

# Math in Our World



Teacher Guide



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**Math in Our World**  
**Teacher Guide**  
Core Knowledge Mathematics™



# Introduction to the CKMath Program

Welcome to the Core Knowledge Math™ (CKMath) program, based on the carefully researched and designed Illustrative Math™ (IM) instructional materials. IM K-12 Math is a problem-based core curriculum that believes all students are able to understand and use mathematics. Students learn about math by doing math. They bring their current understanding of math and their world experiences to the classroom. In these lessons, students take an active role in the learning process by building on their previous knowledge, and by exploration to develop conceptual understanding instead of being told how to solve problems. Doing math includes: understanding problems, reasoning abstractly and quantitatively, making arguments and critiquing the reasoning of others, modeling with mathematics, making appropriate use of tools, attending to precision in their use of language, looking for and making use of structure, and expressing regularity in repeated reasoning. Encouraging students to participate in mathematical practices with other students gives the opportunity for them to perceive themselves as mathematical thinkers and as part of a mathematical community. By observing students' understanding of concepts and their thought processes, teachers are able to direct student learning and guide them to recognize the connection between concepts and procedures.

## Organization of Units and Lessons

Each unit is divided into sections. Each section revolves around specific goals.

- The **Section Overview** identifies the learning goals for each section of the unit and describes how students will work towards these goals. Sections are labeled by letters; e.g. Section A, Section B, and so on. Each section uses scaffolding to identify the Common Core Standards that apply to that section. In Kindergarten, there are five areas covered by the Common Core Standards. They include Counting and Cardinality (K.CC), Operations and Algebraic Thinking (K.OA), Number and Operations in Base Ten (K.NBT), Measuring and Data (K.MD), and Geometry (K.G).

The standards in each section are divided into three groups: **Building On, Addressing, and Building Towards**. A standard that reflects the work of prior grades and is being used to bridge to a grade-level standard is indicated as *Building On*. When the standard is focused on the grade-level work, the alignment is indicated as *Addressing*. A standard that is indicated as *Building Towards* means that the standard has not yet been achieved by the activities in that section.

- The **Center Overview** identifies the learning centers to be used in the unit. Each center has different stages, or levels. Students will progress through the stages as they master the objectives for each stage. Each center description includes the Common Core Standards that apply to that stage of the center, a stage narrative describing the activity with possible variations, and a list of materials needed for the center.
- The **Standards for Mathematical Practice (MP)** describe the types of thinking and behaviors students engage in as they are doing mathematics. Throughout the curriculum, the Teacher Guide identifies lessons and activities where different Mathematical Practices are likely to be observed.

### Standards for Mathematical Practice Student Facing Learning Targets

#### MP1 I Can Make Sense of Problems and Persevere in Solving Them

- I can ask questions to make sure I understand the problem.
- I can say the problem in my own words.
- I can keep working when things aren't going well and try again.
- I can show at least one try to figure out or solve the problem.



- I can check that my solution makes sense.

#### **MP2 I Can Reason Abstractly and Quantitatively**

- I can think about and show numbers in many ways.
- I can identify the things that can be counted in a problem.
- I can think about what the numbers in a problem mean and how to use them to solve the problem.
- I can make connections between real-world situations and objects, diagrams, numbers, expressions, or equations.

#### **MP3 I Can Construct Viable Arguments and Critique the Reasoning of Others**

- I can explain or show my reasoning in a way that makes sense to others.
- I can listen to and read the work of others and offer feedback to help clarify or improve the work.
- I can come up with an idea and explain whether that idea is true.

#### **MP4 I Can Model with Mathematics**

- I can wonder about what mathematics is involved in a situation.
- I can come up with mathematical questions that can be asked about a situation.
- I can identify what questions can be answered based on data I have.
- I can identify information I need to know and don't need to know to answer a question.
- I can collect data or explain how it could be collected.
- I can model a situation using a representation such as a drawing, equation, line plot, picture graph, bar graph, or a building made of blocks.
- I can think about the real-world implications of my model.

#### **MP5 I Can Use Appropriate Tools Strategically**

- I can choose a tool that will help me make sense of a problem. These tools might include counters, base-ten blocks, tiles, a protractor, ruler, patty paper, graph, table, or external resources.
- I can use tools to help explain my thinking.
- I know how to use a variety of math tools to solve a problem.

#### **MP6 I Can Attend to Precision**

- I can use units or labels appropriately.
- I can communicate my reasoning using mathematical vocabulary and symbols.
- I can explain carefully so that others understand my thinking.
- I can decide if an answer makes sense for a problem.

#### **MP7 I Can Look for and Make Use of Structure**

- I can identify connections between problems I have already solved and new problems.
- I can compose and decompose numbers, expressions, and figures to make sense of the parts and of the whole.
- I can make connections between multiple mathematical representations.
- I can make use of patterns to help me solve a problem.

#### **MP8 I Can Look for and Express Regularity in Repeated Reasoning**

- I can identify and describe patterns and things that repeat.
- I can notice what changes and what stays the same when working with shapes, diagrams, or finding the value of expressions.
- I can use patterns to come up with a general rule.



- Each unit contains between 8 - 25 **Lesson Plans**.

Each lesson is designed to use sixty minutes. A typical lesson is divided into four phases; a warm-up activity, one or more instructional activities, the lesson synthesis, and a cool-down activity. Every activity within these phases is divided into three parts—the Launch, the Activity, and the Synthesis.

- **Warm-up Activity**—The warm-up activity is designed to strengthen the idea of mathematical community. In these activities, students work with their peers. Students use their personal experiences and mathematical knowledge to develop ideas, ask questions, defend their responses, and evaluate the reasoning of others. A warm-up activity might review a context students have seen before, have them reflect on where the previous lesson left off, or preview a context or idea that will come up in that lesson.

There are several **warm-up routines** that are used during the lessons.

- **Act It Out**—This routine is for kindergarten and first grade students. It encourages young children to understand the relationship between words and numbers. It provides opportunities for students to make sense of story problems. In this routine, students listen to a story problem and act it out through movement, using their fingers, or objects to represent the action in the story.
- **Choral Count**—This routine encourages students to make predictions and think about patterns. It also provides opportunities for students to justify their reasoning. In this routine, students count aloud starting from a given number. The count might be forwards or backwards. The teacher records the numbers on a chart as students say them. Students then stop and look at the written numbers to make predictions and look for patterns.
- **Estimation Exploration**—Estimation Exploration encourages students to use what they know and what they can see to problem-solve for a rough evaluation of a quantity rather than giving a “wild guess.” The estimates can be in the context of measurement, computation, or numerosity—estimating about a large group of objects (MP2). In this routine, students make estimates in response to a question about an image. They first think about estimates that would be sensible, but too high or too low. Then they make a reasonable estimate and discuss why their estimate makes sense.
- **How Many Do You See?**—This routine encourages students to see groups when counting. Being able to see groups of objects in an organized way helps them visualize quantities and improves their ability to do mental computation. In this routine, students look at an image, which is typically an arrangement of dots or other shapes. Then students state how many dots or shapes they see. Also included in the discussion will be comments about the way they saw them or determined how many there were. This encourages students to see groups and patterns rather than count each item one by one.
- **Notice and Wonder**—This routine provides an opportunity for students to bring their understandings and experiences to a problem. They share their ideas and ask questions without any pressure to answer or solve a problem. This routine reinforces the importance of making sense of situations before solving a problem. In this routine, students look at an image related to the topic of the lesson and are asked, “What do you notice?” The teacher writes all comments on a chart. They

are then asked, “What do you wonder?”, and their questions are also recorded on the chart.

- **Number Talk**—This routine provides an opportunity for students to practice mental math. It helps them solve problems and think about numbers in flexible ways. They not only justify their own reasoning, but critique the reasoning of others as they make sense of methods for solving problems. In this routine, a series of problems are presented one at a time. Students solve the problem in their head and signal when they have an answer. The teacher takes notes as they justify their answer and explain their method for solving.
- **Questions About Us**—This routine is used with kindergarten students. It provides them opportunities to learn more about their classmates and gives them practice asking questions, organizing quantities, counting, and analyzing data. In this routine, students ask their classmates a question with two choices. They keep track of the answers and count the responses. The teacher then asks follow up questions that students answer using the data that they collected.
- **True or False?**—This routine encourages students to make sense of equations, often without any computation. It provides another opportunity for students to justify their reasoning as they explain to others what they are thinking. In this routine, students are presented with a series of equations, one at a time. Some equations may be true, and some may be false. Students use what they know about place value, operations, and number relationships to decide if each is true or false. And then, students explain how they know.
- **What Do You Know About \_\_\_\_\_?**—This routine encourages students to share their experiences and understandings about a math topic. In this routine, students are presented with a number, expression, or are asked a general question about a math topic. They then list everything they know about that topic. The teacher writes what students say and then references the list later so that students can add more ideas.
- **Which One Doesn't Belong?**—This routine provides an opportunity for students to reason about characteristics of shapes, math tools, or other images to decide which one doesn't belong. Because any answer is correct, students are able to focus on communicating their reasoning and justifying their choice. In this routine, students are shown 4 different images, which may be numbers, equations, shapes, images, or diagrams. They decide which one doesn't belong and explain why.
- **Instructional Activities**—After the warm-up, lessons consist of one to three instructional activities. In Kindergarten, activities are shorter and each lesson includes 15–25 minutes of time for centers.

Instructional Activities include:

- **5 Practices**—Lessons that include this routine are designed to allow students to solve problems in ways that make sense to them. During the activity, students engage in a problem in meaningful ways and teachers monitor to uncover and nurture conceptual understandings. During the activity synthesis, students collectively reveal multiple approaches to a problem and make connections between these approaches (MP3).

- **Card Sort**—A card sorting task gives students opportunities to analyze representations, statements, and structures closely, and make connections (MP2 and MP7). As students work, teachers monitor for the different ways groups choose their categories, and encourage increasingly precise mathematical language (MP6).
  - **MLR1 Stronger and Clearer Each** (*MLR stands for Mathematics Learning Routine.*)—Provides students with a structured and interactive opportunity to revise and refine both their ideas and their verbal and written output. *Embedded in grades 3–5.*
  - **MLR2 Collect and Display**—Captures a variety of students' oral words and phrases into a stable, collective reference. Output can be organized, re-voiced, or explicitly connected to other languages in a display that all students can refer to, build on, or make connections with during future discussion or writing. *Embedded in grades K–5.*
  - **MLR3 Clarify, Critique, Correct** —Gives students a piece of mathematical writing that is not their own to analyze, reflect on, and develop. *Embedded in grades 3–5.*
  - **MLR4 Information Gap**—Creates an authentic need for students to communicate. Partners or team members are given different pieces of necessary information that must be used together to solve a problem. *Embedded in grades 3–5.*
  - **MLR5 Co-craft Questions**—Allows students to get inside a context before feeling pressure to produce answers, and creates opportunities for students to produce the language of mathematical questions. *Embedded in grades 2–5.*
  - **MLR6 Three Reads**—Supports reading comprehension, sense-making, and meta-awareness of mathematical language. Students take time to understand mathematical situations and story problems, and plan their strategies before finding solutions. *Embedded in grades K–5.*
  - **MLR7 Compare and Connect**—Fosters students' meta-awareness as they identify, compare, and contrast different mathematical approaches, representations, and language. *Embedded in grades K–5.*
  - **MLR8 Discussion Supports**—Includes a large variety of teacher moves that support rich discussions about mathematical ideas, representations, contexts, and strategies. *Embedded in grades K–2.*
- **Lesson Synthesis**—After the instructional activities are completed, students take time to reflect on the knowledge they have gained during the instructional activities and incorporate his with their previous knowledge. The lesson synthesis activity should take 5–10 minutes. During this time, teachers help students with this process by asking questions verbally and having students respond orally or in a written journal, by asking students to add on to a graphic organizer or concept map, or some similar activity.
  - **Cool-down Activity**—The cool-down activity is given to students at the end of the lesson. This activity should take about 5 minutes. Students work on the cool-down independently and turn it in. The teacher uses the cool-down as a formative assessment to determine if students understand the lesson and to adjust further instruction. In Kindergarten, most lessons do not include cool-downs. During these lessons, checkpoints are used to formatively assess understanding of the lesson.  
*Note: The Cool-down activity is identified in the introduction to the lesson plan and not at the end of the lesson.*
  - **Assessments**—There are several opportunities for assessment during each unit.
    - Pre-unit problems can be used as a pre-unit assessment.

- Each instructional task includes expected student responses and suggestions to advance student thinking. Teachers will adjust their instruction depending on how the students respond to the task. Frequently there are suggested questions to help teachers better understand students' thinking.
- Practice problems are provided for each lesson that can be used for in-class practice, homework, or as a means to assess certain learning on a particular concept.
- Each section in first grade has a checklist to indicate that students are meeting the section goals.
- Each unit includes an end-of-unit written assessment that is intended for students to complete individually to assess what they have learned at the conclusion of the unit.

## Unit Resources

### Teacher Components

**Teacher Guide:** The Teacher Guide for each unit contains an overview of the sections in which the unit is divided, a description of the centers students will use with the unit, detailed lesson plans, and teacher resources. Within the overview of the unit sections can be found suggested activities from each unit section that can be used as a PLC activity for teachers. PLCs, or Professional Learning Communities, provide teachers the ability to work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for students. PLCs give teachers the opportunity to discuss and plan instruction with peers.

The first few pages of each detailed lesson plan are directed to the teacher. Support notes to the teacher are in gray boxes throughout the lesson plan. On these first pages can be found:

- Alignment to the Common Core Standards
- Learning Goals
  - Teacher-facing learning goals appear at the top of lesson plans. They are directed to the teacher and describe the mathematical and pedagogical goals of the lesson.
  - Student-facing learning goals are directed to the student and start with the word "Let's." These learning goals can be written on the board before class begins. They are used to invite students into the work of that day without giving away too much and spoiling the problem-based instruction.
- Lesson Purpose
- Suggestions for instruction for English Learners and Students with Disabilities
- Instructional Routines
- List of materials needed for the lesson
- Lesson Timeline
- Description of the Cool-Down Activity
- Teacher Reflection Question – The purpose of this question is to provide a direction to the teachers to think critically about their teaching during the lesson.
- Sample Student Responses

At the back of the Teacher Guide are Teacher Resources for the unit.

- Family Support Materials
- Assessments
- Cool Downs
- Instructional Masters

## Student Component

**Activity Book:** The Activity Book is used by the students during the lessons. It coordinates with the lesson plans. It displays the student-facing learning goals for each lesson as well as activity sheets for some activities. Not all activities will use the Activity Book.

As you will note when you examine the Activity Book, minimal text is included on each page. Instead, colorful photos and engaging illustrations dominate the Activity Book pages. The design of the Activity Book in this way is intentional because students in Kindergarten–Grade 2 are just learning to read. At these grade levels, students are learning how to decode written words, so the complexity and amount of text that these young students can actually read is quite limited.

While some advanced students may be able to read words on a given page of the Activity Book, as a general rule students should not be expected or asked to read aloud the text on the Activity Book pages. The text in the Activity Book is there so that teachers and parents can read it when sharing the Activity Book with students.

# Introduction to Kindergarten

The big ideas in Kindergarten include: representing and comparing whole numbers, initially with sets of objects; understanding and applying addition and subtraction; and describing shapes and space. More time in kindergarten is devoted to numbers than to other topics.

Kindergarten is divided into eight units:

1. Math in Our World
2. Numbers 1-10
3. Flat Shapes All Around Us
4. Understanding Addition and Subtraction
5. Composing and Decomposing Numbers to 10
6. Numbers 0-20
7. Solid Shapes All Around Us
8. Putting it All Together

# Unit 1: Math in Our World

## At a Glance

Unit 1 is estimated to be completed in 18-19 days including 2 days for assessment.

This unit is divided into four sections including 16 lessons and 1 optional lesson.

- Section A—Explore Our Math Tools (Lessons 1-5)
- Section B—Recognize Quantities (Lessons 6-9)
- Section C—Are There Enough? (Lessons 10-11)
- Section D—Counting Collections (Lessons 12-17)

On pages 7-9 of this Teacher Guide is a chart that identifies the section each lesson belongs in and the materials needed for each lesson.

This unit uses four student centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

# Unit 1: Math in Our World

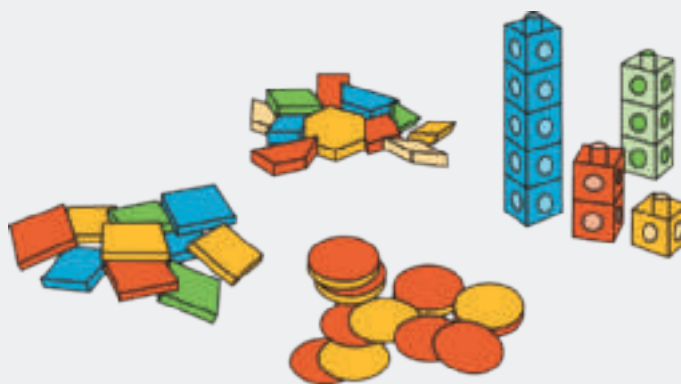
## Unit Learning Goals

- Students recognize numbers and quantities in their world.

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

Students enter kindergarten with a range of counting experiences, concepts, and skills. This unit is designed to be accessible to all learners regardless of their prior experience. To that end, no counting is required for students to engage in the activities in the first three sections, 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, answering "how many of \_\_\_\_ are there?" questions. These questions reinforce the idea that counting is a way to tell how many objects there are. Students are expected to count up to 10 objects by the time they begin the next unit, which will focus more deeply on numbers 1–10.



The unit is also designed to give students time to learn the structures and routines for centers, to create norms for classroom learning, and to begin to build a mathematical community. The content and timing of the lessons at the beginning of the unit are calibrated to make this possible.

To gather information about students' counting and number concepts, consider asking individual students to count a small group of objects and observing the skills or understandings listed in the provided checklist. 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 those who have demonstrated the skills on the checklist throughout the unit.



## Section A: Explore Our Math Tools

### Standards Alignments

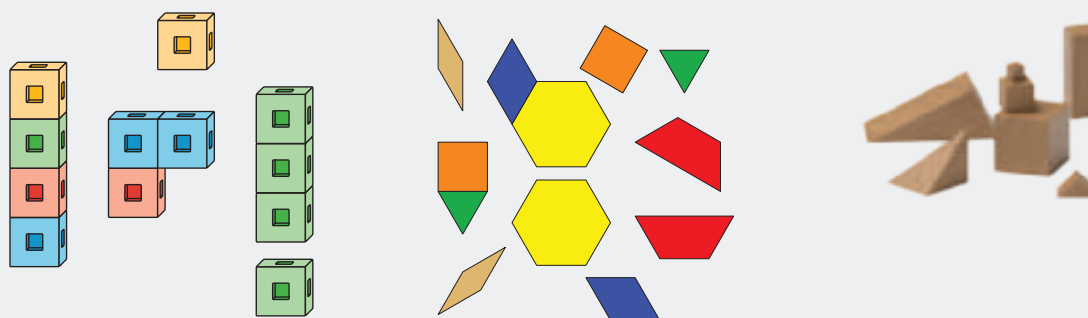
Addressing	K.CC, K.G, K.G.B
Building Towards	K.CC, K.CC.B, K.G, K.G.B, K.MD, K.MD.B.3

### Section Learning Goals


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

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. They collaborate to create norms for their work together. They are also encouraged to share their ideas and listen to others', make connections between their work and their home life, and to see themselves as productive mathematical thinkers.

Students also interact with the tools that they will use in math activities and centers throughout the year. They have the opportunity to freely explore the tools and think of their mathematical purposes before choosing a tool for use in structured activities later in the section and in centers.



Consider taking the time in this section to formatively assess students' counting concepts and skills, observing students or asking them to count small groups of objects while they work, and using the Sections A-D Checkpoint document from the teacher resource pack.

 PLC: Lesson 2, Warm-up, Notice and Wonder: Pattern Blocks

## Section B: Recognize Quantities

### Standards Alignments

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

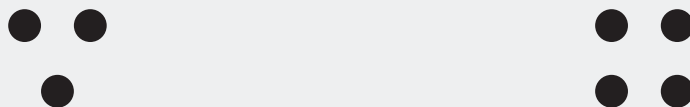
### Section Learning Goals

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

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.”

This section provides continued opportunity to formatively assess students’ counting concepts and skills.



 PLC: Lesson 9, Activity 2, Introduce Picture Books, Create

## Section C: Are There Enough?

### Standards Alignments

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

### Section Learning Goals

- Answer "are there enough" questions.

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 get enough 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 classroom supplies are being distributed.

 PLC: Lesson 10, Activity 2, Are There Enough?

## Section D: Counting Collections

### Standards Alignments

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

Building Towards K.CC, K.CC.B, K.CC.B.4.a

### Section Learning Goals

- Count groups of up to 10 objects.

