstrate representing each student. Represent each student in a way that is different from the previous lesson.

Activity

- "How can we figure out how many of us are here?" (We can count each person. We can count each stick

figure or name.)

- Count each student.
- "How many of us are here today?"
- Count each name or stick figure.
- "How many of us are here today?"

Activity Synthesis

- "What did we do to show each student in our class?"
- Save the poster created in this *Warm-up* to use in the next lesson.

Activity 1

15 mins

Counting Collections: Share How You Counted

Standards

Addressing **K.CC.B**

The purpose of this activity is for students to count their collection in a way that makes sense to them and to share how they counted with a partner. Showing and explaining how many objects are in the collection and how they counted will be useful when students represent their count in the next lesson.

Most students should be given collections with 6–10 objects. Based on formative assessment data collected in previous sections, adjust the number of objects in collections for individual students.

Students are provided with counting mats and 5-frames to help them accurately count or organize their collections. Students use appropriate tools strategically as they choose which tools help them count their collections (MP5). Additional collections can be provided to allow students to choose a new collection to count.

Access for English Language Learners

MLR8 Discussion Supports. Provide multiple opportunities for verbal output. Invite students to chorally repeat each count in unison.
Advances: Listening, Speaking

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Collections of up to 20 small objects: Activity 1
- Counting mats: Activity 1

Student Response

Students say one number for each object as they count.

Students explain how they counted their collection.
Sample responses:

- I used the counting mat and moved the objects from one side to the other.
- I put the objects in a line and counted them.
- I put all of the objects on 5-frames and then counted them.

Launch

- Groups of 2
- "Today you're going to count another collection of objects."
- Give each student a bag of objects. Give students access to 5-frames and a counting mat.

Activity

- "Figure out how many objects are in your collection."
- 2 minutes: independent work time
- "Switch collections with a partner. Figure out how many objects are in your new collection."
- 2 minutes: independent work time
- "Tell your partner how many objects are in your collection. Show them how you counted the objects."
- 30 seconds: quiet think time
- 2 minutes: partner discussion
- Monitor for students who demonstrate or describe how they used a counting mat or 5-frame to count their objects.

Activity Synthesis

- Invite previously identified students to share how they counted their collection.
- "How did the 5-frame (or counting mat) help you count your collection of objects?"
- After each student shares, write or display the number counted and say, "There are ____ objects in their collection."

Activity 2: Optional

10 mins

Use a Counting Mat to Keep Track

Standards

Addressing **K.CC.B**

The purpose of this optional activity is for students to use a counting mat as a tool to help them keep track of which objects have been counted. This activity will help students who are not counting all objects or are counting some objects more than one time. Use formative assessment data from previous sections and observation during the first activity of this lesson to identify those students.

This activity also serves as further formative assessment on students' counting concepts, including one-to-one matching and understanding that the last number tells us "how many." This activity can be used with a small group or the whole class. Students who do not need this optional activity may benefit from additional time working in centers.

Access for Students with Disabilities

Representation: Internalize Comprehension. Synthesis: Make connections between the location of the objects on the counting mat. For example, restate that when an object is on one side of the mat it has not been counted and when it is on the other side it has been counted.
Supports accessibility for: Conceptual Processing, Organization

Required Materials

Materials To Gather

- Collections of up to 10 small objects: Activity 2
- Counting mats: Activity 2

Student Response

- Students move objects from one side of the counting mat to the other, saying one number name for each object.

Launch

- Display a counting mat and a collection of 6–10 objects.
- "How can the counting mat help us make sure that we count each object 1 time?"
- 30 seconds: quiet think time
- Share responses.

Activity

- Give each student a collection of 6–10 objects and a counting mat.
- "Use the counting mat to figure out how many objects are in your collection."
- 2 minutes: independent work time
- As they count, monitor for students who move each object from one side of the counting mat as they say one number.