In this section, students focus on counting up to 10 objects and answering “how many of \_\_\_\_ are there” 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 the idea of 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 of \_\_\_\_ are there?” 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 called 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.

Included in each lesson is an optional activity to support students in certain aspects of counting—verbalizing the count sequence, one-to-one tagging, and organizing objects to count.

 PLC: Lesson 12, Activity 1, Counting Collections

## 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 practice the verbal count sequence to 10 to prepare them for the counting work in Section D. While students practice the verbal count sequence to 10, a visual display of numbers 1-10 should be posted in the room. As much as possible, display a written number for quantities that kids subitize or count to prepare students to recognize and write numbers in the next unit.

Students are introduced to the structure of centers through centers that support the work of this unit. In Activity 3, students participate in centers and often the activity synthesis focuses on habits of how students work in centers. Teachers may choose to complete the lesson synthesis, which is focused on the learning goal of the lesson, after Activity 2, before students transition to working in centers.

## Materials Needed

LESSON	GATHER	COPY
A.1	<ul style="list-style-type: none"> <li>Connecting cubes</li> <li>Mathematical community poster</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
A.2	<ul style="list-style-type: none"> <li>Pattern blocks</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
A.3	<ul style="list-style-type: none"> <li>Two-color counters</li> </ul>	<ul style="list-style-type: none"> <li>5-frame (groups of 1)</li> </ul>
A.4	<ul style="list-style-type: none"> <li>Geoblocks</li> <li>Solid shapes</li> </ul>	<ul style="list-style-type: none"> <li>Geoblocks Stage 2 (groups of 8)</li> </ul>
A.5	<ul style="list-style-type: none"> <li>Connecting cubes</li> <li>Materials from previous centers</li> <li>Pattern blocks</li> </ul>	<ul style="list-style-type: none"> <li>Connecting Cubes Stage 2 Cards (groups of 2)</li> <li>Pattern Blocks Stage 2 Mat (groups of 2)</li> </ul>
B.6	<ul style="list-style-type: none"> <li>Materials from previous centers</li> <li>Picture books</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
B.7	<ul style="list-style-type: none"> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
B.8	<ul style="list-style-type: none"> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>Different Groups, Same Quantity (groups of 2)</li> </ul>
B.9	<ul style="list-style-type: none"> <li>Colored pencils or crayons</li> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>Picture Books Stage 2 Recording Sheet (groups of 1)</li> </ul>
C.10	<ul style="list-style-type: none"> <li>Erasers</li> <li>Materials from previous centers</li> <li>Pencils</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>

C.11	<ul style="list-style-type: none"> <li>Materials from previous centers</li> <li>Pencils</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
D.12	<ul style="list-style-type: none"> <li>5-frames</li> <li>Collections of objects</li> <li>Materials from previous centers</li> <li>Pattern blocks</li> </ul>	<ul style="list-style-type: none"> <li>Counting Mat (groups of 1)</li> <li>Pattern Blocks Stage 3 Directions (groups of 2)</li> </ul>
D.13	<ul style="list-style-type: none"> <li>5-frames</li> <li>Collections of objects</li> <li>Counting mats</li> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
D.14	<ul style="list-style-type: none"> <li>5-frames</li> <li>Chart paper</li> <li>Collections of objects</li> <li>Connecting cubes</li> <li>Counting mats</li> <li>Egg cartons</li> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>Egg Carton Counting (groups of 1)</li> <li>Connecting Cubes Stage 3 Directions (groups of 2)</li> </ul>
D.15	<ul style="list-style-type: none"> <li>5-frames</li> <li>Chart paper</li> <li>Collections of objects</li> <li>Counting mats</li> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>
D.16	<ul style="list-style-type: none"> <li>5-frames</li> <li>Chart paper</li> <li>Collections of objects</li> <li>Counting mats</li> <li>Egg cartons</li> <li>Materials from previous centers</li> </ul>	<ul style="list-style-type: none"> <li>Questions About Us 5-Frames (groups of 30)</li> </ul>



D.17

- 5-frames
- Connecting cubes
- Counting mats
- none

## Center: Connecting Cubes (K)

### Stage 1: Explore

#### Activities

- Kindergarten.1.A1.1 (addressing)
- Kindergarten.1.A5.3 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

#### Stage Narrative

Students have free exploration time with connecting cubes.

#### Standards Alignments

Addressing      K.CC.B, K.G.B, K.MD

#### Materials to Gather

Connecting cubes

## Stage 2: Build to Match

### Activities

- Kindergarten.1.A5.1 (addressing)
- Kindergarten.1.A5.3 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

### Stage Narrative

Students look at images of objects made of connecting cubes and build an object to match.

### Standards Alignments

Addressing     K.CC.B

### Materials to Gather

Connecting cubes

### Materials to Copy

Connecting Cubes Stage 2 Cards (groups of 2)

## Stage 3: Get and Build

### Activities

- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

### Stage Narrative

Students use a specified number of each color of connecting cubes to build an object of their choice.

### Standards Alignments

Addressing     K.CC, K.CC.B.4, K.G.B

## Materials to Gather

Connecting cubes

## Materials to Copy

Connecting Cubes Stage 3 Directions (groups of 2)

## Center: Pattern Blocks (K)

### Stage 1: Explore

#### Activities

- Kindergarten.1.A2.1 (addressing)
- Kindergarten.1.A5.3 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

#### Stage Narrative

Students have free exploration time with pattern blocks.

#### Standards Alignments

Addressing     K.CC.B, K.G, K.MD.B.3

#### Materials to Gather

Pattern blocks

## Stage 2: Puzzles

### Activities

- Kindergarten.1.A5.2 (addressing)
- Kindergarten.1.A5.3 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

### Stage Narrative

Students use pattern blocks to fill in puzzles where the edges of each shape do not touch.

### Standards Alignments

Addressing      K.G

### Materials to Gather

Pattern blocks

### Materials to Copy

Pattern Blocks Stage 2 Mat (groups of 2)

## Stage 3: Get and Build

### Activities

- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

### Stage Narrative

Students use a specified number of each pattern block to build a creation of their choice.

## **Standards Alignments**

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

## **Materials to Gather**

Pattern blocks

## **Materials to Copy**

Pattern Blocks Stage 3 Directions (groups of 2)



## Center: Geoblocks (K–1)

### Stage 1: Explore

#### Activities

- Kindergarten.1.A4.1 (addressing)
- Kindergarten.1.A5.3 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

#### Stage Narrative

Students have free exploration time with geoblocks.

#### Standards Alignments

Addressing      K.G

#### Materials to Gather

Geoblocks

## Stage 2: Build to Match

### Activities

- Kindergarten.1.A4.2 (addressing)
- Kindergarten.1.A5.3 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

### Stage Narrative

Students use solid shapes to build objects pictured on cards.

### Standards Alignments

Addressing      K.G

### Materials to Gather

Geoblocks, Solid shapes

### Materials to Copy

Geoblocks Stage 2 (groups of 8)

## Center: Picture Books (K–5)

### Stage 1: Explore

#### Activities

- Kindergarten.1.B6.2 (addressing)
- Kindergarten.1.B6.3 (addressing)
- Kindergarten.1.B7.3 (addressing)
- Kindergarten.1.B8.3 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

#### Stage Narrative

Students look at picture books and identify groups of objects. They may recognize small quantities or count to figure out how many.

#### Standards Alignments

Addressing      K.CC.B.4

#### Materials to Gather

Picture books

#### Additional Information

Each group of 2 needs at least one picture book that shows groups with different numbers of objects throughout the book.

## Stage 2: Create

### Activities

- Kindergarten.1.B9.2 (addressing)
- Kindergarten.1.B9.3 (addressing)
- Kindergarten.1.C10.3 (addressing)
- Kindergarten.1.C11.3 (addressing)
- Kindergarten.1.D12.3 (addressing)
- Kindergarten.1.D13.3 (addressing)
- Kindergarten.1.D14.3 (addressing)
- Kindergarten.1.D15.3 (addressing)
- Kindergarten.1.D16.3 (addressing)

### Stage Narrative

Students create their own picture book representing different numbers.

### Standards Alignments

Addressing     K.CC.B.4

### Materials to Gather

Colored pencils or crayons

### Materials to Copy

Picture Books Stage 2 Recording Sheet (groups of 1)

## Section A: Explore Our Math Tools

### Lesson 1: Explore Connecting Cubes

#### Standards Alignments

Addressing K.CC

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

#### Teacher-facing Learning Goals

- Explore and use connecting cubes.
- Orally describe a mathematical idea.

#### 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.

Students use connecting cubes in math activities throughout the year. They share their thoughts and ideas about connecting cubes during the Notice and Wonder routine and then try their ideas during free exploration. Students have an opportunity to explore the connecting cubes before they are asked to use them to represent mathematical situations in later lessons. As students explore connecting cubes, they likely will build objects. As you monitor, consider asking questions such as "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 learn more about each student.

The first few lessons in this section are intentionally shorter to allow students to learn the structure and routines of math lessons and to give teachers an opportunity to learn what students know about concepts of number. If there is extra time, students may spend more time exploring connecting cubes in the first activity.

Throughout the section, observe students for the look-fors on the Unit 1, Sections A-D Checkpoint. Consider asking a few students to count one-one-one in each lesson throughout the section.

#### Access for:

##### Students with Disabilities

- Engagement (Activity 1)

##### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Notice and Wonder (Warm-up)

## Materials to Gather

- Connecting cubes: Warm-up, Activity 1

## Lesson Timeline

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

## Teacher Reflection Question

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

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

 0 min

Unit 1, Section A Checkpoint

## Standards Alignments

Addressing K.CC

## Student-facing Task Statement

Lesson Observations

## Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 15 min

### Notice and Wonder: Connecting Cubes

#### Standards Alignments

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

The purpose of this activity is to elicit ideas students have about connecting cubes. Students learn the Notice and Wonder routine 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.

For all of the routines, consider establishing a small, discreet hand signal that students can display to indicate they have an answer they can support with reasoning. This signal could be a thumbs-up, a certain number of fingers that tells the number of responses they have, or another subtle signal. This is a quick way to see if students have had enough time to think about the problem. It also keeps students from being distracted or rushed by hands being raised around the class.

A picture of connecting cubes is provided. However, it is preferable to display a collection of actual connecting cubes. Students also have at least one connecting cube to examine up close.

#### Instructional Routines

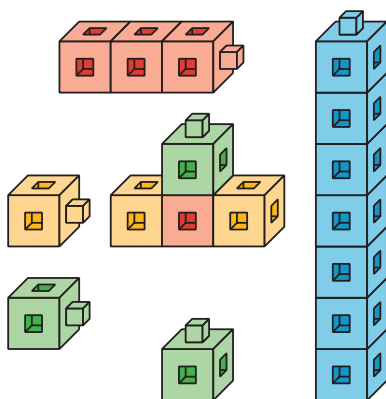
Notice and Wonder

#### Materials to Gather

Connecting cubes

#### Student-facing Task Statement

What do you notice?  
What do you wonder?



#### Launch

- Groups of 2
- Give each student at least one connecting cube and 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



## Student Responses

Students may notice:

- They look like boxes.
- There are lots of different colors. Some of them are blue, green, and yellow.
- I can put mine 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?

- 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.

## Synthesis

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

## Activity 1

🕒 15 min

Introduce Connecting Cubes, Explore

### Standards Alignments

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

The purpose of this activity is for students to explore and use connecting cubes. Students have an opportunity to explore the connecting cubes before they are asked to use them to represent mathematical situations in later lessons. As students work, observe whether students sort, count, or use comparison language while working with connecting cubes. Students will have opportunities to continue exploring connecting cubes in centers in future lessons. This is stage 1 of the Connecting Cubes center.

## Access for English 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*

## Materials to Gather

Connecting cubes

## Student Responses

Sample responses:

- Students create buildings or other structures with connecting cubes.
- Students count connecting cubes.
- Students sort connecting cubes by color.
- Students create patterns.
- Students use comparison language of 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?” (My grandfather uses a spoon to stir the soup. My mom uses a hammer to hang up pictures. I use a stool to help me reach the sink.)
- 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

### 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

🕒 10 min

"Today, we explored connecting cubes and told our partners what we did. Let's make a chart about what you did and what I did while we were doing math today."

### Math Community

Prepare a space, such as a piece of poster paper, titled "Math Community" and a T-chart with the header "Doing Math." Partition the column into two sections: students and teachers. The two sections encourage the students and teacher to be mindful that both respective parties are responsible for the way math is being done in the classroom.

<i>Mathematical Community</i>	
<i>Doing Math</i>	<i>Norms</i>
Students	Students
Teacher	Teacher

“What does it look and sound like to do math together? What was I doing? What were you doing?” (We talked to each other and to the teacher. We had quiet time to think. We shared our ideas. We thought about the math ideas and words we knew. You were writing down our answers. You were waiting until we gave the answers.)

Record responses to revisit in the next lesson.

## Lesson 2: Explore Pattern Blocks

### Standards Alignments

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

### Teacher-facing Learning Goals

- Explore and use pattern blocks.
- Share mathematical ideas with a partner.

### 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.

Students use pattern blocks in math activities throughout the year. Students share their thoughts and ideas about pattern blocks during the Notice and Wonder routine and then try their ideas during free exploration. As students explore pattern blocks, they likely will build or create designs. As you monitor, consider asking questions such as "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.

The first few lessons in this section are intentionally shorter to allow students to learn the structure and routines of math lessons and to give teachers an opportunity to learn what students know about concepts of number. If there is extra time, students may spend more time in exploring pattern blocks in the first activity.

### Math Community

Tell students they will have an opportunity to revise their math community ideas at the end of this lesson, so as they work today they should think about actions that may be missing from the current list.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

#### English Learners

- MLR8 (Warm-up)

## Instructional Routines

Notice and Wonder (Warm-up)

## Materials to Gather

- Pattern blocks: Warm-up, Activity 1

## Lesson Timeline

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

## Teacher Reflection Question

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

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

 0 min

Unit 1, Section A Checkpoint

## Standards Alignments

Addressing K.CC

## Student-facing Task Statement

Lesson observations

## Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

 10 min

Notice and Wonder: Pattern Blocks

   PLC Activity

### Standards Alignments

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

The purpose of this activity is to elicit ideas students have about pattern blocks. This allows teachers to see 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 have a few pattern blocks to examine up close.

### Access for English Learners

*MLR8 Discussion Supports.* Display and encourage students to use the following sentence frames: “I noticed . . .” and “I wonder . . .”

*Advances: Speaking, Reading*

### Instructional Routines

Notice and Wonder

### Materials to Gather

Pattern blocks

### Student-facing Task Statement

What do you notice?

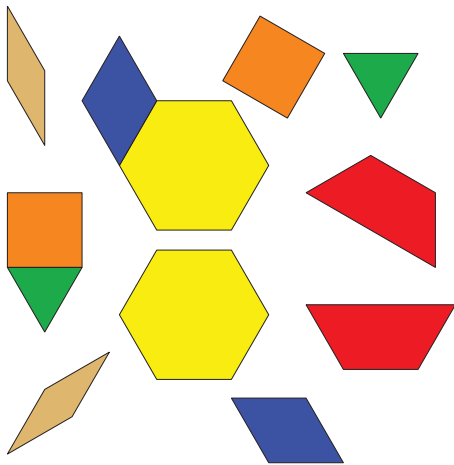
What do you wonder?

### Launch

- Groups of 2
- Give each student a few pattern blocks and 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
- Share and record responses.



## Student Responses

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 one and lots of red ones.

Students may wonder:

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

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

## 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 min

Introduce Pattern Blocks, Explore

### Standards Alignments

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



The purpose of this activity is for students to explore and use pattern blocks. Students have an opportunity to explore the pattern blocks before they are asked to use them to represent mathematical situations in later lessons. As students work, observe whether students sort the pattern blocks, count them, or use geometric language to describe them (MP6). Students will have opportunities to continue exploring pattern blocks in centers in future lessons. This is stage 1 of the Pattern Blocks center.

### **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*

## **Materials to Gather**

Pattern blocks

### **Student Responses**

Sample responses:

- Students create designs with the pattern blocks.
- Students sort the pattern blocks by color or shape.
- Students build a variety of shapes with the pattern blocks and notice how the shapes fit together.
- Students use 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

### **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

🕒 10 min

"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."

### **Math Community**

Display the math community poster from the previous lesson and read to students.

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

Share and record responses.

## Lesson 3: Explore Two-color Counters and 5-frames

### Standards Alignments

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

### Teacher-facing Learning Goals

- Explore and use counters and 5-frames.
- Repeat mathematical ideas shared by a partner.

### Student-facing Learning Goals

- Let's explore two-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.

As students explore two-color counters and 5-frames, they likely will create designs. As you monitor, consider asking questions such as "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 five. 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).

The first few lessons in this section are intentionally shorter to allow students to learn the structure and routines of math lessons and to give teachers an opportunity to learn what students know about concepts of number. If there is extra time, students may spend more time in exploring two-color counters in the first activity.

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 adding movement. For example, students can count as they clap, stomp their feet, or jump.

### Access for:

#### Students with Disabilities

- Engagement (Activity 1)

#### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Notice and Wonder (Warm-up)

### Materials to Gather

- Two-color counters: Activity 1

### Lesson Timeline

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

### Materials to Copy

- 5-frame (groups of 1): Activity 1

### Teacher Reflection Question

Unlike talking, listening is a difficult thing 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?

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

🕒 0 min

Unit 1, Section A Checkpoint

### Standards Alignments

Addressing K.CC

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

## Begin Lesson

### Warm-up

⌚ 15 min

Notice and Wonder: Counters and 5-frames

### Standards Alignments

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

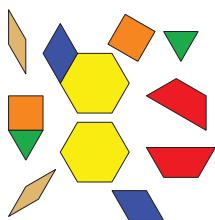
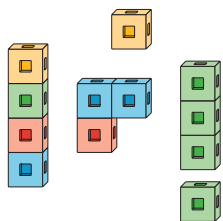
This warm-up prompts students to notice and wonder about four different math tools, two tools they have previously worked with, and two new tools they will explore in this lesson. The structure of the image is the same as what students will see in the Which One Doesn't Belong routine that they will be introduced to in a future unit. To prepare for that, the 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).

### Instructional Routines

Notice and Wonder

### Student-facing Task Statement

What do you notice?  
What do you wonder?



### Student Responses

Students may notice:

### 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."
- Share and record responses.

- The circles are new.
- The circles have one red side and one yellow side.
- The first one 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?

## Synthesis

- “These tools are called two-color counters.”
- If needed, ask “How are these math tools the same? How are they different?”

## Activity 1

🕒 15 min

Explore Counters and 5-frames

### Standards Alignments

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. Students have an opportunity to explore the tools before they are asked to use them to represent mathematical situations in later lessons. As students work, observe whether students count the two-color counters or use the 5-frames to organize the two-color counters.

5-frames are provided as a Instructional 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 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*

**Materials to Gather**

Two-color counters

**Materials to Copy**

5-frame (groups of 1)

**Student-facing Task Statement**

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

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**Student Responses**

Sample responses:

- Students sort two-color counters by color.
- Students create patterns.
- Students use 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?" (Because it has five spaces or squares in it.)
- 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

**Synthesis**

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

**Lesson Synthesis**

⌚ 10 min

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.



## Lesson 4: Explore Geoblocks

### Standards Alignments

Addressing K.CC, K.G

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

### Teacher-facing Learning Goals

- Explore and use geoblocks.
- Repeat mathematical ideas shared by a partner.

### 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.

Students share their thoughts and ideas about geoblocks during the Notice and Wonder routine and then try their ideas during free exploration. Students have an opportunity to explore the geoblocks before they are asked to use them to represent mathematical situations in later lessons. As students explore geoblocks, they likely will build objects. As you monitor, consider asking questions such as "How many geoblocks did you use? How could you find out? How did you decide which geoblocks to use?" These questions help teachers learn more about each student.

The first few lessons in this section are intentionally shorter to allow students to learn the structure and routines of math lessons and to give teachers an opportunity to learn what students know about concepts of number. If there is extra time, students may spend more time exploring geoblocks in the second activity.

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 adding 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, they will be asked to identify specific actions from their "Doing Math" list (both teacher and student sections) that they personally experienced.

### Access for:



#### Students with Disabilities

- Action and Expression (Activity 1)



#### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Notice and Wonder (Warm-up)

### Materials to Gather

- Geoblocks: Activity 1, Activity 2
- Solid shapes: Activity 2

### Lesson Timeline

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

### Materials to Copy

- Geoblocks Stage 2 (groups of 8): Activity 2

### Teacher Reflection Question

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?

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

 0 min

Unit 1, Section A Checkpoint

### Standards Alignments

Addressing K.CC

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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**Begin Lesson**


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**Warm-up**

🕒 10 min

Notice and Wonder: Geoblocks

**Standards Alignments**

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

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 have a few geoblocks to examine up close.

**Instructional Routines**

Notice and Wonder

**Student-facing Task Statement**

What do you notice?

What do you wonder?

**Student Responses**

Students may notice:

- I see different shapes.
- There are different sizes. Some are big and

**Launch**

- Groups of 2
- Give each student a few geoblocks and 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?"
- 1 minute: quiet think time
- "Tell your partner what you wondered."
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.

some are small.

- There are some that look like triangles and some that look like squares.

Students may wonder:

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

## Synthesis

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

## Activity 1

🕒 15 min

Introduce Geoblocks, Explore

### Standards Alignments

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

The purpose of this activity is for students to explore geoblocks. Students have an opportunity to explore the geoblocks before they are asked to use them to represent mathematical situations in later lessons. As students explore, observe whether students sort the geoblocks, count them, or use geometric language to describe them (MP6). Students will have opportunities to continue exploring geoblocks in centers in future lessons. This is stage 1 of the Geoblocks center.

### 🌐 Access for English 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*

## Materials to Gather

Geoblocks

### Student Responses

Sample responses:

- Students use the geoblocks to build towers, buildings, and other things.
- Students sort the geoblocks by shape.
- Students use comparison language like more, bigger, or smaller when discussing their creations.
- Students use 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?” (I saw people building a house. They used wood and ladders. My dad used a hammer to build a dollhouse.)
- “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

### 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 min

Introduce Geoblocks, Build to Match

### Standards Alignments

Addressing K.G

The purpose of this activity is for students to learn stage 2 in the Geoblocks center. Students use solid shapes to build objects pictured on cards. The focus is on how students choose which shapes 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 tool is still called geoblocks to keep things simple for students.

### Materials to Gather

Geoblocks, Solid shapes

### Materials to Copy

Geoblocks Stage 2 (groups of 8)

### Student-facing Task Statement

Use blocks to build a house.



### Launch

- Groups of 2
- Display 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 Instructional 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 \_\_\_\_?"

### 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

🕒 10 min

"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

Display the math community poster and 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 poster?"

## Lesson 5: Explore Math Tools

### Standards Alignments

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

### Teacher-facing Learning Goals

- Explore and use math tools.
- Listen to their partner's mathematical ideas.

### Student-facing Learning Goals

- Let's explore our math tools.

### Lesson Purpose

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

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

### Math Community

Students reflect on the math community poster they have been adding to all week and work to create norms for the classroom.

This lesson has a Student Section Summary.

### Access for:



#### Students with Disabilities

- Engagement (Activity 2)



#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Notice and Wonder (Warm-up)

### Materials to Gather

- Connecting cubes: Activity 1
- Materials from previous centers: Activity 3

### Materials to Copy

- Connecting Cubes Stage 2 Cards (groups of 2): Activity 1



- Pattern blocks: Activity 2

- Pattern Blocks Stage 2 Mat (groups of 2): Activity 2

### Lesson Timeline

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

### Teacher Reflection Question

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

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

 0 min

Unit 1, Section A Checkpoint

### Standards Alignments

Addressing K.CC

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 10 min

### Notice and Wonder: Using Different Tools

#### Standards Alignments

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

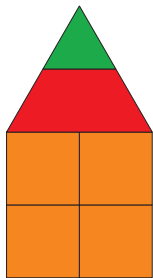
The purpose of this warm-up is for students to consider how different tools can be used to represent the same thing. When students describe how each object represents a house and make connections between the objects, they show their ability to reason abstractly and quantitatively (MP2). In the synthesis,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

#### Instructional Routines

Notice and Wonder

#### Student-facing Task Statement

What do you notice?  
What do you wonder?



#### Student Responses

Students may notice:

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

#### Launch

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

#### Activity

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

#### Synthesis

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

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 min

Introduce Connecting Cubes, Build to Match

### Standards Alignments

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

The purpose of this activity is to introduce 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).

### Materials to Gather

Connecting cubes

### Materials to Copy

Connecting Cubes Stage 2 Cards (groups of 2)

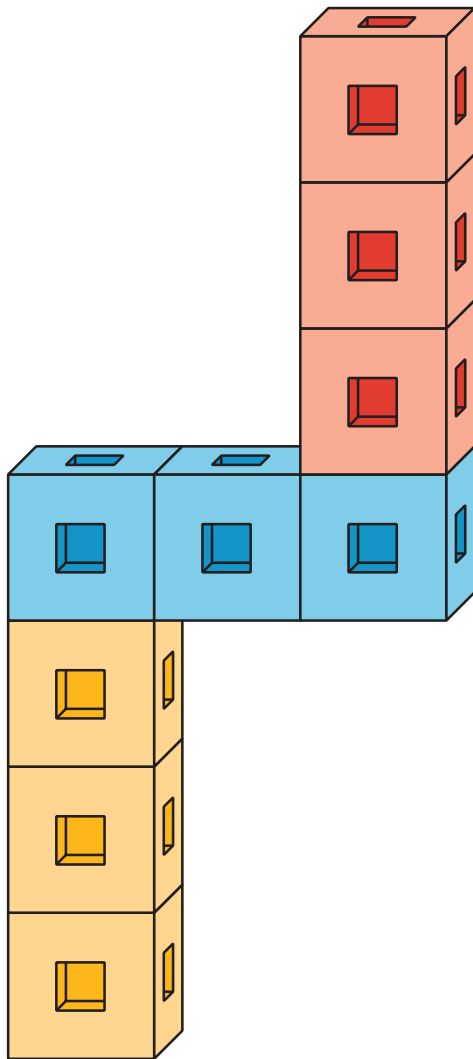
### Required Preparation

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

### Student-facing 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 student book.



## Student Responses

Sample responses:

- Students create an object that matches the image in shape.
- Students create an object that matches the image in shape and color.
- Students count the connecting cubes in the image to make the object.

- “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 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

## 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 min

Introduce Pattern Blocks, Puzzles

### Standards Alignments

Addressing K.G  
Building Towards K.CC

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.

### 🌐 Access for English 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 in the picture.

*Supports accessibility for: Attention, Social-Emotional Functioning*

### Materials to Gather

Pattern blocks

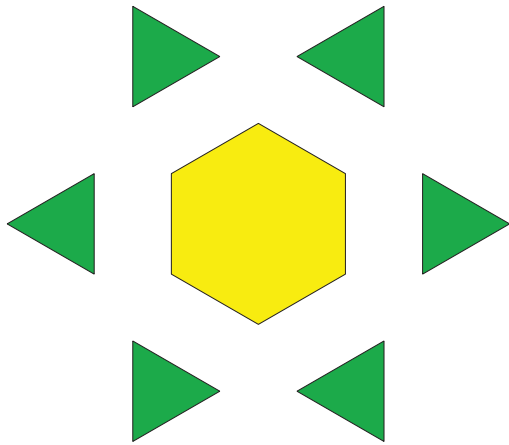
### Materials to Copy

Pattern Blocks Stage 2 Mat (groups of 2)

### Student-facing Task Statement

### Launch

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



### Student Responses

Sample response:

- Students recognize a shape in the puzzle and find the matching pattern block.
- Students use trial and error to find the pattern block that fits the puzzle.

### Activity

- Give each group of students pattern blocks and a mat.
- "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."
- 2 minutes: partner discussion
- "Choose another puzzle to fill in with your pattern blocks."
- 2–3 minutes: independent work time

### 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 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks

The center choices will remain the same in the upcoming lessons. Keep the materials from each

center organized to use each day.

## Materials to Gather

Materials from previous centers

## Required Preparation

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

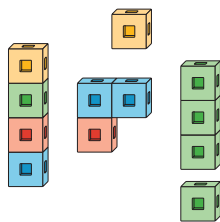
## Student-facing Task Statement

Choose a center.

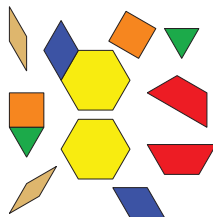
Geoblocks



Connecting Cubes



Pattern Blocks



## Launch

- “Today you will get to choose the math tool you want to work with.”
- 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
- Monitor for students who create objects, patterns, or buildings the class can describe during the synthesis.

## Synthesis

- Invite previously selected students to share their work.
- “Tell your partner how \_\_\_\_ described their work.”

## Lesson Synthesis

🕒 10 min

"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 Math Community poster.

Explain to students that norms are expectations that help everyone in the room feel safe, comfortable, and productive doing math together.

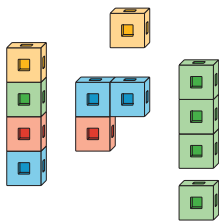
"We are going to make a list of norms for how we do math together. One example of a norm is 'Listen as others share their ideas.' What other norms should we set for our class?"

Share and record responses.

### ✍ Student Section Summary

We explored many math tools.

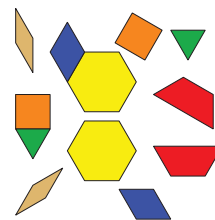
Connecting cubes



Geoblocks



Pattern blocks



Two-color counters



5-frames





## Section B: Recognize Quantities

### Lesson 6: Look for Small Groups

#### Standards Alignments

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

#### Teacher-facing Learning Goals

- Recognize and name the number of objects or images in groups of up to 4 without counting.

#### 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.

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. These routines will continue to be developed throughout the section and will be used across the year.

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

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 adding movement. For example, students can count as they clap, stomp their feet, or jump.

#### Access for:

##### Students with Disabilities

- Representation (Activity 2)

##### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Act It Out (Warm-up), How Many Do You See? (Activity 1)

## Materials to Gather

- Materials from previous centers: Activity 3
- Picture books: Activity 2

## Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	10 min
Activity 3	25 min
Lesson Synthesis	5 min

## Teacher Reflection Question

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

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

🕒 0 min

Unit 1, Section B Checkpoint

## Standards Alignments

Addressing K.CC

## Student-facing Task Statement

Lesson observations

## Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.

- Identify groups with the same number of objects (for groups of up to 4 objects).

## ----- Begin Lesson -----

### Warm-up

⌚ 10 min

Act It Out: Introduction

#### Standards Alignments

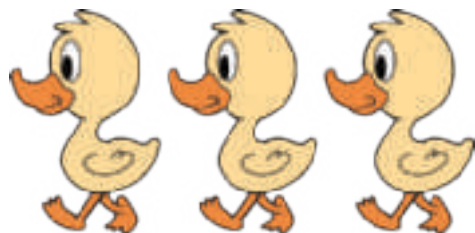
Building Towards K.CC.B.4

The purpose of this activity is for students to experience part of the Act It Out routine. This routine allows students to participate by listening to language and repeating a simple poem related to number. Students share initial thoughts about what the story is about. Students 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.

#### Instructional Routines

Act It Out

#### Student-facing 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.

#### 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.

## Student Responses

Sample responses:

- ducks
- ducks playing

## Synthesis

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

## Activity 1

🕒 10 min

How Many Do You See: Introduction

### Standards Alignments

Building Towards K.CC

The purpose of this activity is for students to experience the first part of the How Many Do You See routine. Students continue to engage in this routine throughout the section and participate in the full routine by the end of the section. In the 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 Learners

*MLR8 Discussion Supports.* Think aloud and use gestures to point to the relevant parts of the display.

*Advances: Listening, Representing*

## Instructional Routines

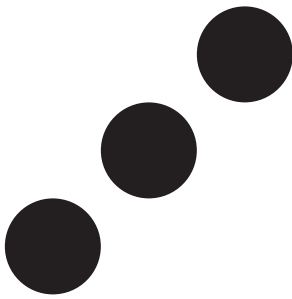
How Many Do You See?

### Student-facing Task Statement

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

### Launch

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



### Student Responses

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

### 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.

### Synthesis

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

## Activity 2

🕒 10 min

Introduce Picture Books, Explore

### Standards Alignments

Building Towards K.CC.B.4

The purpose of this activity is for students to recognize and name quantities in picture books. If students have not heard the story this year, 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. This is stage 1 of the Picture Books center. Students continue working with picture books throughout this unit in centers.

Some examples of picture books include:

- *Grandma's Purse* by Vanessa Brantlett-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*

## Materials to Gather

Picture books

### Student Responses

Sample responses:

- I found 3 dogs.
- I found 2 cats.

### Launch

- Groups of 2
- Display a page from a picture book that has multiple 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 one 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 objects without counting.

### 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 and say “There are \_\_\_\_ in the group.”
- 

## Activity 3

🕒 25 min

### 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 stage of previously introduced 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.



## Materials to Gather

Materials from previous centers

## Required Preparation

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

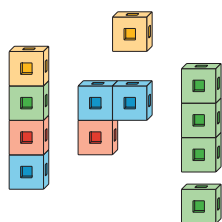
## Student-facing Task Statement

Choose a center.

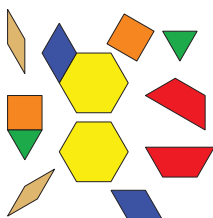
Geoblocks



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 the class can describe during the synthesis.

### **Synthesis**

- Invite previously selected students to share their work.
- “How can we describe what \_\_\_\_ made?”

## **Lesson Synthesis**

 5 min

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.

## Lesson 7: Classroom Scavenger Hunt

### Standards Alignments

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

### Teacher-facing Learning Goals

- Describe to a partner how they saw groups of objects or images.
- Recognize and name the number of objects or images in groups of up to 4 without counting.

### 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.

In a previous lesson, students subitized, or determine 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 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 (Activity 2)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

Act It Out (Warm-up), How Many Do You See? (Activity 1)

## Materials to Gather

- Materials from previous centers: Activity 3

## Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	10 min
Activity 3	25 min
Lesson Synthesis	5 min

## Teacher Reflection Question

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?

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

🕒 0 min

Unit 1, Section B Checkpoint

## Standards Alignments

Addressing K.CC

## Student-facing Task Statement

Lesson observations

## Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 10 min

Act It Out: How Can We Show It?

### Standards Alignments

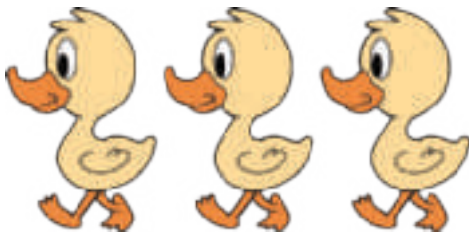
Building Towards K.CC.B.4

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 synthesis, the class acts 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.

### Instructional Routines

Act It Out

### Student-facing 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 Responses

Sample responses:

- Three kids 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.

## Synthesis

- Read the story together.
- Act out the story as a class using a previously identified suggestion of using concrete objects or pictures.

## Activity 1

🕒 10 min

How Many Do You See: Two Images

### Standards Alignments

Building Towards K.CC

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

### 🌐 Access for English 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 students multiple opportunities to produce language.

*Advances: Conversing*

### Instructional Routines

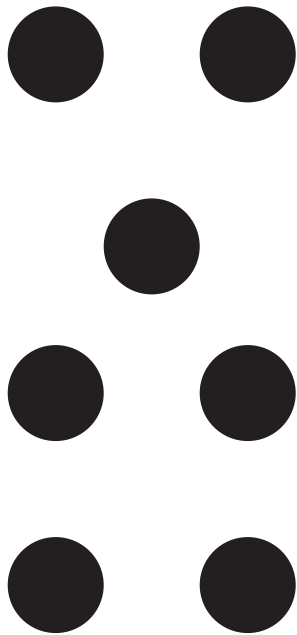
How Many Do You See?

### Student-facing Task Statement

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

### Launch

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



### Student 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

- "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.

### 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."

## Activity 2

🕒 10 min

### Classroom Scavenger Hunt

#### Standards Alignments

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 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 Responses**

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 on your fingers and tell your partner how many objects are in the group and how you know.”
- 5 minutes: partner work time
- Monitor for students who find groups of 2, 3, or 4 objects without counting.

## **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 identifying a group of 1–4 objects and asking:

- “How many \_\_\_\_ are there? How do you know?”

## Activity 3

🕒 25 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Materials from previous centers

## Required Preparation

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

## Student-facing Task Statement

Choose a center.

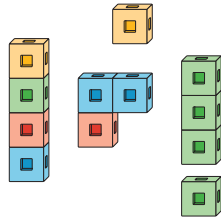
## Launch

- “Today you will work in centers with our math tools and picture books.”

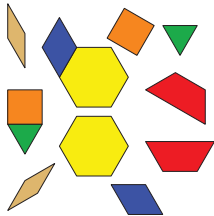
Geoblocks



Connecting Cubes



Pattern Blocks



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 the class can describe during the synthesis.

### Synthesis

- Invite previously selected students to share their work.
- “How can we describe what \_\_\_\_ made?”

## Lesson Synthesis

🕒 5 min

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

## Lesson 8: Different Groups, Same Quantity

### Standards Alignments

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

### Teacher-facing Learning Goals

- Identify groups of objects or images with the same quantity without counting.

### 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.

In previous lessons, students recognized and named groups of up to 5 objects in the classroom and picture books. In this lesson, students identify and match groups that have the same number of things, which builds their 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 amount of images. 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 (Activity 2)



#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Act It Out (Warm-up), How Many Do You See? (Activity 1)

### Materials to Gather

- Materials from previous centers: Activity 3

### Materials to Copy

- Different Groups, Same Quantity (groups of 2): Activity 2

**Lesson Timeline**

Warm-up	10 min
Activity 1	10 min
Activity 2	10 min
Activity 3	25 min
Lesson Synthesis	5 min

**Teacher Reflection Question**

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

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

⌚ 0 min

Unit 1, Section B Checkpoint

**Standards Alignments**

Addressing K.CC

**Student-facing Task Statement**

Lesson observations

**Student Responses**

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify two groups with the same number of objects, with groups of up to 4 objects.

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

## Warm-up

🕒 10 min

Act It Out: Another Way

### Standards Alignments

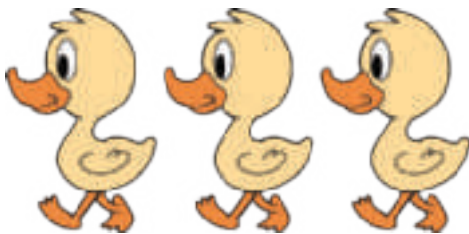
Building Towards K.CC.B.4

The purpose of this activity is for students to consider different ways of acting out a story. Students revisit the 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 synthesis, the class acts out the story with either concrete objects or drawings, whichever was not done in the previous lesson.

### Instructional Routines

Act It Out

### Student-facing 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 Responses

Sample responses:

- Three kids 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.

### Synthesis

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

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

## Activity 1

🕒 10 min

How Many Do You See: 1, 2, 3

### Standards Alignments

Building Towards K.CC

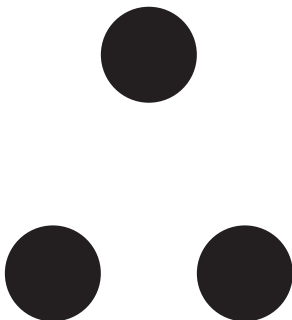
The purpose of this How Many Do You See is for students to recognize and name small groups of dots and describe how they see them.

### Instructional Routines

How Many Do You See?

### Student-facing Task Statement

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

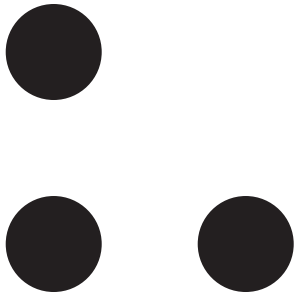


### Launch

- Groups of 2
- 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.



### Student Responses

Sample responses:

- 1: There is only 1 dot.
- 2: I just see 2. There is 1 more dot.
- 3: There are 2 and 1. I see 3 dots.

### 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.

## Activity 2

🕒 10 min

Different Groups, Same Quantity

### Standards Alignments

Building Towards K.CC.C.6

The purpose of this activity is for students to recognize, name, and match groups with the same number of images. They see that the same number of images can be organized in different arrangements. 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 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*

## Materials to Copy

Different Groups, Same Quantity (groups of 2)

### Required Preparation

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

### Student-facing Task Statement



### Student Responses

Students match cards A–G, B–D, C–E, F–H

### Launch

- Groups of 2
- 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
- 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**

- Give each group of students a set of cards.
- "Work with your partner to match the cards that have the same number of things. Explain to your partner how you know."
- 4 minutes: partner work time

**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 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Materials from previous centers

## Required Preparation

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

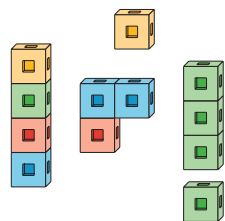
## Student-facing Task Statement

Choose a center.

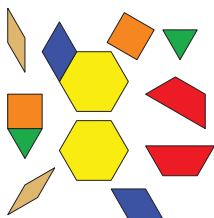
Geoblocks



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, ask:

- "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?"

### Synthesis

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

## Lesson Synthesis

 5 min

"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." (Students say "3" or show 3 fingers.)

"What are some groups of things in our classroom that have 3 things?" (There are 3 windows. There are 3 hearts on the bulletin board.)

## Lesson 9: Create Picture Books

### Standards Alignments

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

### Teacher-facing Learning Goals

- Identify groups of objects or images with the same quantity without counting.
- Recognize and name the number of objects or images in groups of up to 4 without counting.