Activity Synthesis

- Invite previously identified students to share how they counted.
- Display a collection of 6 objects on one side of a counting mat. Demonstrate counting and moving 4 of the objects to the other side of the counting mat.
- "Which objects do I still need to count? Which objects did I already count? How do you know?"

Activity 3

20 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools or picture books. Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

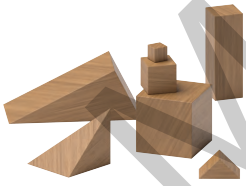
Required Preparation

- Gather materials from previous centers:
  - Connecting Cubes, Stages 1, 2, and 3
  - Pattern Blocks, Stages 1, 2, and 3
  - Geoblocks, Stages 1 and 2
  - Picture Books, Stages 1 and 2

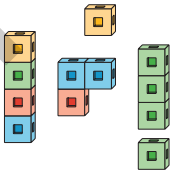
Student Task Statement

Choose a center.

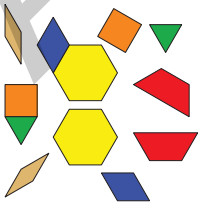
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today we are going to choose from centers we have already learned."
- 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.
- 8 minutes: center work time
- "Choose what you would like to do next."
- 8 minutes: center work time

Activity Synthesis

- "Tell us about a time when something was

Lesson Synthesis

challenging for you during centers. What did you do?"

"Today we counted collections of objects. Did you use any math tools to help you count? How did they help you count?"

"We also explained to our partners how we counted. What are some words you used to explain how you counted?"

Observation

Lesson Observations for Unit 1, Section D

Standards

Addressing **K.CC.B**

Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

Represent Our Collections

Standards

Addressing	**K.CC.A.1, K.CC.B**
Building Towards	**K.CC.B**

Instructional Routines

- Questions about Us

Goals

- Compare and contrast (orally) methods for representing a collection of objects.

Student Facing Learning Goals

Let's count collections of objects and show how we counted.

Lesson Purpose

The purpose of this lesson is for students to count collections of objects. The focus is on students representing how they counted.

Narrative

In the *Questions about Us* routine, students use 5-frames to determine how many students are in class today. They then count objects in different collections in a way that makes sense to them. Students represent how they counted their collections. The second activity is optional. It provides support in keeping track of which objects have been counted.

This lesson has a Student Section Summary.

Access For Students with Disabilities

- Action and Expression

Access For English Learners

- MLR8

Required Materials

Materials To Gather

- Chart paper: Warm-up
- 5-frames: Activity 1
- Collections of 6–10 small objects: Activity 1
- Counting mats: Activity 1, Activity 2
- Collections of up to 20 small objects: Activity 2
- Egg cartons: Activity 2
- Materials from previous centers: Activity 3

Materials To Copy

- Questions about Us Attendance Display 5-frames Template (1 copy for every 30 students): Warm-up
- Questions about Us Attendance Display 5-frames Template (1 copy for every 30 students): Activity 1

Lesson Timeline

Warm-up	10 mins
Activity 1	15 mins
Activity 2	10 mins
Activity 3	20 mins
Synthesis Estimate	5 mins

Teacher Reflection Questions

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 2?

Warm-up

10 mins

Questions about Us: Attendance Display

Standards

Addressing	**K.CC.A.1**
Building Towards	**K.CC.B**

Instructional Routines

- Questions about Us

The purpose of this *Warm-up* is for students to participate in part of the *Questions about Us* routine. Students have worked with 5-frames in previous sections and as an option during counting collections. In this activity, 5-frames are introduced as a way to represent how many students are here today. A blackline master is provided, but the 5-frames should be modified to match the number of students in the class. For example, if there are 24 students in the class, four 5-frames and 4 extra squares should be displayed. This will allow students to use the representation to determine how many students are absent in future lessons by referring to the empty squares. This display will be used during the Warm-up in later lessons, so place the display where it can be seen easily by students.

In the *Activity Synthesis*, students look at the new 5-frame representation and compare it to the representations based on student ideas created in the previous lesson.

Required Materials

Materials To Gather

- Chart paper: Warm-up

Materials To Copy

- Questions about Us Attendance Display 5-frames Template (1 copy for every 30 students): Warm-up

Required Preparation

Gather the poster created during *Questions about Us* in the previous lesson.

Student Response

Sample responses:

- We can put a circle or check mark in each square for every person that is here.
- We can have each person color in a square to show that they are here.

Launch

- "How can we use the 5-frames to show how many of us are here today?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.

Activity

- Demonstrate a student suggestion for how to use the 5-frames.
- "How can we figure out how many of us are here?" (We can count each person. We can count each circle or mark in the 5-frames.)
- Count each student.
- "How many of us are here today?"
- Count each circle or mark in the 5-frames.
- "How many of us are here today?"

Activity Synthesis

- Display one of the representations based on student ideas from the previous lesson and the new representation with 5-frames from this lesson.
- "These are both different ways that we showed how many of us are here. What do you notice?"

Activity 1

15 mins

Counting Collections: Show How Many

Standards

Addressing **K.CC.B**

The purpose of this activity is for students to count their collection in a way that makes sense to them. Students are invited to represent how many objects are in their collection. Some students may choose to create a drawing, make a group with the same number of objects, or just demonstrate how they counted. Students will focus more on creating written representations of how many in a later unit.

Students are provided with counting mats and 5-frames to help them accurately count or organize their collections. Students use appropriate tools strategically as they choose tools to help them count their collections (MP5).

Action and Expression: Internalize Executive Functions. Invite students to plan to show how they counted their collections, including what drawings, numbers, words, or objects they will use.
Supports accessibility for: Conceptual Processing, Organization

Required Materials

Materials To Gather

- 5-frames: Activity 1
- Collections of 6–10 small objects: Activity 1
- Counting mats: Activity 1

Materials To Copy

- Questions about Us Attendance Display 5-frames Template (1 copy for every 30 students): Activity 1

Student Task Statement

Show how many objects are in your collection.

Student Response

Students represent how they counted their collection. Sample responses:

- I put them all in a line. Then I counted the whole line.
- I drew a circle to show each object I counted.
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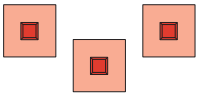
- 
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Launch

- Groups of 2
- "Today you're going to count another collection of objects. During *Questions about Us*, we showed how many of us are here today. As you're counting your collection, think about how you can show how you counted your collection."
- Give each student a bag of objects. Give students access to 5-frames and a counting mat.

Activity

- "Figure out how many objects are in your collection."
- 2 minutes: independent work time
- "Switch collections with a partner. Figure out how many objects are in your new collection."
- 2 minutes: independent work time
- "Tell your partner how many objects are in your collection. Show and tell them how you counted the objects."
- 30 seconds: quiet think time
- 2 minutes: partner discussion
- "Show how you counted your collection. Show your thinking using objects, drawings, numbers, or words."
- 2 minutes: independent work time
- Monitor for students who represented how many objects were in their collection with connecting cubes or drawings.

Activity Synthesis

- Invite previously identified students to share.
- "What is the same about how they each counted their collections?" (They all counted each object one time.)
- "What is different about how they each showed how they counted?" (Some people drew a picture. Some used objects.)
- After each student shares, write or display the number they counted and say, "There are ____ objects in their collection."

Advancing Student Thinking

If students have difficulty representing their count on paper, consider asking:

- "How did you count your objects?"
- Provide stickers that they can put on their paper to represent each object in place of a drawing." How can you use these stickers to show how many objects are in your collection?"

Activity 2: Optional

10 mins

Answer How Many? Questions

Standards

Addressing **K.CC.B**

The purpose of this optional activity is for students to develop their understanding that the last number counted tells how many there are. This activity will help students who are not yet answering "how many?" questions or who recount the collection of objects when asked "how many?" This activity also serves as further formative assessment on students' counting concepts, including one-to-one correspondence and keeping track of objects that have been counted. Students have access to a counting mat and egg cartons that were used in previous optional activities to help them pair each object with one number name and keep track of which objects they've counted.