### 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.

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 many 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 adding 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

- Action and Expression (Activity 2)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Act It Out (Warm-up), How Many Do You See? (Activity 1)

**Materials to Gather**

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

**Materials to Copy**

- Picture Books Stage 2 Recording Sheet (groups of 1): Activity 2

**Lesson Timeline**

Warm-up	10 min
Activity 1	10 min
Activity 2	10 min
Activity 3	25 min
Lesson Synthesis	5 min

**Teacher Reflection Question**

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

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

⌚ 0 min

Unit 1, Section B Checkpoint

**Standards Alignments**

Addressing K.CC

**Student-facing Task Statement**

Lesson observations

**Student Responses**

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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**Begin Lesson**


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**Warm-up**

🕒 10 min

Act It Out: The Story Changes

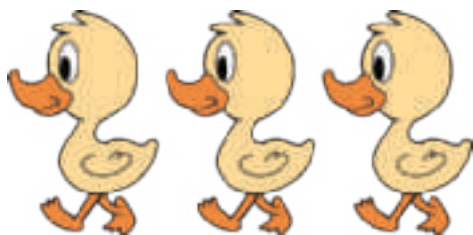
**Standards Alignments**

Building Towards K.CC.B.4

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).

**Instructional Routines**

Act It Out

**Student-facing 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 Responses**

Sample responses:

- Three kids could pretend to be ducks. 2 of the kids could pretend to come back.

**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 of the 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.

**Synthesis**

- Read the story together.

- We could draw 3 ducks.
- We could show the 3 ducks on our fingers.
- We could use connecting cubes to show the 3 ducks.
- 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 of the ducks came back.)

## Activity 1

🕒 10 min

How Many Do You See: What Do You Notice?

### Standards Alignments

Building Towards K.CC

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 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.

### Instructional Routines

How Many Do You See?

### Student-facing Task Statement

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



### Launch

- Groups of 2
- 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



### Student Responses

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

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

### 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

🕒 10 min

Introduce Picture Books, Create

👤 ↔ 👤 PLC Activity

### Standards Alignments

Addressing K.CC.B.4

The purpose of this activity is for students to learn stage 2 of the Picture Books center. In this activity, students identify and record small groups of objects in their classroom with the same quantity. Through recording groups of two objects and seeing the groups of two 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 workbook. Students have the opportunity to complete more pages in a picture book during centers. A Instructional 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 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*

### Materials to Gather

Colored pencils or crayons

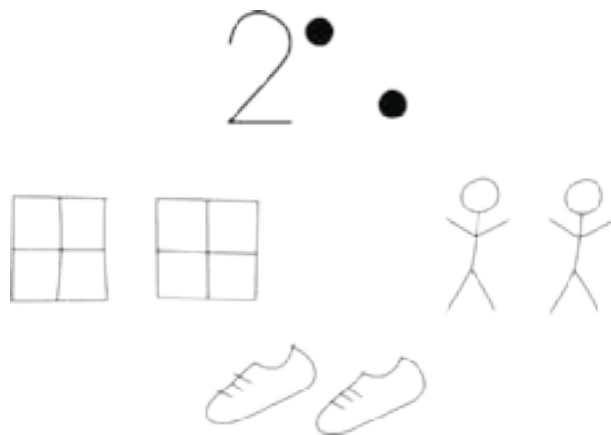
### Materials to Copy

Picture Books Stage 2 Recording Sheet  
(groups of 1)

### Student-facing Task Statement



### Student Responses



### Launch

- Display 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 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

### 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 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Materials from previous centers

## Required Preparation

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

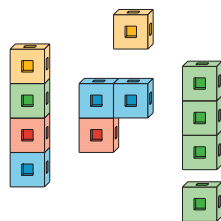
## Student-facing Task Statement

Choose a center.

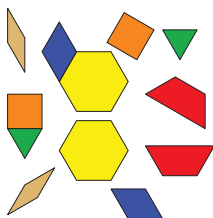
Geoblocks



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, ask:
  - “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 clear groups of 1–4 objects for a new page in their picture book.

### Synthesis

- Invite previously selected students to share their picture book page. The lesson synthesis will focus on this page.

## Lesson Synthesis

 5 min

“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.

### Student Section Summary

In this section, we noticed math in our world.

We found groups of things in our classroom and in books.

We used our fingers and said numbers to tell how many things there are.



2

We found groups that have the same number of things.



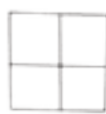
There are 2 windows and 2 tables.



There are 3 stars and 3 soccer balls.  
They look different but they are both 3.

We created our own books to show groups that have the same number of things in our classroom.

2.



## Section C: Are There Enough?

### Lesson 10: Are There Enough?

#### Standards Alignments

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

#### Teacher-facing Learning Goals

- Answer “are there enough” questions about objects.

#### 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.

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.

Each of the lessons in this section begins with a How Many Do You See routine to build on the subitizing work in a previous section. Students 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 (Activity 2)



#### English Learners

- MLR8 (Activity 1)

#### Instructional Routines

Act It Out (Activity 1), How Many Do You See? (Warm-up)

#### Materials to Gather

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

- Pencils: Activity 2

### Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	10 min
Activity 3	25 min
Lesson Synthesis	5 min

### Teacher Reflection Question

Reflect on how you can reinforce the work done in today's lesson outside of math class. When can you ask students questions involving are there enough? How can you incorporate it into snack time, transitions, or when passing out materials?

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

🕒 0 min

Unit 1, Section C Checkpoint

### Standards Alignments

Addressing K.CC

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 10 min

### How Many Do You See: Building On

#### Standards Alignments

Building Towards K.CC.B.4

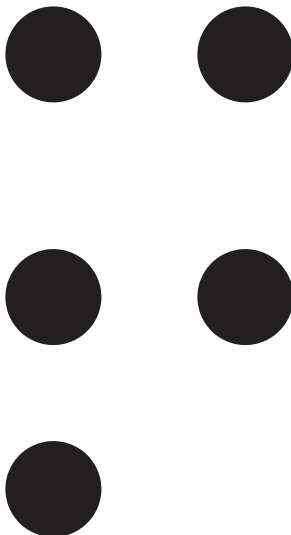
The purpose of this How Many Do You See is for students to recognize and name small groups of dots and describe how they see them. In the synthesis, students orally describe how they see the dots. Students may notice that the images are the same, with one additional dot.

#### Instructional Routines

How Many Do You See?

#### Student-facing Task Statement

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



#### Student Responses

- 2. I can tell it is 2 from looking. I counted 1, 2.
- 3. It looks the same but then has 1 more dot on the bottom. I see 2 on the side and 1 next

#### 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.

#### Synthesis

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



to them.

## Activity 1

🕒 10 min

Act It Out: Four Little Speckled Frogs (Part 1)

### Standards Alignments

Building Towards K.CC.B.4

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 Learners

*MLR8 Discussion Supports.* Listen for and clarify any questions about the context.

*Advances: Listening, Speaking*

### Instructional Routines

Act It Out

### Student-facing 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.

### Activity

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

### Synthesis

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

## Student Responses

Sample Responses:

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

and how we can act it out.”

## Activity 2

🕒 10 min

Are There Enough?

👤 ↔ 👤 PLC Activity

### Standards Alignments

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 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*

### Materials to Gather

Erasers, Pencils

### Required Preparation

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

**Student Responses**

- 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 one pencil and one eraser to see if there are enough.

**Synthesis**

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

**Activity 3**

⌚ 25 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Materials from previous centers

## Required Preparation

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

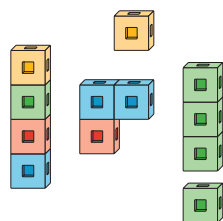
## Student-facing Task Statement

Choose a center.

Geoblocks



Connecting Cubes



Pattern Blocks

Picture Books

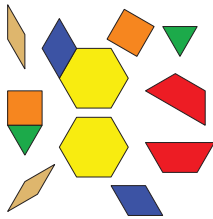


## Launch

- “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, ask:



- “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 synthesis (picture book pages, pattern block designs, or connecting cube buildings).

### 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

⌚ 5 min

Select 4 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.”

Give 1 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.)

# Lesson 11: Get Enough

## Standards Alignments

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

## Teacher-facing Learning Goals

- Make groups with enough objects for each person in the group to get one.

## 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.

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 counting by adding 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 (Warm-up)

### English Learners

- MLR8 (Warm-up)

## Instructional Routines

Act It Out (Activity 1), How Many Do You See? (Warm-up)

## Materials to Gather

- Materials from previous centers: Activity 3

- Pencils: Activity 2

## Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	10 min
Activity 3	25 min
Lesson Synthesis	5 min

## Teacher Reflection Question

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 lesson?

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

🕒 0 min

Unit 1, Section C Checkpoint

## Standards Alignments

Addressing K.CC

## Student-facing Task Statement

Lesson observations

## Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 10 min

### How Many Do You See: In a Flash

#### Standards Alignments

Building Towards K.CC

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 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*

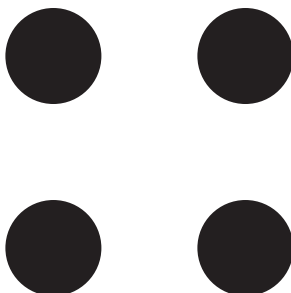
#### Instructional Routines

How Many Do You See?

#### Student-facing Task Statement

How many do you see?

How do you see them?



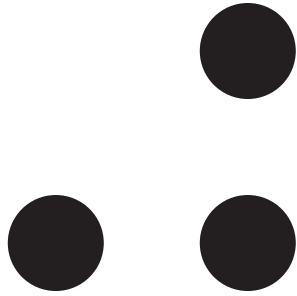
#### Launch

- Groups of 2
- “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.





### Student 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.

- "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
- Repeat with the second image.

### Synthesis

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

## Activity 1

🕒 10 min

Act It Out: Four Little Speckled Frogs (Part 2)

### Standards Alignments

Building Towards K.CC.B.4

The purpose of this activity is for students to think of different ways a story can be represented. Students hear the 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.

### Instructional Routines

Act It Out

### Student-facing Task Statement

### Launch

- Groups of 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!

### Student Responses

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 kids pretend to be frogs. One can pretend to jump into the pool.

- 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
- Share responses.

### Synthesis

- Read the story together.
- Act out the story as a class using a previously identified suggestion of using concrete objects or pictures.

## Activity 2

🕒 10 min

Get Enough

### Standards Alignments

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 the groups 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.

## Materials to Gather

Pencils

## Required Preparation

- Each group of 4 needs at least 8 pencils.

## Student-facing Task Statement



## Student Responses

Students create a group of 4 pencils by giving each student in the group a 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 workbook gets one.”
- 2 minutes: small-group work time

## Synthesis

- “I need to get enough pencils so that each student has one. What should I do?” (You should give each student a pencil. You should count the students and see how many there are. Then you can get that many pencils.)

## Activity 3

⌚ 25 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

### Materials to Gather

Materials from previous centers

### Required Preparation

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

### Student-facing Task Statement

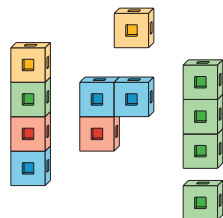
Choose a center.

Geoblocks



Pattern Blocks

Connecting Cubes



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, ask:
  - “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?”

## Synthesis

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

## Lesson Synthesis

🕒 5 min

Display the image of 5 students from Activity 2.

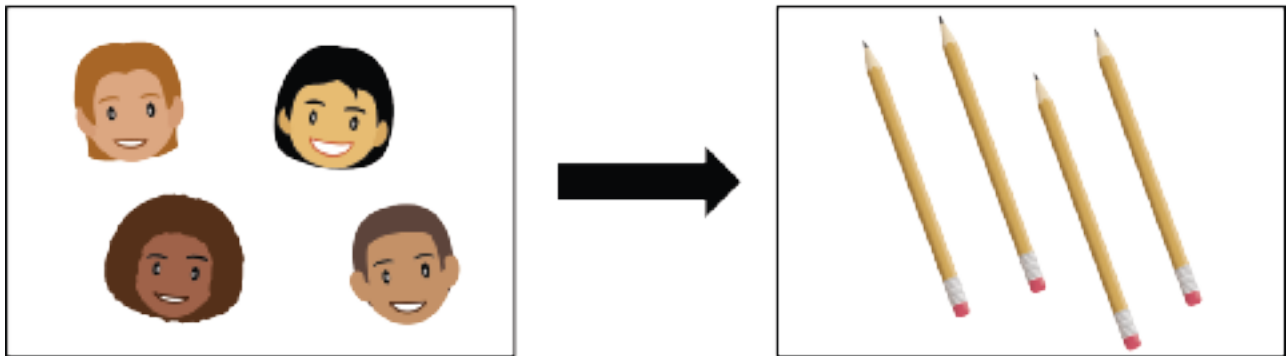
“If this group of students is working with geoblocks during center time, how many blocks do we need so that each student can have one? How do you know?”

“Now, let’s count to 10.”

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

## ✍ Student Section Summary

In this section, we figured out if there were enough pencils for everyone in our group.



We matched each pencil with one person.

We also got enough pencils so that each person could have one.

## Section D: Counting Collections

### Lesson 12: How Many Are There? (Part 1)

#### Standards Alignments

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

Building Towards K.CC.B.4.a

#### Teacher-facing Learning Goals

- Count collections of objects.
- Say one number for each object.

#### 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.

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 (Activity 1)

##### English Learners

- MLR8 (Activity 1)

#### Instructional Routines

Questions About Us (Warm-up)

#### Materials to Gather

- 5-frames: Activity 1
- Collections of objects: Activity 1

#### Materials to Copy

- Counting Mat (groups of 1): Activity 1
- Pattern Blocks Stage 3 Directions (groups of 2): Activity 3

- Materials from previous centers: Activity 3
- Pattern blocks: Activity 3

### Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	20 min
Lesson Synthesis	5 min

### Teacher Reflection Question

Each lesson in this section includes an optional activity with additional support in developing counting concepts. What have you observed that indicates whether or not students may benefit from these activities?

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

🕒 0 min

Unit 1, Section D Checkpoint

### Standards Alignments

Addressing K.CC

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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



## Warm-up

🕒 10 min

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

#### Standards Alignments

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

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 associate one number with one person as they count the students in the 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.

#### Instructional Routines

Questions About Us

#### Student Responses

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?”

#### 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

🕒 15 min

### Counting Collections

👤 ↔ 👤 PLC Activity

### Standards Alignments

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 Instructional 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 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*

**Materials to Gather**

5-frames, Collections of objects

**Materials to Copy**

Counting Mat (groups of 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 Responses**

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.

**Synthesis**

- Invite previously identified students to demonstrate how they counted their collections.
- “What do you notice about how they counted?”

- If needed, “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 min

Count to 10

### Standards Alignments

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. Based on formative assessment data and observation from previous sections and during the first activity, this activity will be helpful for students who are not yet saying the count sequence to 10. English learners in particular will benefit from this 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 optional activity may benefit from additional time working in centers. Some students may benefit from working on the concepts in this optional activity more than one time. Consider incorporating counting and counting songs throughout the day and during transitions.

## Student Responses

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.

## 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

## Advancing Student Thinking

If students "sing" the count sequence without separating each number word, prompt them to count slowly and match a gesture or movement with each number.

---

## Activity 3

🕒 20 min

Introduce Pattern Blocks, Get and Build

### Standards Alignments

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

The purpose of this activity is for students to learn stage 3 of the Pattern Blocks center. In this center, students use a specified number of each pattern block to create with. 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 stage of previously introduced 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.

### Materials to Gather

Materials from previous centers, Pattern blocks

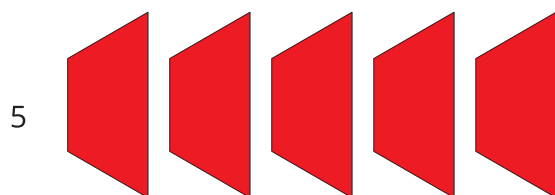
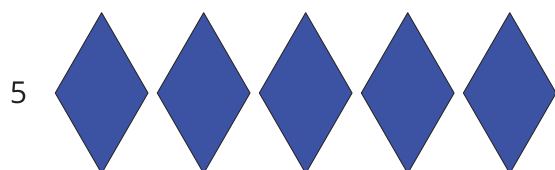
### Materials to Copy

Pattern Blocks Stage 3 Directions (groups of 2)

### Required Preparation

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

## Student-facing Task Statement

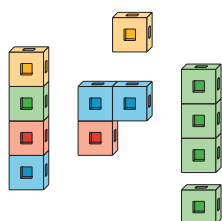


Choose a center.

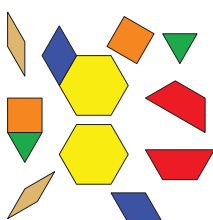
Geoblocks



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.
- "We are going to learn a new way to do the Pattern Blocks center. It is called Pattern Blocks, Get and Build."
- "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 a robot or a design or something else."

## Activity

- 3 minutes: partner work time
- "Now you can choose another center. You can also continue playing Pattern Blocks."
- If students want to continue with stage 3 of Pattern Blocks, give them a copy of the Instructional master with more pattern blocks they can get and build with.
- 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, invite students to choose another center.

### **Synthesis**

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

## **Lesson Synthesis**

🕒 5 min

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



## Lesson 13: How Many Are There? (Part 2)

### Standards Alignments

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

Building Towards K.CC.B.4.a

### Teacher-facing Learning Goals

- Count collections of objects.
- Keep track of objects that have been counted.

### 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 keeping track of which objects have been counted.

Students figure out how many students are in class during 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 (Activity 1)



#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Questions About Us (Warm-up)

### Materials to Gather

- 5-frames: Activity 1
- Collections of objects: Activity 1, Activity 2
- Counting mats: Activity 1
- Materials from previous centers: Activity 3

**Lesson Timeline**

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	20 min
Lesson Synthesis	5 min

**Teacher Reflection Question**

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?

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

⌚ 0 min

Unit 1, Section D Checkpoint

**Standards Alignments**

Addressing K.CC

**Student-facing Task Statement**

Lesson observations

**Student Responses**

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

 10 min

### Questions About Us: Attendance

#### Standards Alignments

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

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, which will be helpful as students 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).

#### Instructional Routines

Questions About Us

#### Student Responses

Sample responses:

- We can line up and then 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 of the students line up.

#### Activity

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

#### Synthesis

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

## Activity 1

🕒 15 min

### Counting Collections

#### Standards Alignments

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 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, 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 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*

#### Materials to Gather

5-frames, Collections of objects, Counting mats

#### Student Responses

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

#### 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.”

#### 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."
- 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.

### Synthesis

- Invite previously identified students to demonstrate how they counted their collections.
- "What do you notice about how they counted?"
- If needed, "They made sure that they counted each object one time."
- After each student shares, write or display the number and say "There are \_\_\_\_ objects in their collection."

### Advancing Student Thinking

If students do not appear to have a method to keep track of the objects they have counted, consider asking:

- "How can you figure out how many objects you have? How can you make sure that you count each object one time?"
- "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 min

Pair Objects and Numbers

### Standards Alignments

Addressing K.CC.B.4.a

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

Based on formative assessment data from previous sections and observation during the first activity, this activity will be helpful for students who are not yet connecting the verbal count sequence and counting objects.

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. Some students may benefit from working on the concepts in this optional activity more than one time.

### 🌐 Access for English 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*

### Materials to Gather

Collections of objects

### Required Preparation

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

### Student Responses

- 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 all together.
- Give each student a bag of objects and bucket or container to put their objects in as they 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."
- 1 minute: independent work time

**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 1 time.)
  - If needed, "When we count, we say one number for each object."
- 

**Activity 3**

🕒 20 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Materials from previous centers

## Required Preparation

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

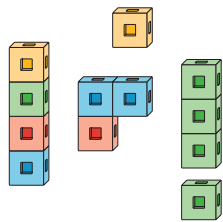
## Student-facing Task Statement

Choose a center.

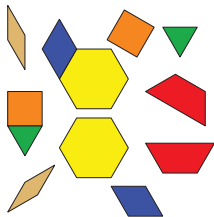
Geoblocks



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

## Synthesis

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

## Lesson Synthesis

🕒 5 min

“Today we counted collections of objects. What is something that you can count at home?”



## Lesson 14: Answer “How Many” Questions

### Standards Alignments

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

### Teacher-facing Learning Goals

- Answer “how many” questions.
- Count collections of objects.

### 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 objects. The focus is understanding that the last number tells us how many objects there are (cardinality).

In the Questions About Us routine, students brainstorm different ways to represent how many students are at school 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 (Activity 2)

#### English Learners

- MLR8 (Warm-up)

### Instructional Routines

Questions About Us (Warm-up)

#### Materials to Gather

- 5-frames: Activity 1
- Chart paper: Warm-up
- Collections of objects: Activity 1, Activity 2
- Connecting cubes: Activity 3
- Counting mats: Activity 1
- Egg cartons: Activity 2

#### Materials to Copy

- Egg Carton Counting (groups of 1): Activity 2
- Connecting Cubes Stage 3 Directions (groups of 2): Activity 3

- Materials from previous centers: Activity 3

## Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	20 min
Lesson Synthesis	5 min

## Teacher Reflection Question

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?

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

🕒 0 min

Unit 1, Section D Checkpoint

## Standards Alignments

Addressing K.CC.B.4.a

## Student-facing Task Statement

Lesson observations

## Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

 10 min

### Questions About Us: Represent Attendance (Part 1)

#### Standards Alignments

Addressing K.CC.A.1

Building Towards K.CC.B

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 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 Learners

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

*Advances: Representation*

#### Instructional Routines

Questions About Us

#### Materials to Gather

Chart paper

#### Student Responses

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?”

## Synthesis

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

## Activity 1

🕒 15 min

### Counting Collections: How Many?

#### Standards Alignments

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 say the last number counted when asked “how many” (cardinality). Initially when asked “how many”, students may recount the collection of objects. As students develop an understanding that the last number said tells the number of objects counted, they no longer have to recount and can 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.

#### Materials to Gather

5-frames, Collections of objects, Counting mats

## Student Responses

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

## Launch

- Groups of 2

## 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."
- 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

## 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, "The last number we say when we count tells us how many objects there are."
- After each student shares, write or display the number and say, "There are \_\_\_\_ objects in their collection."

## Advancing Student Thinking

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

- "Can you tell me how many objects there are without counting them again?"

## Activity 2 (optional)

🕒 10 min

### Egg Carton Counting

#### Standards Alignments

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. Based on formative assessment data from previous sections and observation during the first activity, this activity will be helpful for students who are not yet matching each object with one and only one number. If egg cartons are not available, the Instructional 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*

#### Materials to Gather

Collections of objects, Egg cartons

#### Materials to Copy

Egg Carton Counting (groups of 1)

#### Student Responses

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 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 students count, monitor for students who say one number as they put each object into a section of the egg carton.

### 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. Demonstrate counting slowly and using an exaggerated gesture while counting each object.

---

## Activity 3

 20 min

Introduce Connecting Cubes, Get and Build

### Standards Alignments

Addressing     K.CC, K.CC.B.4, K.G.B

The purpose of this activity is for students to learn what's required for stage 3 of the Connecting Cubes center. Students use a specified number of each color of connecting cube to build with. 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 Instructional 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 the center, students choose from any stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Connecting cubes, Materials from previous centers

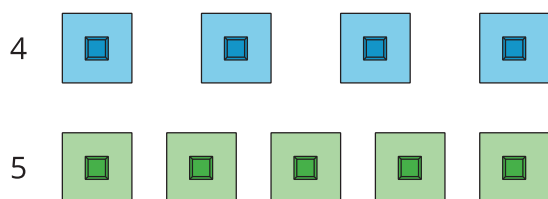
## Materials to Copy

Connecting Cubes Stage 3 Directions (groups of 2)

## Required Preparation

- Gather materials from:
  - 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-facing Task Statement



Choose a center.

## Launch

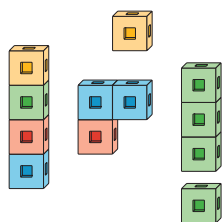
- Groups of 2
- Display the student book.
- "What do you notice? What do you wonder?"
- 30 seconds: quiet think time
- 1 minute: partner discussion



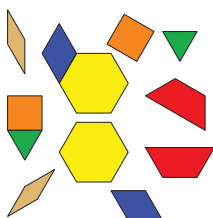
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books



- 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 Instructional master with more connecting cubes they can get and build with.
- 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.

## Synthesis

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

what \_\_\_\_ and \_\_\_\_ made.”

## Lesson Synthesis

🕒 5 min

“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.”

## Lesson 15: Explain How You Counted

### Standards Alignments

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

Building Towards K.CC.B

### Teacher-facing Learning Goals

- Count collections of objects.
- Explain how they counted to a partner.

### 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.

In the Questions About Us routine, students brainstorm different ways to represent how many students are at school 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 (Activity 2)



#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

Questions About Us (Warm-up)

### Materials to Gather

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

**Lesson Timeline**

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	20 min
Lesson Synthesis	5 min

**Teacher Reflection Question**

Who got to do math today in class and how do you know? Identify the norms or routines that allowed those students to engage in mathematics. How can you adjust these norms and routines so all students do math tomorrow?

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

⌚ 0 min

Unit 1, Section D Checkpoint

**Standards Alignments**

Addressing K.CC.B.4.a

**Student-facing Task Statement**

Lesson observations

**Student Responses**

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 10 min

### Questions About Us: Represent Attendance (Part 2)

#### Standards Alignments

Addressing K.CC.A.1

Building Towards K.CC.B

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 here 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).

#### Instructional Routines

Questions About Us

#### Materials to Gather

Chart paper

#### Student Responses

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 than yesterday.

#### 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?"

### Synthesis

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

## Activity 1

🕒 15 min

### Counting Collections: Share How You Counted

#### Standards Alignments

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 share how they counted with a partner. Sharing 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 Learners

*MLR8 Discussion Supports.* Provide multiple opportunities for verbal output. Invite students to chorally repeat each count in unison.

*Advances: Listening, Speaking*

#### Materials to Gather

5-frames, Collections of objects, Counting

mats

## Student Responses

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."

## 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."
- 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 how they used a counting mat or 5-frame to count their objects.

## Synthesis

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

## Activity 2 (optional)

🕒 10 min

Use a Counting Mat to Keep Track

### Standards Alignments

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. Based on formative assessment data from previous sections and observation during the first activity, this activity will be helpful for students who are not counting all objects or counting some objects more than one time.

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*

### Materials to Gather

Collections of objects, Counting mats

### Student Responses

- 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 students count, monitor for students who move each object from one side of the counting mat as they say one number.

**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 min

**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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

## Materials to Gather

Materials from previous centers

## Required Preparation

- Gather materials from:
  - 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

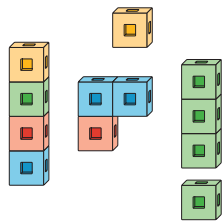
## Student-facing Task Statement

Choose a center.

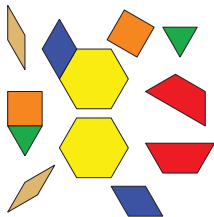
Geoblocks



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

## Synthesis

- “Tell us about a time when something was challenging for you during centers. What did you do?”

## Lesson Synthesis

🕒 5 min

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

help you count?"

## Lesson 16: Represent Our Collections

### Standards Alignments

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

### Teacher-facing Learning Goals

- Count collections of objects.
- Represent 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.

In the Questions About Us routine, students use 5-frames to determine how many students are at school today. Students then count objects in different collections in a way that makes sense to them and represent their collections. The second activity is an optional activity that 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 (Activity 1)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

5 Practices (Activity 1), Questions About Us (Warm-up)

### Materials to Gather

- 5-frames: Activity 1
- Chart paper: Warm-up
- Collections of objects: Activity 1, Activity 2
- Counting mats: Activity 1, Activity 2
- Egg cartons: Activity 2

### Materials to Copy

- Questions About Us 5-Frames (groups of 30): Warm-up

- Materials from previous centers: Activity 3

### Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	10 min
Activity 3	20 min
Lesson Synthesis	5 min

### Teacher Reflection Question

As you finish up this unit, reflect on the norms and activities that have supported each student in learning math. List ways you have seen each student grow as a young mathematician throughout this work. List ways you have seen yourself grow as a teacher. What will you continue to do and what will you improve upon in Unit 2?

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

 0 min

### Unit 1, Section D Checkpoint

#### Standards Alignments

Addressing K.CC.B.4.a

#### Student-facing Task Statement

Lesson observations

#### Student Responses

- Say the count sequence to 10.
- Say one number for each object.
- Answer how many without counting again.
- 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.
- Show quantities on fingers.
- Identify groups with the same number of objects (for groups of up to 4 objects).

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

## Warm-up

🕒 10 min

### Questions About Us: Attendance Display

#### Standards Alignments

Addressing K.CC.A.1

Building Towards K.CC.B

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 Instructional 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 also determine how many students are absent in future lessons by referring to the empty squares. This display will be used during the Questions About Us warm-up in later lessons, so create the display in a place in the classroom that can easily be seen by students.

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

#### Instructional Routines

Questions About Us

#### Materials to Gather

Chart paper

#### Materials to Copy

Questions About Us 5-Frames (groups of 30)

#### Required Preparation

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

#### Student Responses

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?”
- 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 in the 5-frame.)
- Count each student.
- “How many of us are here today?”
- Count each circle.
- “How many of us are here today?”

### Synthesis

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

## Activity 1

🕒 15 min

Counting Collections: Show How Many

### Standards Alignments

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. Monitor and select students with the following strategies to share in the synthesis:

- demonstrate or explain how they counted
- take out the same number of objects
- draw a picture

Students are provided with a counting mat 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).

### Access for Students with Disabilities

*Action and Expression: Internalize Executive Functions.* Invite students to plan a strategy, including what drawings, numbers, words, or objects they will use, to show how they counted their collection.

*Supports accessibility for: Conceptual Processing, Organization*

## Instructional Routines

5 Practices

### Materials to Gather

5-frames, Collections of objects, Counting mats

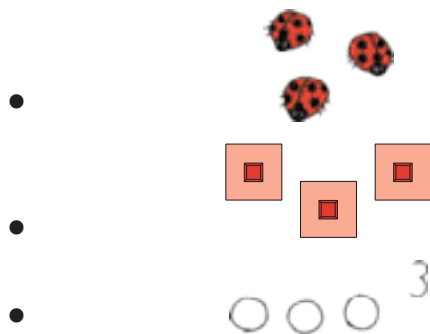
### Student-facing Task Statement

Show how many objects are in your collection.

### Student Responses

Students represent how they counted their collection. Sample responses:

- “I put them all in a line and then I counted the whole line.”



### 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.”

### 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.”
- 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
- “Show how you counted your collection. Show your thinking using objects, drawings, numbers, or words.”
- 2 minutes: independent work time
- Monitor for students who use the strategies in the synthesis to represent how they counted.

### Synthesis

- Ask selected students to share in the order listed in the activity narrative.
- “What is the same about how they each counted their collections?” (They all counted each object 1 time.)
- “What is different about how they each showed how they counted?” (Some people drew a picture and some used objects.)
- After each student shares, write or display the number and say, “There are \_\_\_\_ objects in their collection.”

### Advancing Student Thinking

If students have difficulty representing their count on paper, consider having them explain how they counted verbally. Students can also be provided stickers that they can put on their paper to represent each object in place of a drawing.

---

## Activity 2 (optional)

 10 min

Answer How Many Questions

### Standards Alignments

Addressing     K.CC.B

The purpose of this optional activity is for students to develop their understanding that the last number said tells how many there are. Based on formative assessment data from previous sections and observation during the first activity, this activity will be helpful for 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 this optional activity may benefit from additional time working in centers.

### Access for English 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*

## Materials to Gather

Collections of objects, Counting mats, Egg cartons

## Student Responses

- 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

### 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, “When we counted, the last number we said was \_\_\_\_\_. That tells us that there are \_\_\_\_\_ objects in our collection.”

## Activity 3

🕒 20 min

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 stage of previously introduced centers.

- Connecting Cubes
- Pattern Blocks
- Geoblocks
- Picture Books

### Materials to Gather

Materials from previous centers

### Required Preparation

- Gather materials from:
  - 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

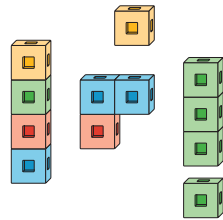
## Student-facing Task Statement

Choose a center.

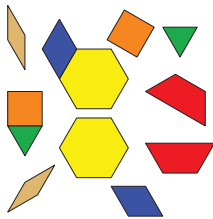
Geoblocks



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

## 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

🕒 5 min

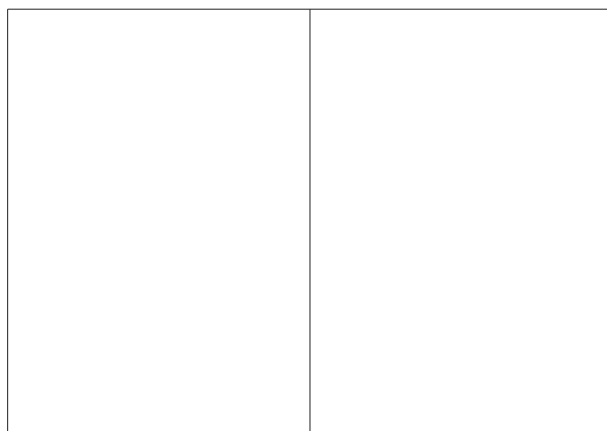
“Today we counted collections to figure out how many objects there are. Ask your partner a question about our classroom that starts with ‘how many.’”

## ✍ Student Section Summary

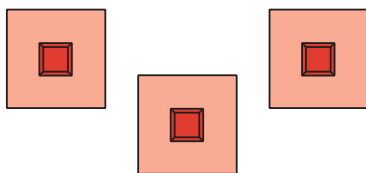
In this section, we counted collections of objects.



We counted each object and kept track of which objects we've counted. We used 5-frames and counting mats to help us.



We said a number to tell how many objects there are.



3

## Lesson 17: Connecting Cube Sculptures (Optional)

### Standards Alignments

Addressing K.CC

Building Towards K.CC

### Teacher-facing Learning Goals

- Answer “how many” questions.
- Count collections of objects.

### Student-facing Learning Goals

- Let’s build with connecting cubes and figure out how many we have.

### Lesson Purpose

The purpose of this lesson is for students to count and build with a collection of connecting cubes. The focus is understanding that the last number tells us how many objects there are (cardinality).

This lesson is optional because it does not address any new mathematical content standards. This lesson does provide students with an opportunity to apply precursor skills of mathematical modeling (MP4). In previous lessons, students counted collections of objects and represented how they counted. In this lesson students continue to build these skills. Students practice answering “how many” questions without recounting the group of objects. In the first activity, students count a collection of connecting cubes in a way that makes sense to them. In the second activity, they build using the connecting cubes and share what they made and how many connecting cubes they used with their group.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 2)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

How Many Do You See? (Warm-up)

### Materials to Gather

- 5-frames: Activity 1, Activity 2
- Connecting cubes: Activity 1, Activity 2
- Counting mats: Activity 1, Activity 2

## Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	25 min
Lesson Synthesis	5 min

---

## Begin Lesson

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## Warm-up

🕒 10 min

How Many Do You See: Connecting Cube Flash

### Standards Alignments

Building Towards K.CC

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

### Instructional Routines

How Many Do You See?

### Student-facing Task Statement

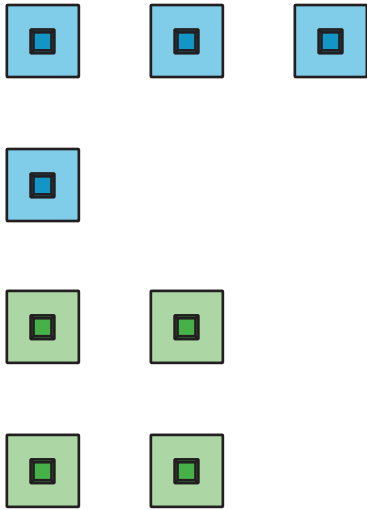
How many do you see?

How do you see them?



### Launch

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



### Student Responses

- 3 cubes. I see 3 in a row.
- 4 cubes. I see 3 in a row and 1 more.
- 4 cubes. I see 2 and 2. It looks like 4 on a dot cube.

### Activity

- Flash the image again.
- “Use your fingers to show your partner how many cubes you see.”
- 30 seconds: partner work time
- “Tell your partner how many cubes you see and how you see them.”
- 1 minute: partner discussion
- Repeat for each image.

### Synthesis

- Display the second and third images.
- “What is the same about these groups of connecting cubes? What is different?” (They both have 4. One cube moved from the top row to the bottom row.)
- Display or write “4.”
- “There are 4 connecting cubes in this group. There are also 4 connecting cubes in this group.”

## Activity 1

🕒 20 min

### Count Cubes

#### Standards Alignments

Addressing K.CC

The purpose of this activity is for students to count their collection in a way that makes sense to them and to answer “how many” questions without recounting the collection. Most students should be given collections with 6–10 connecting cubes. Based on formative assessment data collected in previous sections, adjust the number 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).



## Access for English Learners

*MLR8 Discussion Supports.* Synthesis: Invite students to use gestures as they count their collections aloud.

*Advances: Speaking, Representing*

## Materials to Gather

5-frames, Connecting cubes, Counting mats

## Student Responses

- Students count how many cubes they have and then say the last number when asked "how many?" without recounting the group of objects.

## Launch

- Groups of 2
- Give each student a bag of 6–10 cubes.
- Give access to 5-frames and counting mats to each group.

## Activity

- "Figure out how many cubes are in your collection. Show how you counted your collection. Show your thinking using objects, drawings, numbers, or words."
- 2 minutes: independent work time
- "How many cubes are in your collection? Tell your partner how many cubes are in your collection without counting them again."
- 2 minutes: partner discussion

## Synthesis

- Invite a few students to demonstrate how they counted their connecting cubes.
- After each student shares: "How many cubes are in \_\_\_\_'s collection? How do you know?" (There are \_\_\_\_ cubes. I know because that's the last number they said.)
- If needed, say "When we counted, the last number we said was \_\_\_\_\_. That tells us that there are \_\_\_\_\_ objects in our

collection.”

## Activity 2

⌚ 25 min

### Connecting Cube Creations

#### Standards Alignments

Addressing K.CC

The purpose of this activity is for students to create and share what they build with their connecting cubes and to share how many connecting cubes they have without recounting the collection.

#### Access for Students with Disabilities

*Action and Expression: Internalize Executive Functions.* Check for understanding by inviting students to rephrase directions in their own words.

*Supports accessibility for: Memory, Organization*

#### Materials to Gather

5-frames, Connecting cubes, Counting mats

#### Student Responses

Sample response:

- I have 8 cubes and I made a butterfly. 4 of the cubes make the body and the other 4 I used to make the wings. I made this because my mom planted some flowers on our balcony and the color of the cubes are just like the colors I see on the butterflies that visit our small garden.

#### Launch

- Groups of 4.
- Give students access to 5-frames and counting mats.

#### Activity

- “Use all of your connecting cubes to create whatever you’d like.”
- 2 minutes: independent work time
- “Tell your group what you made and how many cubes you used without counting them again.”

- 4 minutes: small-group discussion

### Synthesis

- Invite at least 2 students to share what they built with connecting cubes.
- “Tell your partner what is the same about what \_\_\_\_ and \_\_\_\_ made.”

## Lesson Synthesis

🕒 5 min

Display a few connecting cube creations made by students.

“What are some questions we can ask about what your classmates made?” (Students can respond with both mathematical or non-mathematical questions.)



# Family Support Materials

# Family Support Materials

## Math in Our World

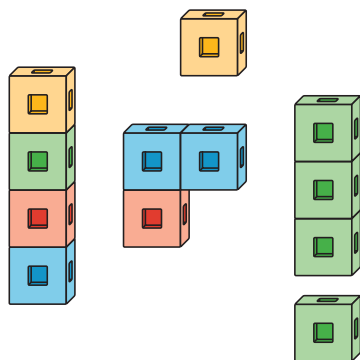
In this unit, students recognize numbers and quantities in their world.

### Section A: Exploring Our Tools

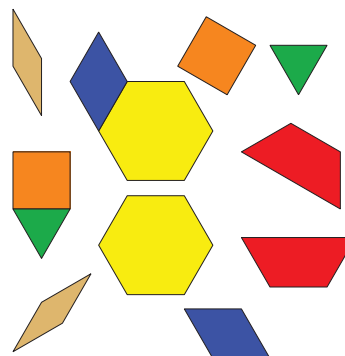
In this section, students discuss what it looks like to do math in their classrooms. They work with the math tools they will use during math activities and centers throughout the year. Students have the opportunity for free exploration in order to think of mathematical purposes for the tools. Students are encouraged to use their own language to describe their work, as well as listen to the ideas of others in the class, which positions students as mathematicians who have interesting and worthwhile ideas to share.