This activity can be used with a small group or the whole class. Students who do not need extra practice may benefit from additional time working in centers.

Access for English Language Learners

MLR8 Discussion Supports. Invite students to begin partner interactions with one student asking the question, "How many objects are in your collection?" Partners should respond with, "There are _____ objects in my collection." Consider inviting all students to repeat these phrases in unison 1–2 times.
Advances: Conversing

Required Materials

Materials To Gather

- Collections of up to 20 small objects: Activity 2
- Counting mats: Activity 2
- Egg cartons: Activity 2

Student Response

- Students say the last number when asked "how many?" without recounting.

Launch

- Groups of 2

Activity

- Give each student a collection of 6–10 objects. Give students access to counting mats and egg cartons.

- "Figure out how many objects are in your collection."
- 2 minutes: independent work time
- "How many objects are in your collection? Tell your partner how many objects are in your collection without counting the objects again."
- 2 minutes: partner discussion

Activity Synthesis

- Display a collection of 6–10 objects.
- "Let's count to figure out how many objects are in this collection."
- Move each object as the group counts.
- Hide the collection of objects.
- "How many objects are in the collection?"
- If needed, say, "When we counted, the last number we said was ____. That tells us that there are ____ objects in our collection."

Activity 3

20 mins

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on using math tools and recognizing quantities without counting.
Students choose from any of the previously introduced stages of these centers:

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

Required Materials

Materials To Gather

- Materials from previous centers: Activity 3

Required Preparation

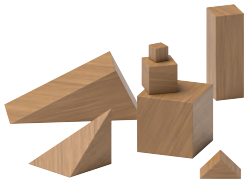
- Gather materials from previous centers:
  - Connecting Cubes, Stages 1, 2, and 3
  - Pattern Blocks, Stages 1, 2, and 3

- Geoblocks, Stages 1 and 2
- Picture Books, Stages 1 and 2

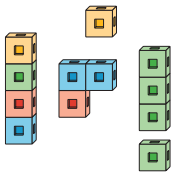
Student Task Statement

Choose a center.

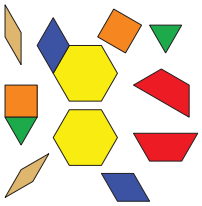
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

Launch

- "Today we are going to choose from centers we have already learned."
- 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.
- 8 minutes: center work time
- "Choose what you would like to do next."
- 8 minutes: center work time

Activity Synthesis

- "We have been working with pattern blocks, connecting cubes, geoblocks, and picture books throughout the unit. Which center is your favorite? Why?"

Lesson Synthesis

"Today we counted collections to figure out how many objects there are. Ask your partner a question about our classroom that starts with 'how many.'"

Observation

Lesson Observations for Unit 1, Section D

Standards

Addressing **K.CC.B**

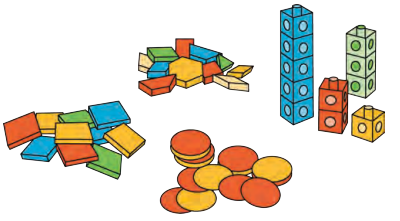
Look Fors

- Answer how many without counting again.
- Identify groups with the same number of objects in groups of up to 4 objects.
- Recognize and name groups of 1, 2, or 3 objects or images without counting.

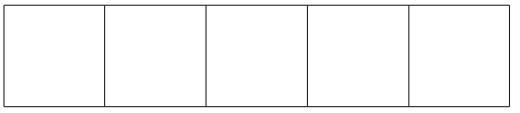
- Recognize and name groups of 4 objects or images without counting.
- Say one number for each object.
- Say the count sequence to 10.
- Show quantities on fingers.