The math tools students used in this section include:

connecting cubes



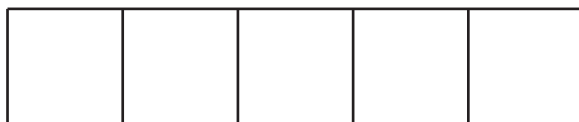
pattern blocks



geoblocks

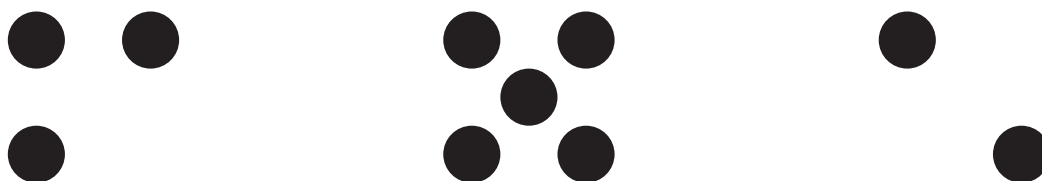


5-frame



## Section B: Recognizing Quantities

In this section, students continue to explore math in their classrooms, focusing on small groups of objects or images. Students may begin to see dot images in arrangements that allow them to know how many without counting such as these:



These lessons encourage students to notice and ask questions about math in their world. Students continue to develop the language to express these ideas and listen and share ideas with their peers.

## **Section C: Are There Enough?**

In this section, students count groups of objects by touching and counting, saying one number for each object. Students answer the question “Are there enough?” and match and create groups with the same number of objects.

## **Section D: Counting Collections**

In this section, students focus on the question “How many of us are here today?” Students think about different ways to answer the question and represent the information. Students also count collections of objects each day. Collections are created from classroom objects such as connecting cubes, two-color counters, pattern blocks, buttons, or objects to count from home. For collections of up to 10 objects, students begin to recognize that the last number named tells how many objects there are.

## **Try it at home!**

Near the end of the unit, ask your student to count a given number of objects around your home.

Questions that may be helpful as they work:

- How many are there?
- How did you count them?
- Why did you count them that way?
- Are there enough for everyone in the house?



# Unit Assessments

Check Your Readiness A, B, C and D  
End-of-Unit Assessment

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## Assessment : 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).

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## Assessment : 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).

---

## Assessment : 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).

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## Assessment : 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).

---

## **Assessment : 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.

# Assessment Answer Keys

Check Your Readiness A, B, C and D  
End-of-Unit Assessment

# Assessment Answer Keys

## Assessment: 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).



## Assessment: 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).

## Assessment: 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).

## Assessment: 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).

## **Assessment: 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.

# Instructional Masters

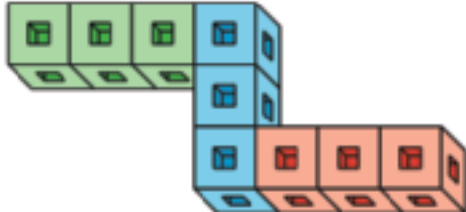
# Instructional Masters for Math in Our World

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Center	Connecting Cubes Stage 2 Cards	2	no	yes	no	no
Activity Kindergarten.1.12.3	Pattern Blocks Stage 3 Directions	2	no	no	no	no
Center	Pattern Blocks Stage 3 Directions	2	no	no	no	no
Activity Kindergarten.1.12.1	Counting Mat	1	no	no	yes	no
Activity Kindergarten.1.5.2	Pattern Blocks Stage 2 Mat	2	no	no	no	no
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Assessment Kindergarten.1	Checkpoint	0	yes	no	no	no
Assessment Kindergarten.1	Checkpoint	0	yes	no	no	no
Assessment Kindergarten.1	Checkpoint	0	yes	no	no	no
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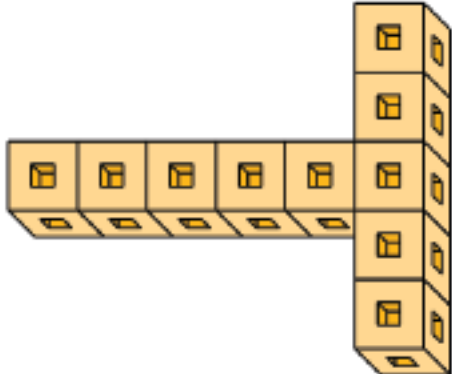
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Activity Kindergarten.1.14.3	Connecting Cubes Stage 3 Directions	2	no	no	no	no
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Assessment Kindergarten.1	End-of-Unit Assessment (Interview Assessment)	0	yes	no	no	no
Activity Kindergarten.1.9.2	Picture Books Stage 2 Recording Sheet	1	yes	no	no	no
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Activity Kindergarten.1.3.1	5-frame	1	no	no	yes	no
Activity Kindergarten.1.14.2	Egg Carton Counting	1	no	no	no	no
Activity Kindergarten.1.16.WU	Questions About Us 5-Frames	30	yes	yes	yes	no

Connecting Cubes Stage 2 Cards

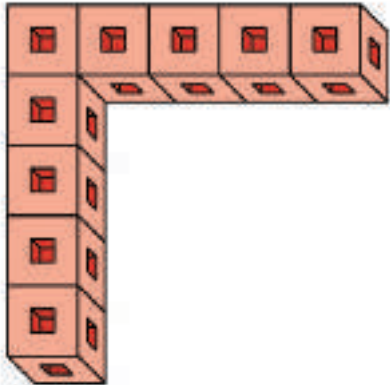
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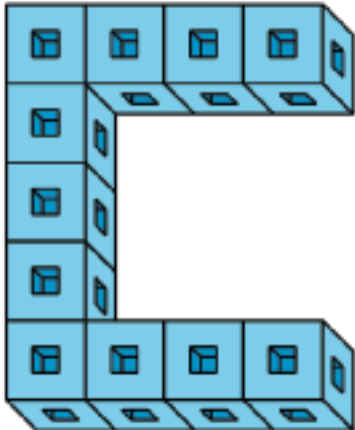
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Connecting Cubes Stage 2



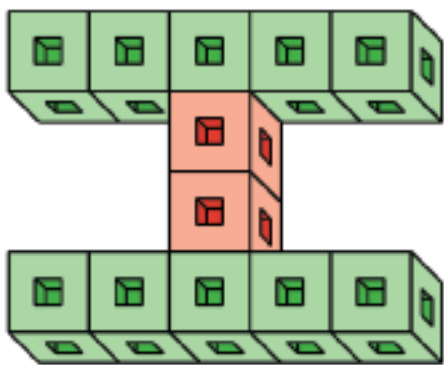
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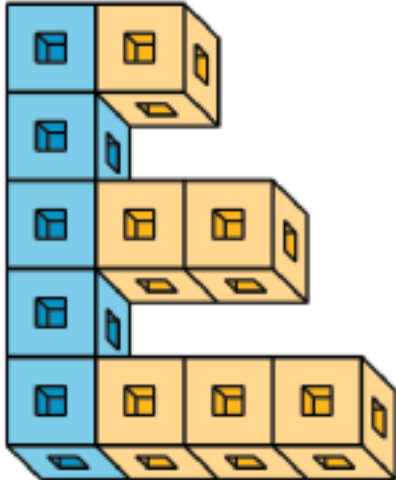


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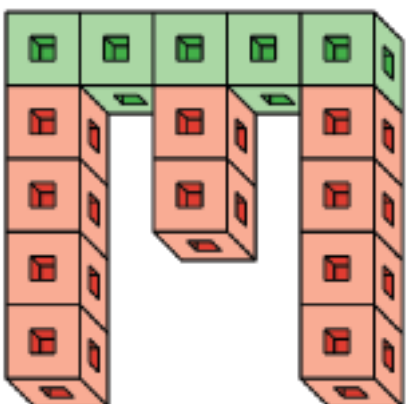
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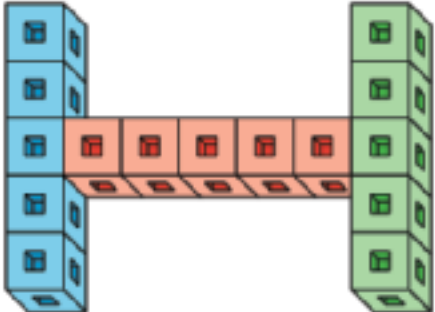
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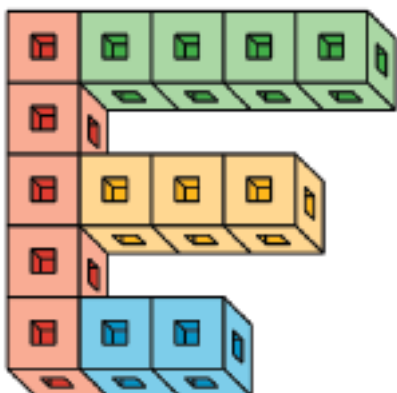


Connecting Cubes Stage 2



Connecting Cubes Stage 2 Cards

Connecting Cubes Stage 2

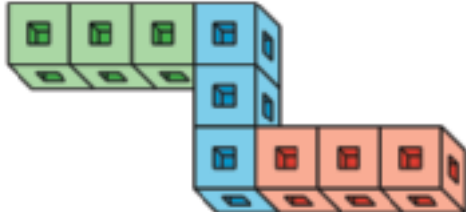


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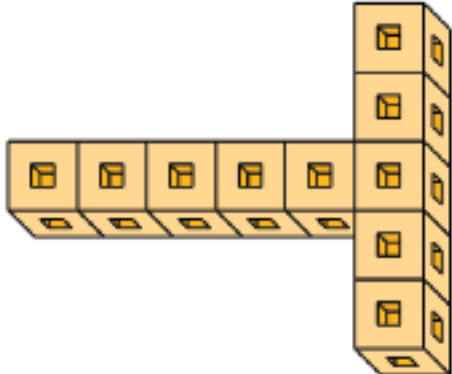


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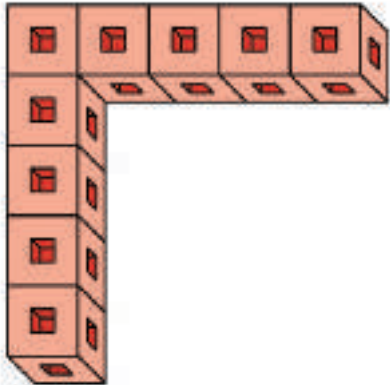
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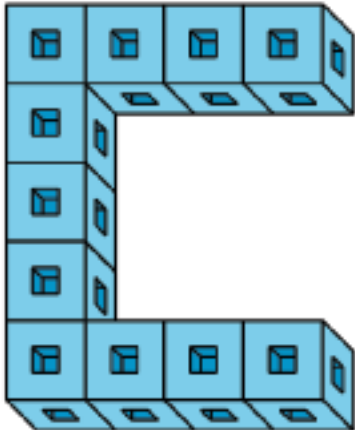
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Connecting Cubes Stage 2

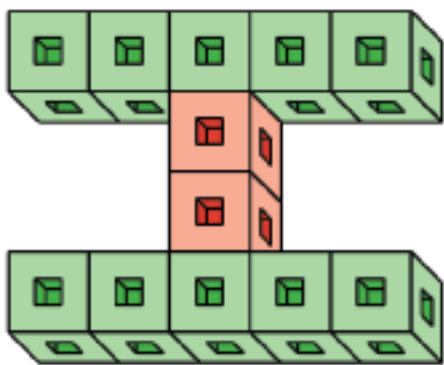


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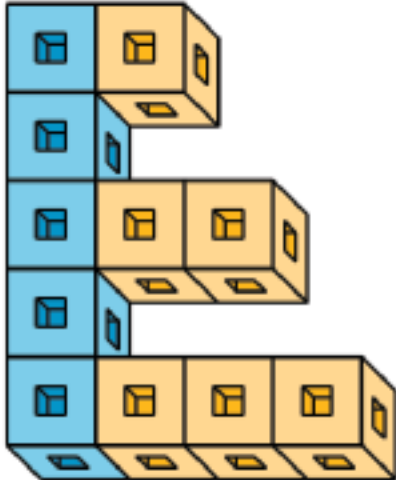


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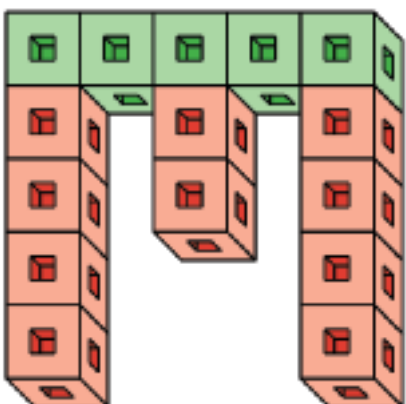
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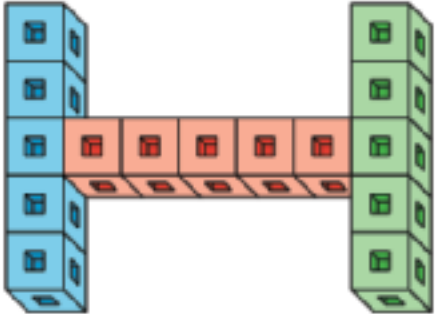
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Connecting Cubes Stage 2

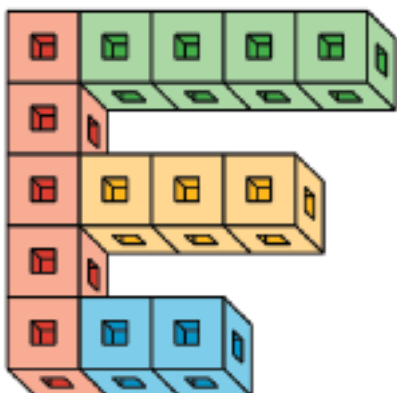


Connecting Cubes Stage 2



Connecting Cubes Stage 2 Cards

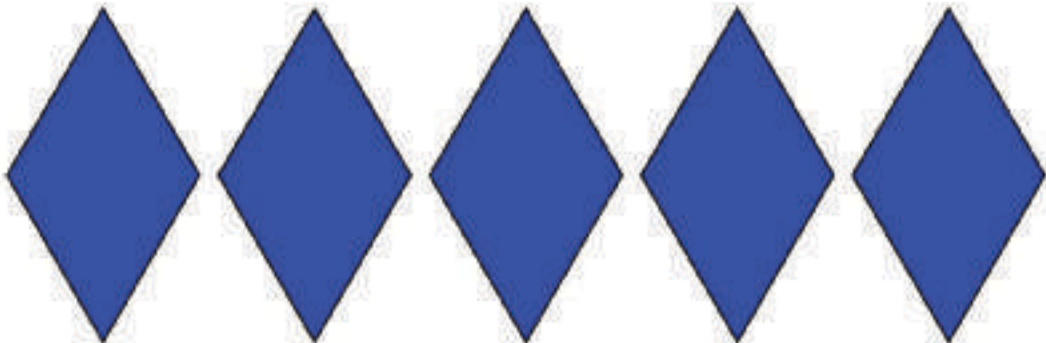
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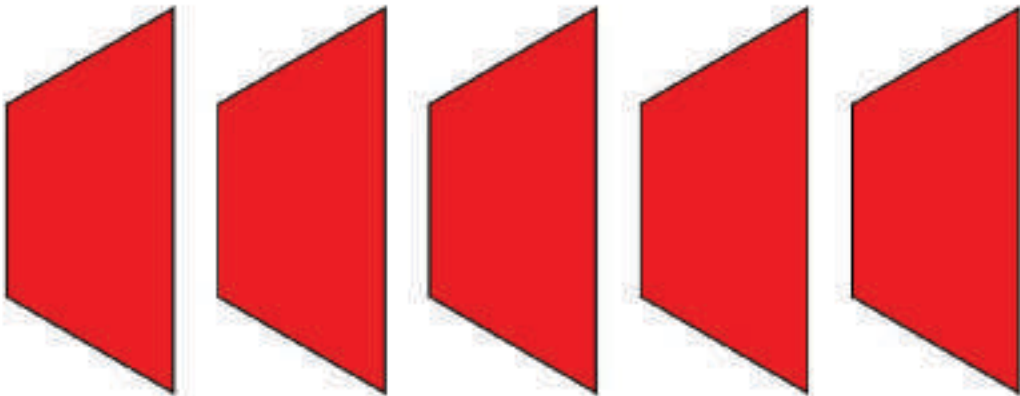
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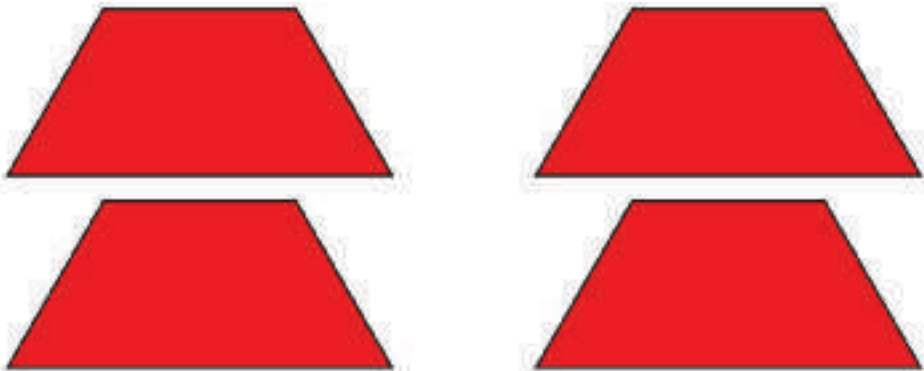


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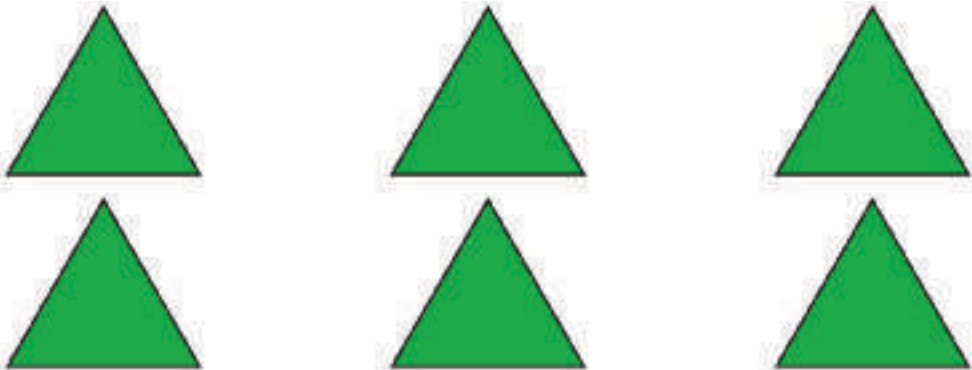


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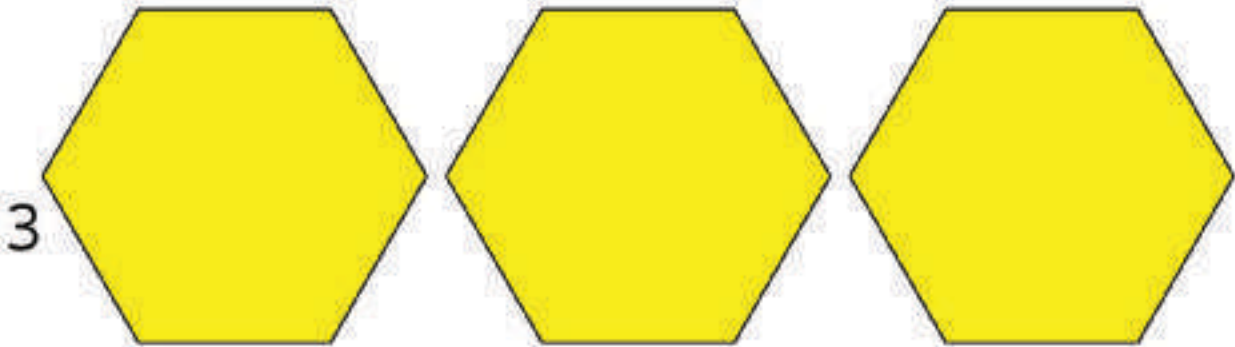
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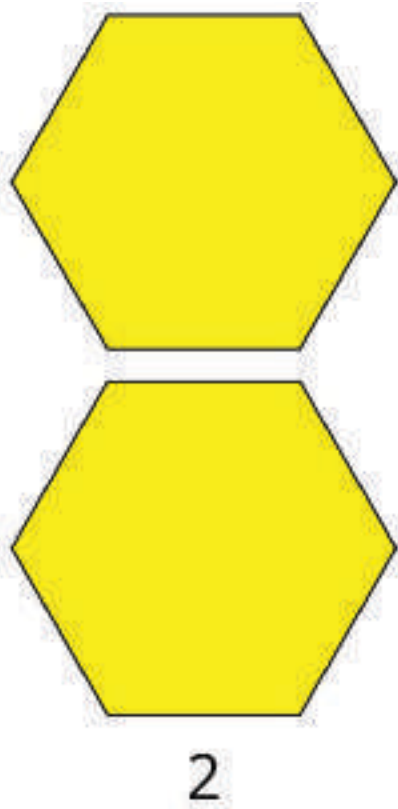
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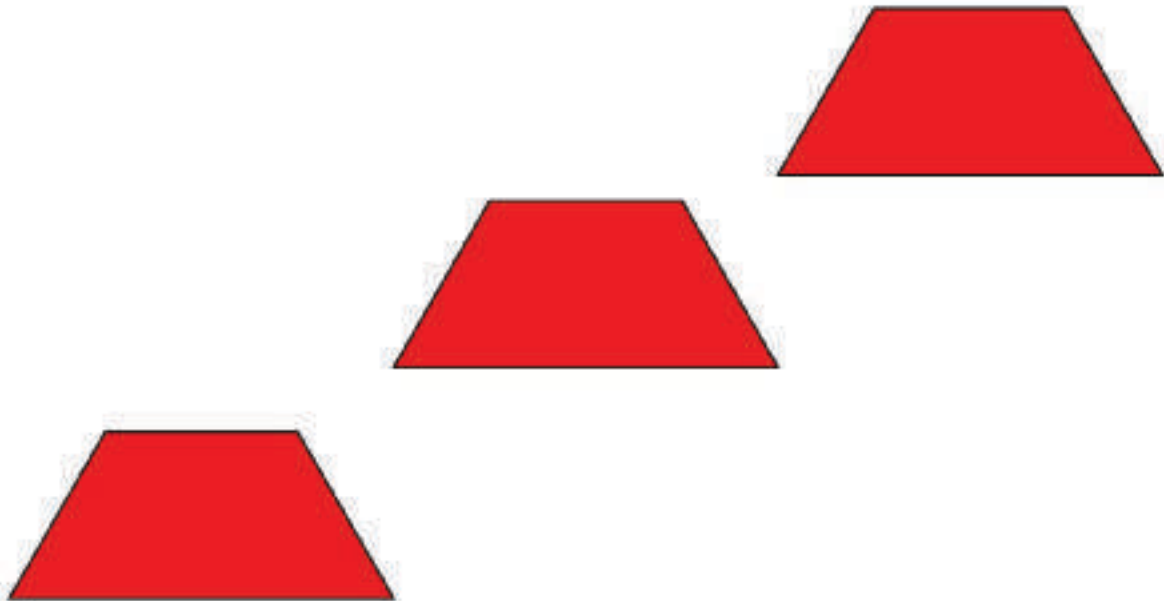