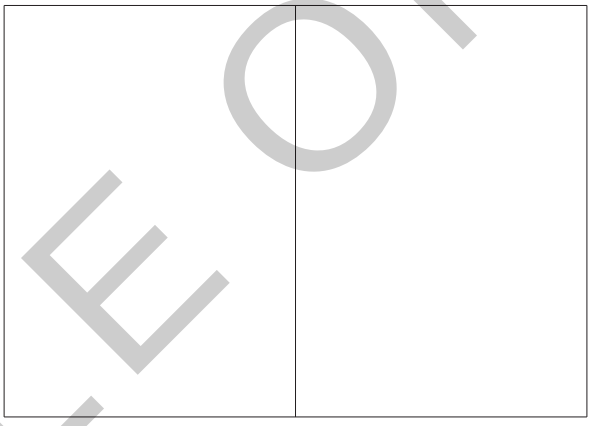
Section D Summary

We can count groups of objects.

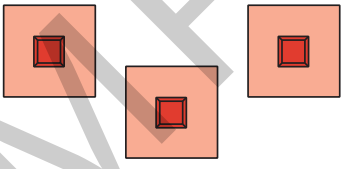


We can use 5-frames and counting mats to help us.





We can say a number to tell how many objects.



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Unit 1, Lesson 17

Model with Math Tools

Standards

Addressing	**K.CC.B, K.G.B**
Building Towards	**K.G.B**

Instructional Routines

- Notice and Wonder

Goals

- Ask (orally) and answer "how many?" questions.

Student Facing Learning Goals

Let's use math tools to create things in our classroom.

Lesson Purpose

The purpose of this lesson is for students to use math tools to create a model of objects in the classroom.

Narrative

This lesson is optional because it does not address any new mathematical content standards. The lesson provides students with an opportunity to apply precursor skills of mathematical modeling (MP4).

Throughout this unit, students have been learning about math tools, their math community, and their classroom. First, students freely explored math tools, such as connecting cubes, pattern blocks, two-color counters, and geoblocks. They then used these tools for specific purposes in activities and centers. In this lesson, students choose an object in their classroom and which math tool to use to make a model of this object.

If there is additional time, students can participate in centers from the unit.

Required Materials

Materials To Gather

- Connecting cubes: Activity 1
- Geoblocks: Activity 1
- Pattern blocks: Activity 1
- Two-color counters: Activity 1
- Materials from a previous activity: Activity 2

Lesson Timeline

Warm-up	10 mins
Activity 1	20 mins

Teacher Reflection Questions

How have you seen the way that students interact with math tools change over the course of this unit?

Activity 2	20 mins
Synthesis Estimate	10 mins

Warm-up

10 mins

Notice and Wonder: Made of Bricks

Standards

Building Towards **K.G.B**

Instructional Routines

- Notice and Wonder

The purpose of this *Warm-up* is to elicit the idea that real world objects can be represented, which will be useful when students use math tools to represent an object in their classroom in a later activity. While students may notice and wonder many things about this image, the idea that you can use tools to create models of real-world objects is the most important point to elicit.

Student Task Statement

What do you notice?
What do you wonder?

Student Response

Students may notice:

- It looks like buildings on a street.
- You can see inside and outside of the shorter building.
- It is made of toy bricks.

Students may wonder:

- What kind of building is this?
- How did they make the red building so tall?
- What are the people doing?

Launch

- Groups of 2
- Display the image in the student book.
- "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.

Activity Synthesis

- "This picture shows buildings made out of toy bricks. The toys are used to make models of real buildings. What are some other things from the world that you could make models for?"

Activity 1

20 mins

Creating Classroom Objects

Standards

Addressing **K.G.B**

The purpose of this activity is for students to choose a math tool to use to create a model of an object in their classroom. Students choose from all of the math tools they have used so far in the unit. They also choose an object in the classroom to model. When students model a real-world object using math tools, they model with mathematics (MP4).

Students will share their models in the next activity.

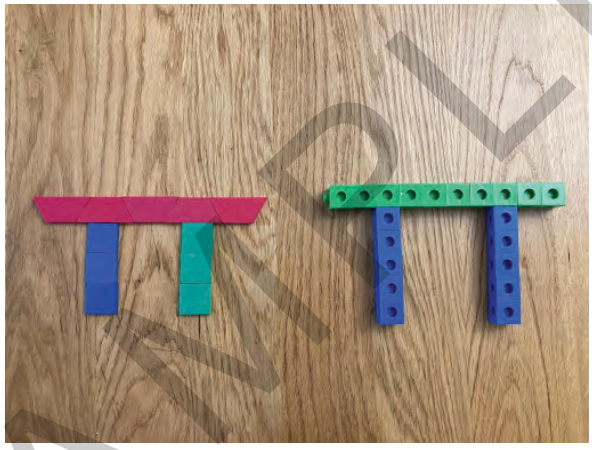
Required Materials

Materials To Gather

- Connecting cubes: Activity 1
- Geoblocks: Activity 1
- Pattern blocks: Activity 1
- Two-color counters: Activity 1

Student Task Statement

What object?



What tool?

Student Response

Students use math tools to create a model of a classroom object.

Launch

- Groups of 2
- "In our Warm-up, we saw that we can use tools to create models of things in our world. What math tools have we been using so far this year?" (connecting cubes, two-color counters, pattern blocks, geoblocks, 5-frames)
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- Give students access to math tools.
- "We have also been learning more about our community and our classroom. What are some important things in our classroom?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- "Today we are going to use our math tools to create a model of an object from our classroom. First think about one object that you'd like to create."
- 30 seconds: quiet think time

- Share responses.
- "Now think about which math tool you are going to use to create a model of that object."
- 30 seconds: quiet think time
- 1 minute: partner discussion

Activity

- 10 minutes: independent work time
- Monitor for 2 students who create models of the same object, using different math tools. For example, 1 student who uses connecting cubes to make a table and 1 student who uses pattern blocks to make a table.
- "Tell your partner what object you made and which math tool you used to make it."
- 30 seconds: quiet think time
- 2 minutes: partner discussion

Activity Synthesis

- Invite previously identified students to share their creations.
- "What is the same about what _____ and _____ created? What is different?" (They both made a ___. They used different tools.)
- If no students modeled the same object using different tools, display the image from the student book.
- "Noah and Jada used math tools to make a model of a table. What is the same and what is different about what they created?" (They both made something that looks like a table. Jada used connecting cubes and Noah used pattern blocks. Noah used 3 different colors and Jada used 2 colors.)
- "Which math tool did you choose? How did the tool help you make the model of your object?" (I used counters. They helped me because I could show each circle on the rug I made.)

Activity 2

20 mins

Sharing Our Creations

Standards

Addressing **K.CC.B**

The purpose of this activity is for students to count groups of objects in the context of asking and answering "how many?" questions about the models they made in the previous activity. As students participate in the Gallery Walk, there may be time for each student to see and ask questions about only a few models, which is okay. Consider creating a cue or signal to indicate when students should move from one person to the next.

Required Materials

Materials To Gather

- Materials from a previous activity: Activity 2

Required Preparation

- Students need the models of objects they made in the previous activity.

Student Response

Students ask questions about the models. Sample responses:

- "What did you make?"
- "How many blue pattern blocks did you use?"
- "How many triangles did you use?"
- "Why did you choose to use connecting cubes?"

Launch

- "In our last activity, we used math tools to make models of objects in our classroom. Now we will share them with our classmates."
- Display 1 student's model from the previous activity.
- "_____ made this model. What are some questions about it that we can ask them?" (We can ask what they made. We can ask why they chose to use the tool. We can ask how many ____ they used.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.
- As you walk around, ask each student some questions about what they created. Make sure one of your questions starts with "how many."