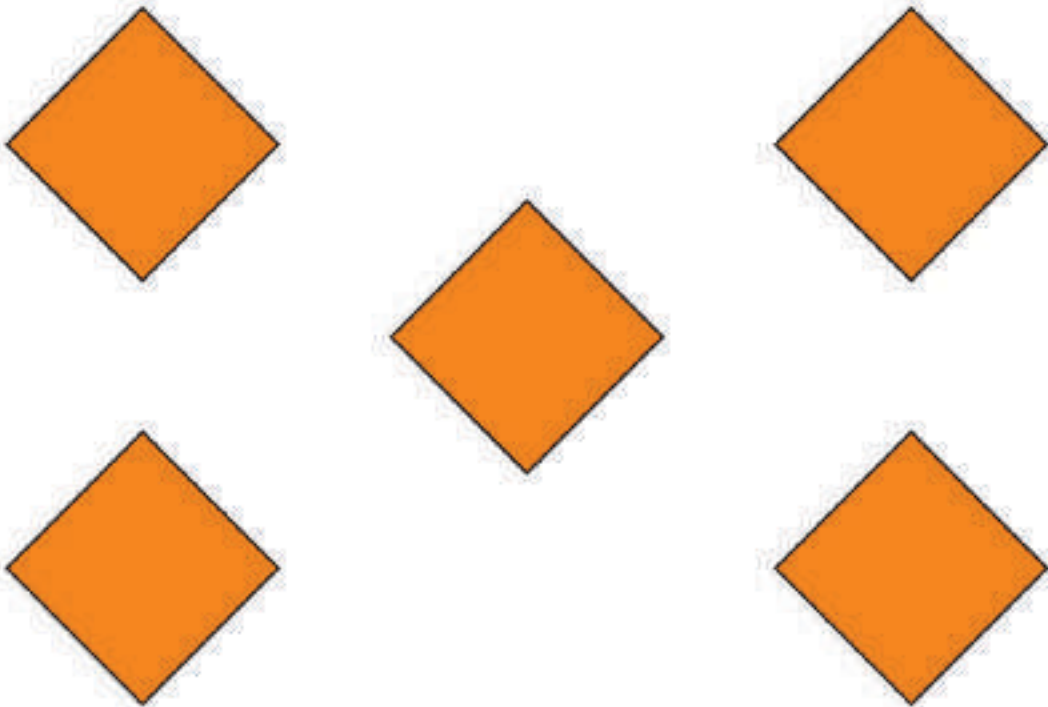
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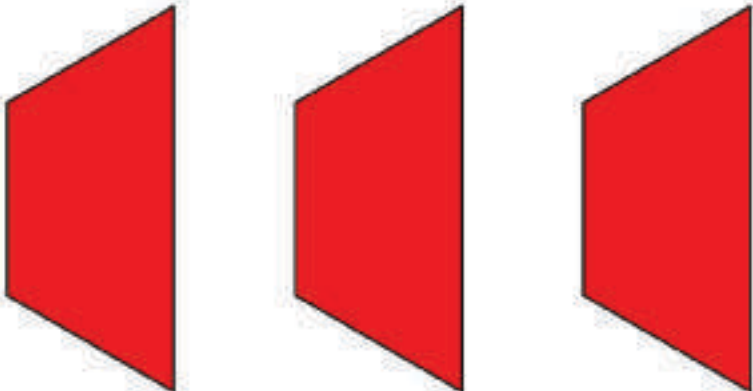


Pattern Blocks Stage 3 Directions

4



3



2



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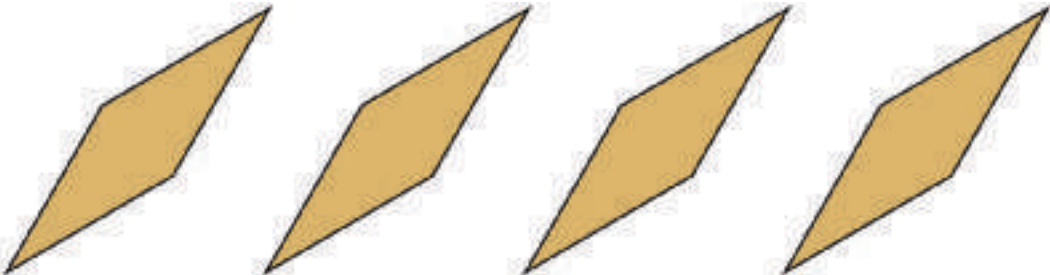


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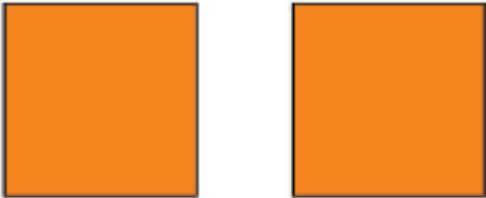
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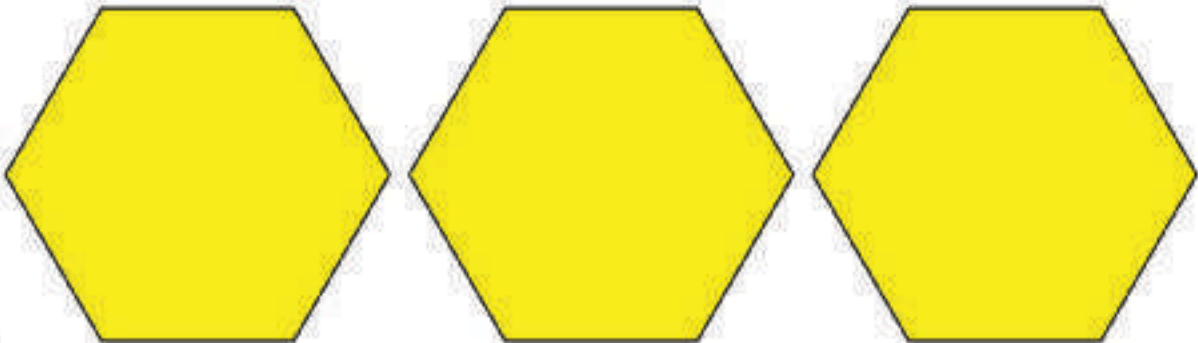
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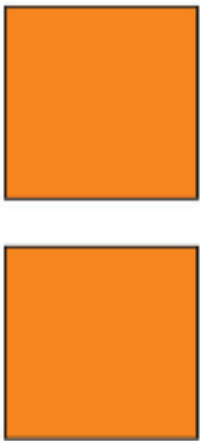
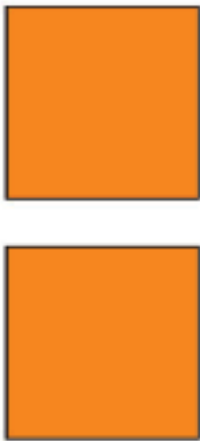


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Pattern Blocks Stage 3 Directions

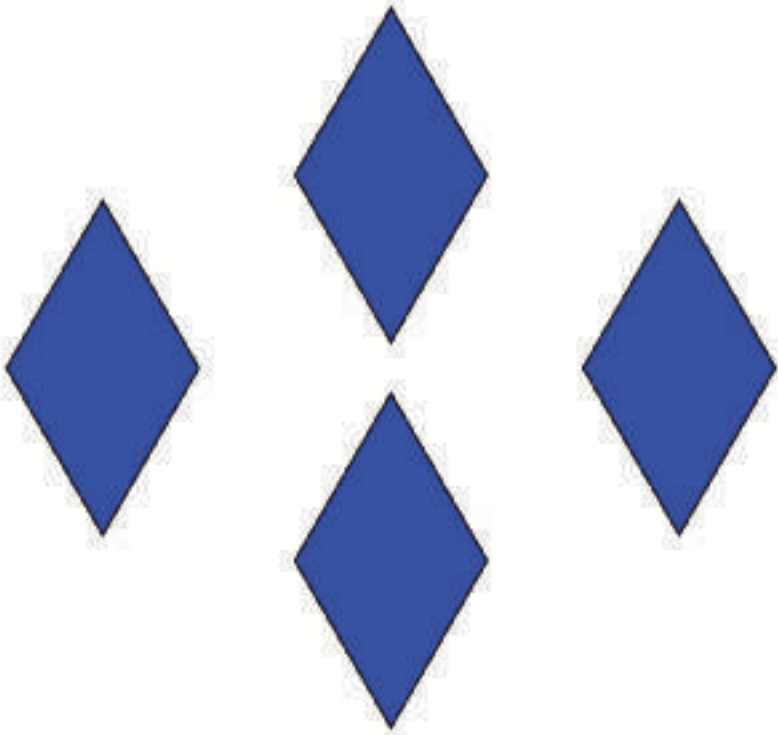
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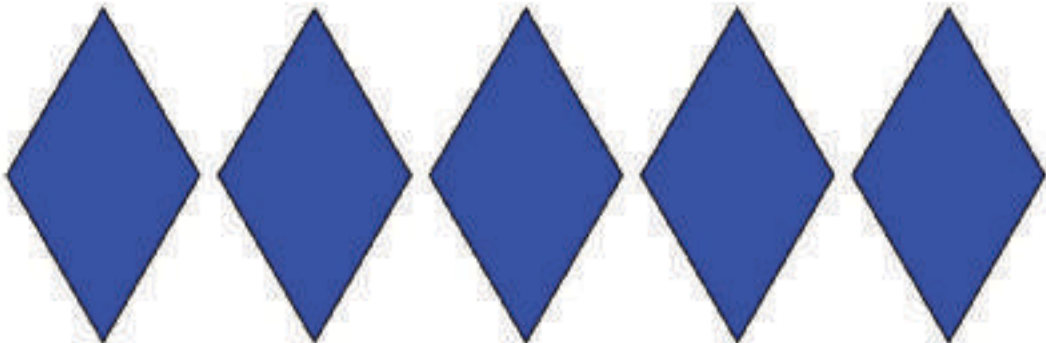
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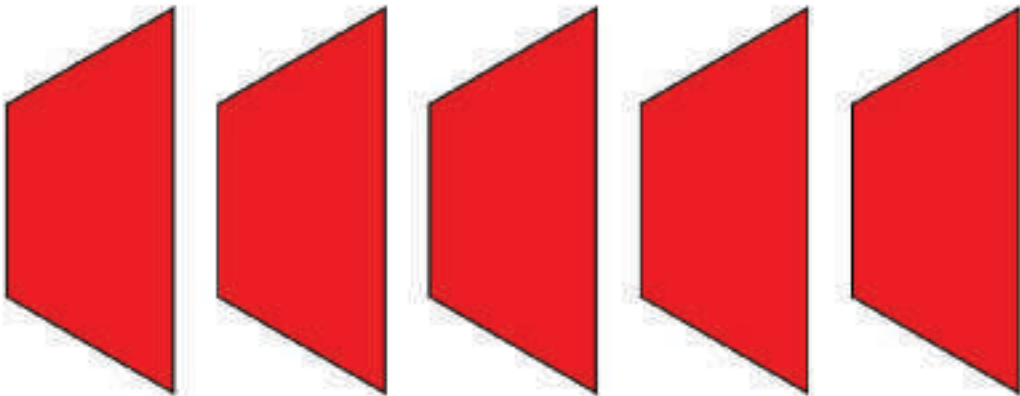
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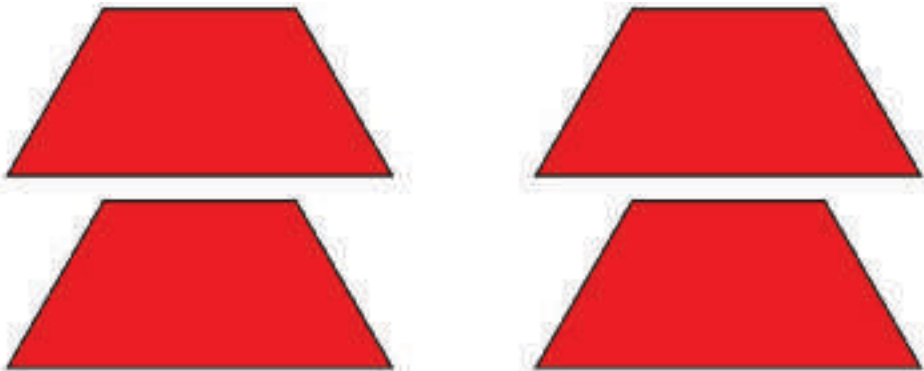


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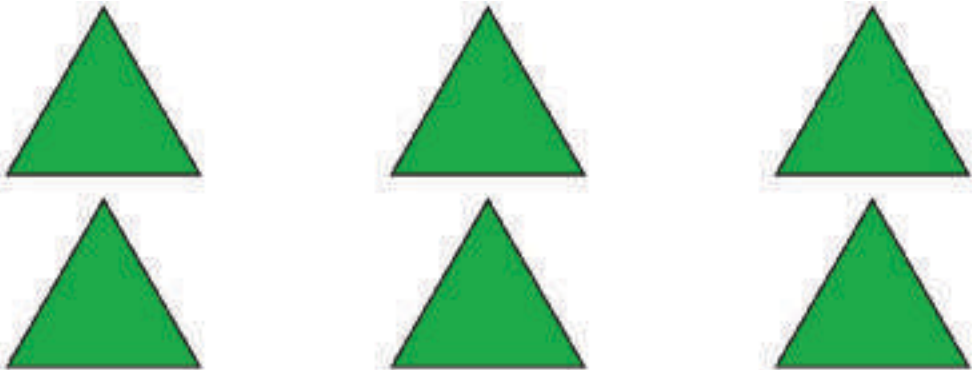


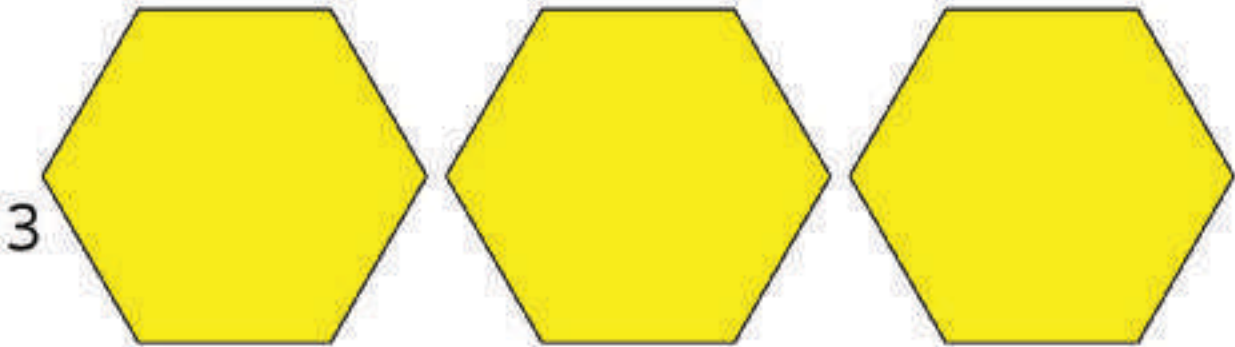
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4

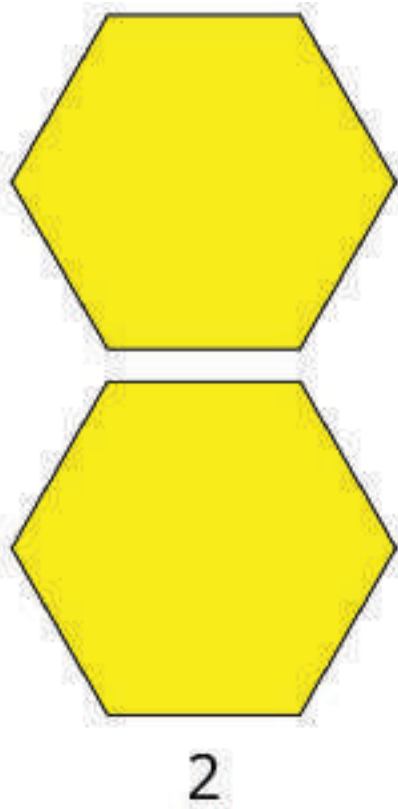


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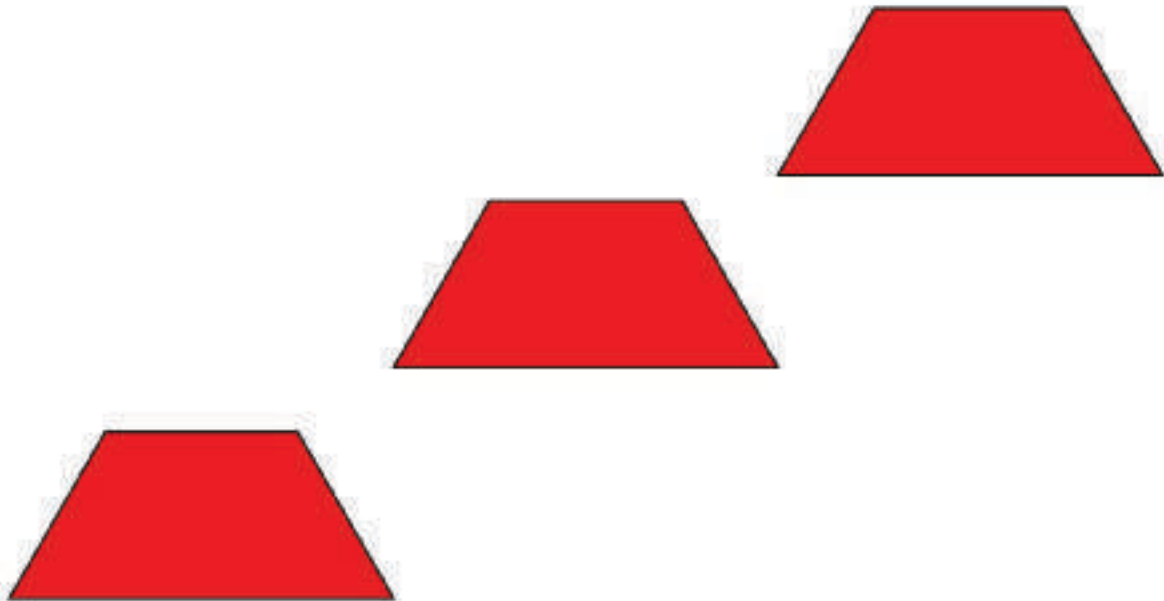