Activity

- Invite half the class to stand next to their creation while the other half of the class walks around.
- 8 minutes: Gallery Walk
- Switch groups.
- 8 minutes: Gallery Walk

Activity Synthesis

- "What kind of questions did your classmates ask you about your model?" (They asked me what I made. They asked me how many objects I used.)
- "What did you do when you were asked 'how many ____ did you use?'" (I counted them. I just looked and saw that I used ___.)

Lesson Synthesis

"Today we used our math tools to make models of objects in our classroom."

"As you were working today, what choices did you have to make?" (I had to choose what I wanted to make. I had to choose which math tools to use.)

End-of-Unit Assessment

Teacher Instructions

The end-of-unit assessment for this unit is an interview assessment, which can be found in the Assessments for this unit.

This assessment addresses K.CC.B.4 and K.CC.A.1.

1

Standards

Addressing **K.CC.A.1**

Narrative

"Can you please count as high as you can?" When the student stops, ask, "Do you know what number comes after ___ ?"

Student Task Statement

interview questions

Solution

Record the last number in the count. Note any mistakes or omissions.

2

Standards

Addressing **K.CC.B.4**

Narrative

Pour 5 cubes onto the table in front of the student. Ask, "How many cubes are on the table?"

Student Task Statement

interview questions

Solution

Note whether the student:
____touches or moves each object one time
____says one number for each object
____says the numbers in order
____keeps track of cubes that have been counted

3 Standards

Addressing **K.CC.B.4**

Narrative

When the student finishes counting, ask, "How many cubes are there?"

Go to question 4a or 4b.

Student Task Statement

interview questions

Solution

Note whether the student:
_____ answers with the last number they said (even if that last number was inaccurate)

4 Standards

Addressing **K.CC.B.4**

Narrative

a.i If the student answers with a number other than 5, remove 2 cubes and ask, "How many cubes are on the table?"

a.ii When the student finishes counting, ask, "How many cubes are there?"

b.i If the student answers with 5 cubes, pour out the other 5 cubes and ask, “How many cubes are on the table?”

b.ii When the student finishes counting, ask, “How many cubes are there?”

Student Task Statement

interview questions

Solution

a.i *Note whether the student:*
____touches or moves each object one time
____says one number for each object
____says the numbers in order
____keeps track of cubes that have been counted

a.ii *Note whether the student:*
_____ answers with the last number they said (even if that last number was inaccurate).

b.i *Note whether the student:*
____touches or moves each object one time
____says one number for each object
____says the numbers in order
____keeps track of cubes that have been counted

b.ii *Note whether the student:*
_____ answers with the last number they said (even if that last number was inaccurate)

End-of-Unit Assessment Guidance

Kindergarten, Unit 1

Observation	Next Unit Supports	Standard (assessment item(s))
Students are not yet able to say the count sequence to 10 accurately.	In Section A of the next unit, the warm-ups are Choral Count from 1–10. Students raise one finger for each number they say as they count to 10. In order to give students more practice with the count sequence to 10, continue this routine throughout the next unit. This could be done by beginning each lesson with a minute of counting orally together as a class.	K.CC.A.1 (1)
Students pair each object with more than one number or more than one object with each number.	While students count objects in the next unit, invite them to use 5-frames. Ask students to put one object in each section as they say each number.	K.CC.B.4 (2, 3, 4)
Students miss some objects in their count or count some objects more than once.	While students count objects in the next unit, give students access to a counting mat that can be used to keep track of objects that have been counted.	
Students count objects again when asked how many.	As students answer "how many" questions about objects and images in the next unit, listen to them count and then emphasize that the last number they said tells how many. For example, "You counted 1, 2, 3. So there are 3 cubes."	

Center: Picture Books (K–5)

Narrative

Students work with picture books.

Stage 1: Explore

Activity

Addressing

- Kindergarten.1.B6.2
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students look at picture books and identify groups of objects, without counting.

Standards

Addressing **K.CC.B.4**

Required Materials

Materials To Gather

- Picture books

Additional Information

Each group of 2 students needs at least 1 picture book that shows groups with different numbers of objects throughout the book.

Stage 2: Create

Activity

Addressing

- Kindergarten.1.B9.2
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students identify and record several groups of objects with the same quantity to make their own picture books representing different numbers (1–4).

Standards

Addressing **K.CC.B.4**

Required Materials

Materials To Gather

- Colored pencils or crayons

Materials To Copy

- Picture Books Stage 2 Recording Sheet

Center: Geoblocks (K–1)

Narrative

Students work with geoblocks.

Stage 1: Explore

Narrative

Students have free exploration time with geoblocks.

Standards

Addressing **K.G.A, K.G.B**

Required Materials

Materials To Gather

- Geoblocks

Activity

Addressing

- Kindergarten.1.A4.1
- Kindergarten.1.A5.3
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Stage 2: Build to Match

Activity

Addressing

- Kindergarten.1.A4.2
- Kindergarten.1.A5.3
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students look at images and use solid shapes to build an object to match.

Standards

Addressing **K.G.A.1, K.G.A.2, K.G.B.5, K.G.B.6**

Required Materials

Materials To Gather

- Geoblocks
- Solid shapes

Materials To Copy

- Geoblocks Stage 2 Cards

Center: Connecting Cubes (K)

Narrative

Students work with connecting cubes.

Stage 1: Explore

Activity

Addressing

- Kindergarten.1.A1.1
- Kindergarten.1.A5.3
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students have free exploration time with connecting cubes.

Standards

Addressing **K.CC.B, K.G.B, K.MD.A, K.MD.B**

Required Materials

Materials To Gather

- Connecting cubes

Stage 2: Build to Match

Activity

Addressing

- Kindergarten.1.A5.1
- Kindergarten.1.A5.3
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students look at images of objects made of connecting cubes and build an object to match.

Standards

Addressing **K.CC.B, K.G.B**

Required Materials

Materials To Gather

- Connecting cubes

Materials To Copy

- Connecting Cubes Stage 2 Cards

Stage 3: Get and Build

Activity

Addressing

- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students use the directions sheet to count out a specified number of connecting cubes of each color and build an object of their choice.

Standards

Addressing **K.CC.B.4, K.G.B, K.OA.A.1**

Required Materials

Materials To Gather

- Connecting cubes

Materials To Copy

- Connecting Cubes Stage 3 Directions

Center: Pattern Blocks (K)

Narrative

Students work with pattern blocks.

Stage 1: Explore

Activity

Addressing

- Kindergarten.1.A2.1
- Kindergarten.1.A5.3
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students have free exploration time with pattern blocks.

Standards

Addressing **K.CC.B, K.G.B, K.MD.B.3**

Required Materials

Materials To Gather

- Pattern blocks

Stage 2: Puzzles

Activity

Addressing

- Kindergarten.1.A5.2
- Kindergarten.1.A5.3
- Kindergarten.1.B6.3
- Kindergarten.1.B7.3
- Kindergarten.1.B8.3
- Kindergarten.1.B9.3
- Kindergarten.1.C10.3
- Kindergarten.1.C11.3
- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3
- Kindergarten.1.D16.3

Narrative

Students use pattern blocks to fill in puzzles where the edges of each shape do not touch.

Standards

Addressing **K.G.A, K.G.B**

Required Materials

Materials To Gather

- Pattern blocks

Materials To Copy

- Pattern Blocks Stage 2 Mats

Stage 3: Get and Build

Activity

Addressing

- Kindergarten.1.D12.3
- Kindergarten.1.D13.3
- Kindergarten.1.D14.3
- Kindergarten.1.D15.3

- Kindergarten.1.D16.3

Narrative

Students use the directions sheet to count out a specified number of each pattern block and build an object or a design of their choice.

Standards

Addressing **K.CC.B.4, K.G.B**

Required Materials

Materials To Gather

- Pattern blocks

Materials To Copy

- Pattern Blocks Stage 3 Directions