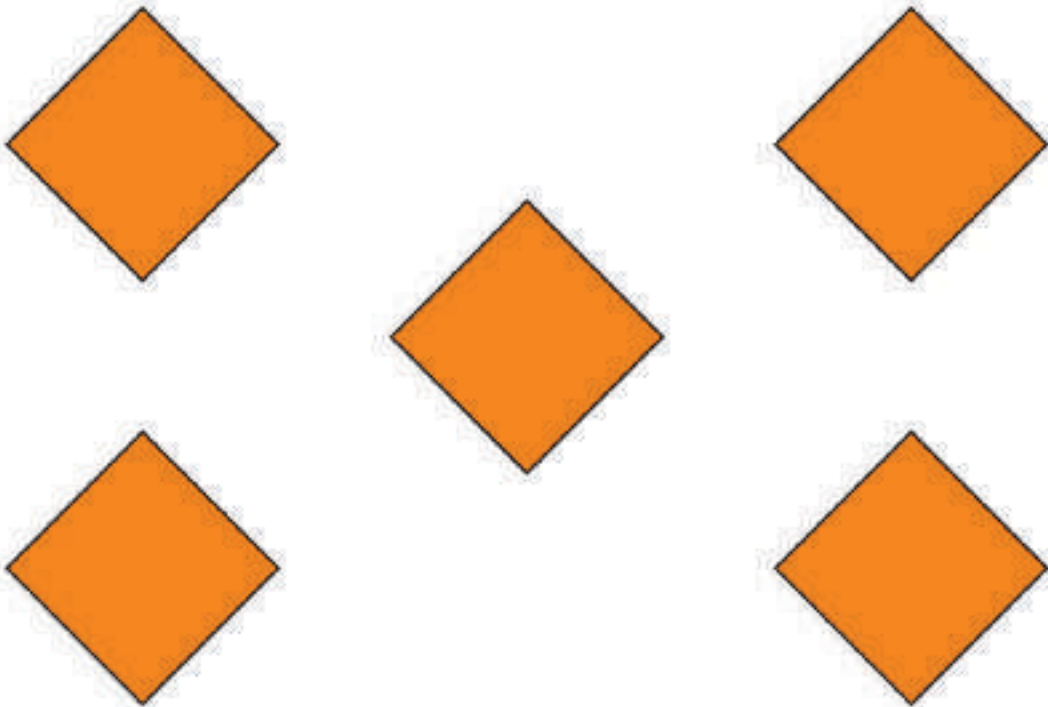
Pattern Blocks Stage 3 Directions



3



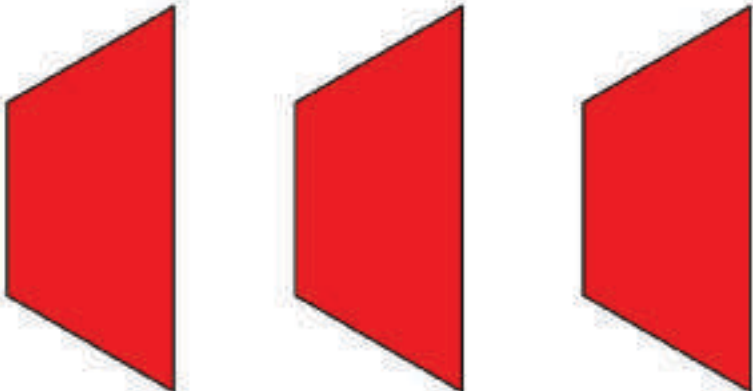
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4



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2



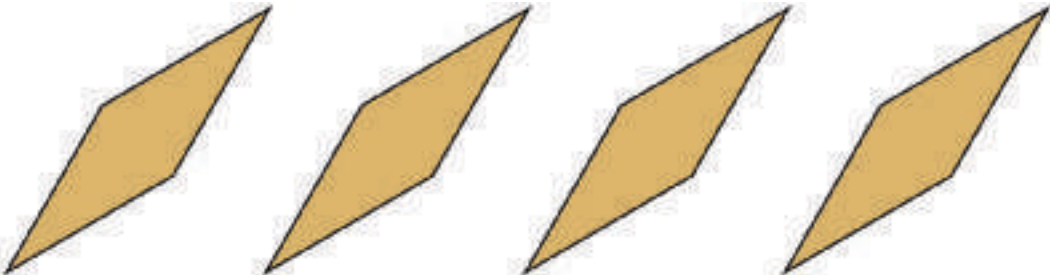
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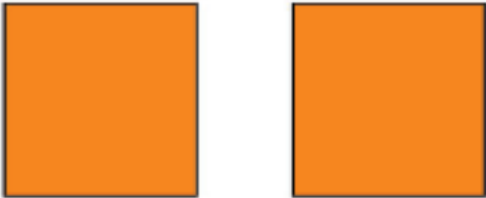
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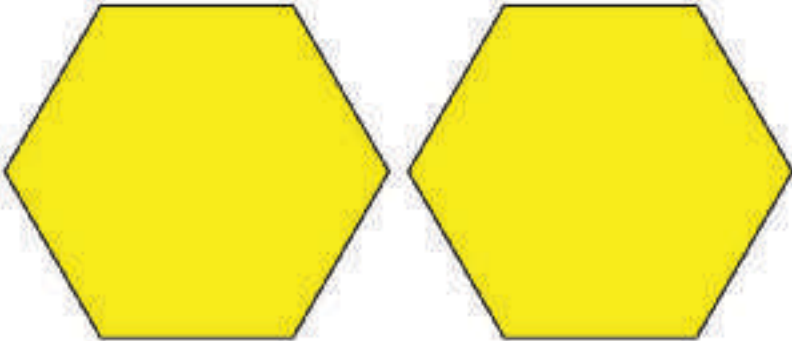
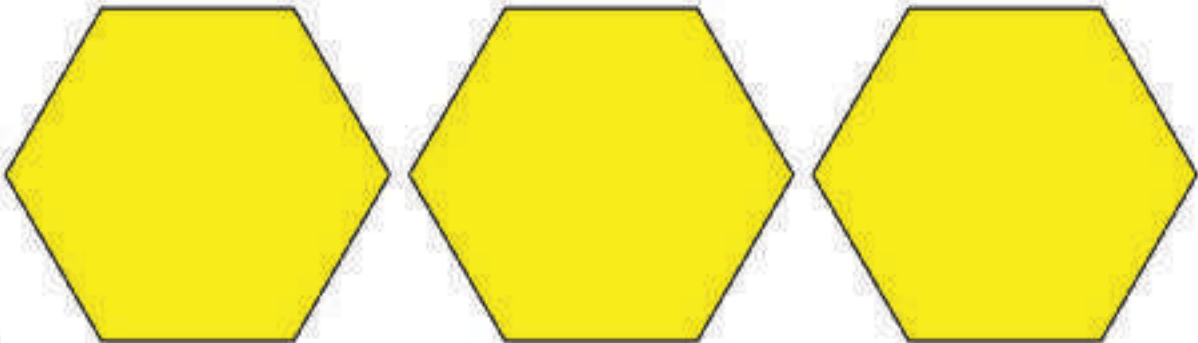


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Pattern Blocks Stage 3 Directions

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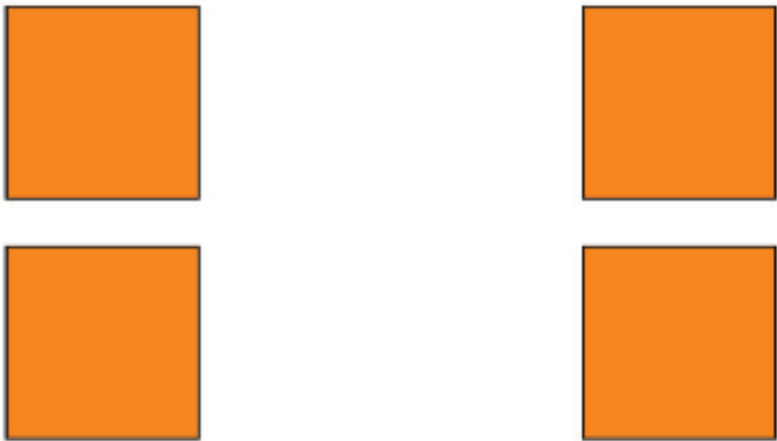
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Pattern Blocks Stage 3 Directions

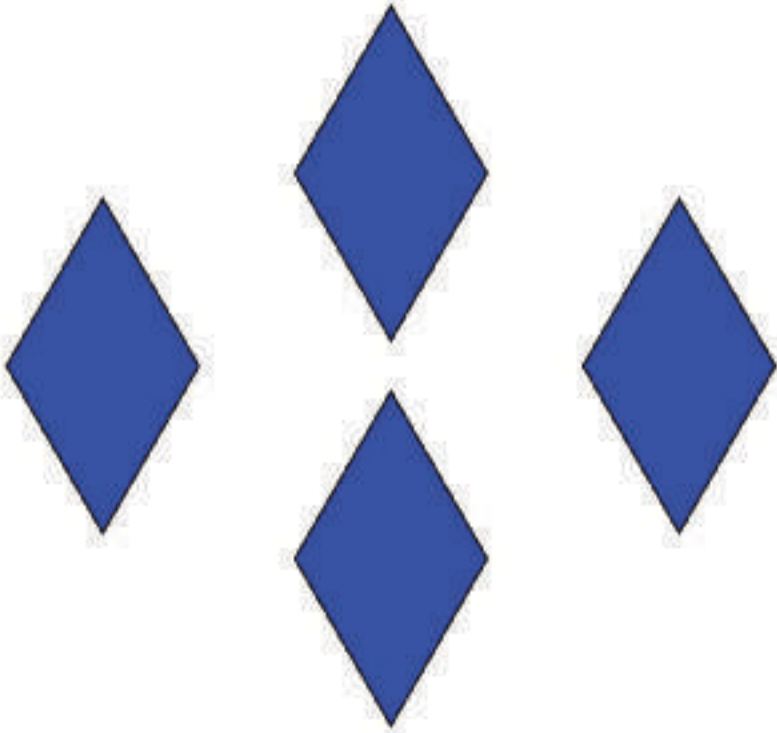
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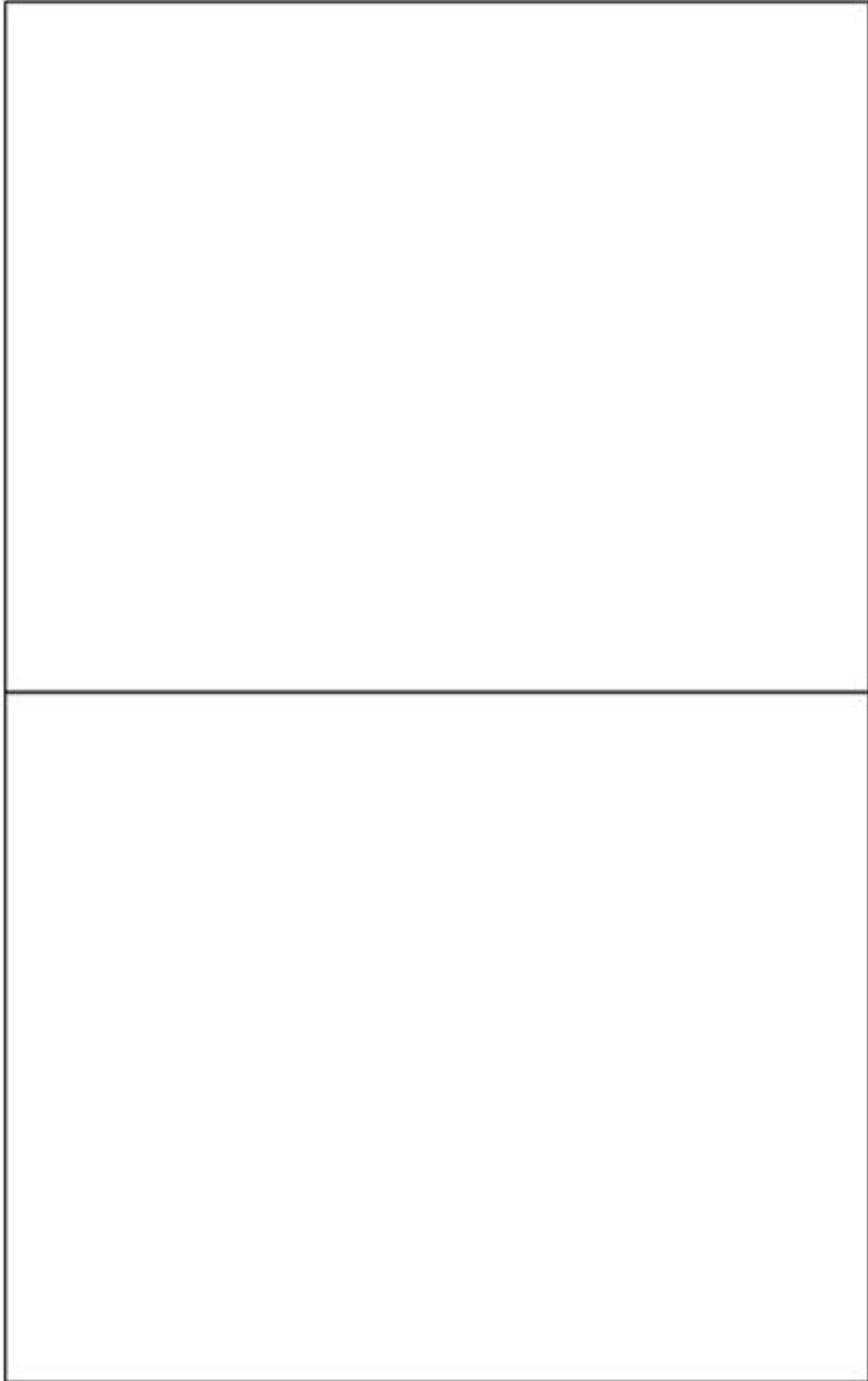


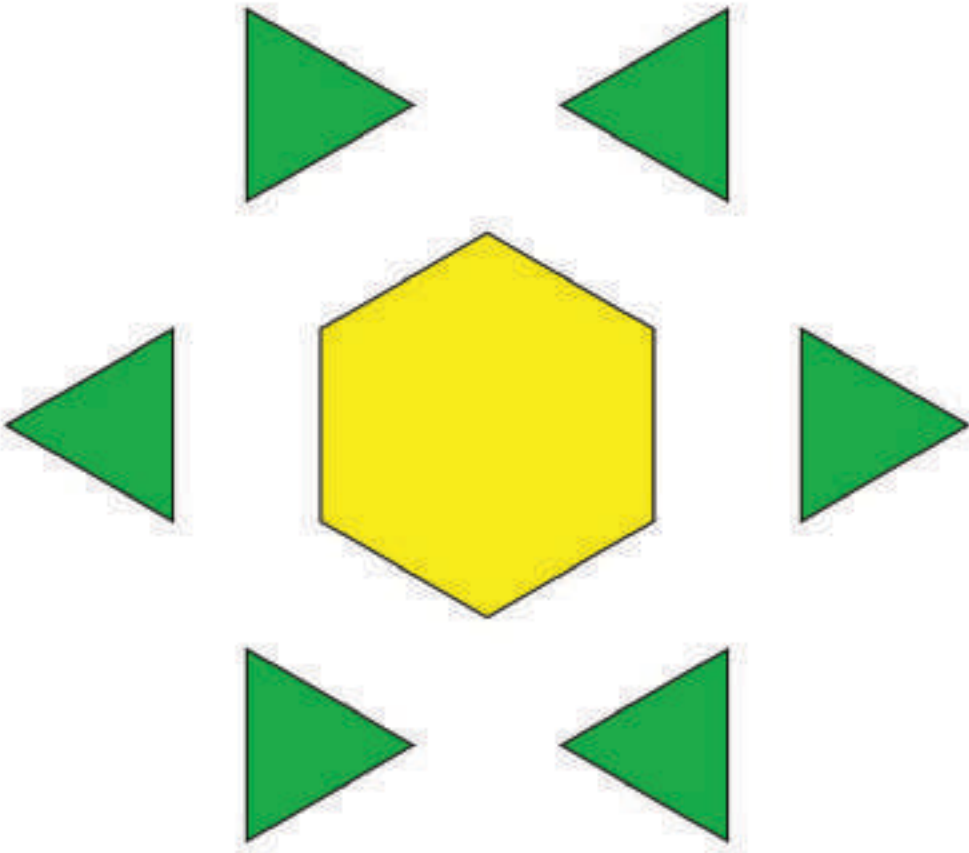
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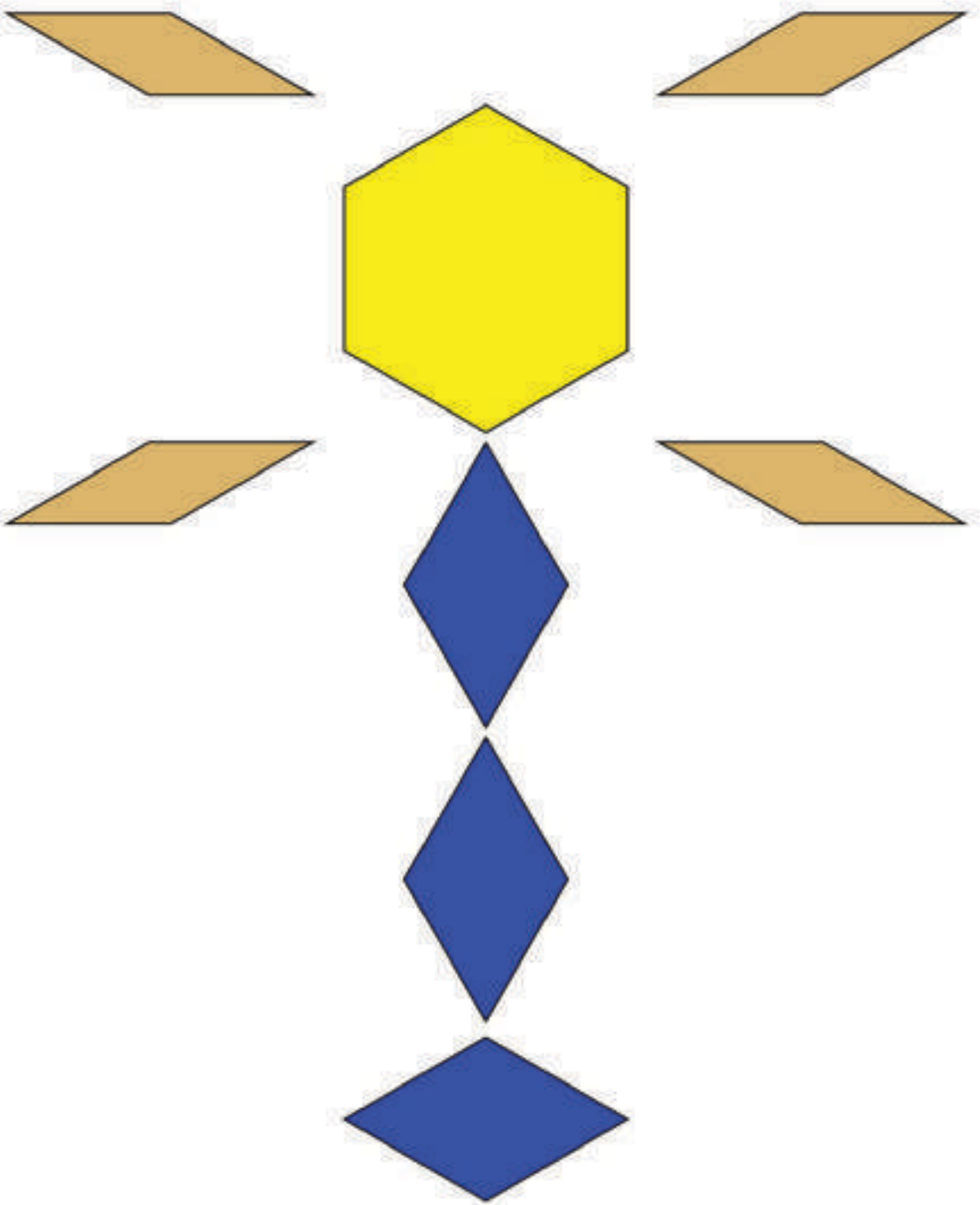


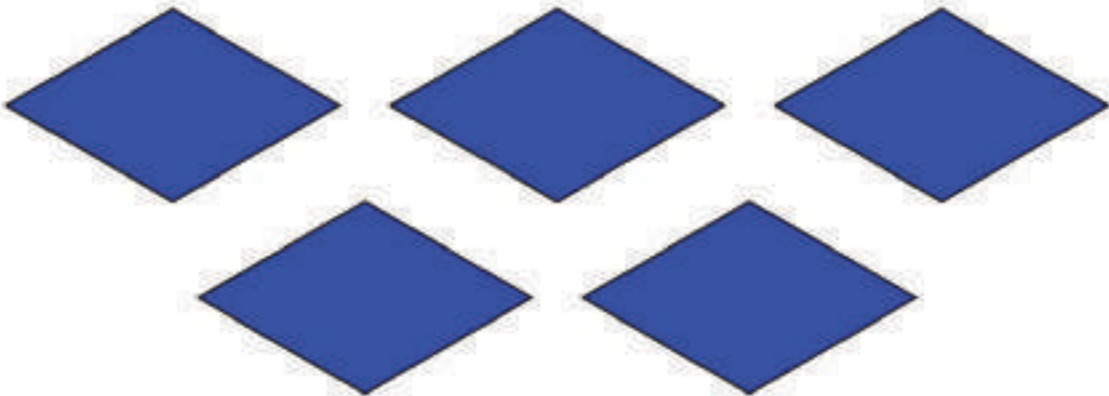


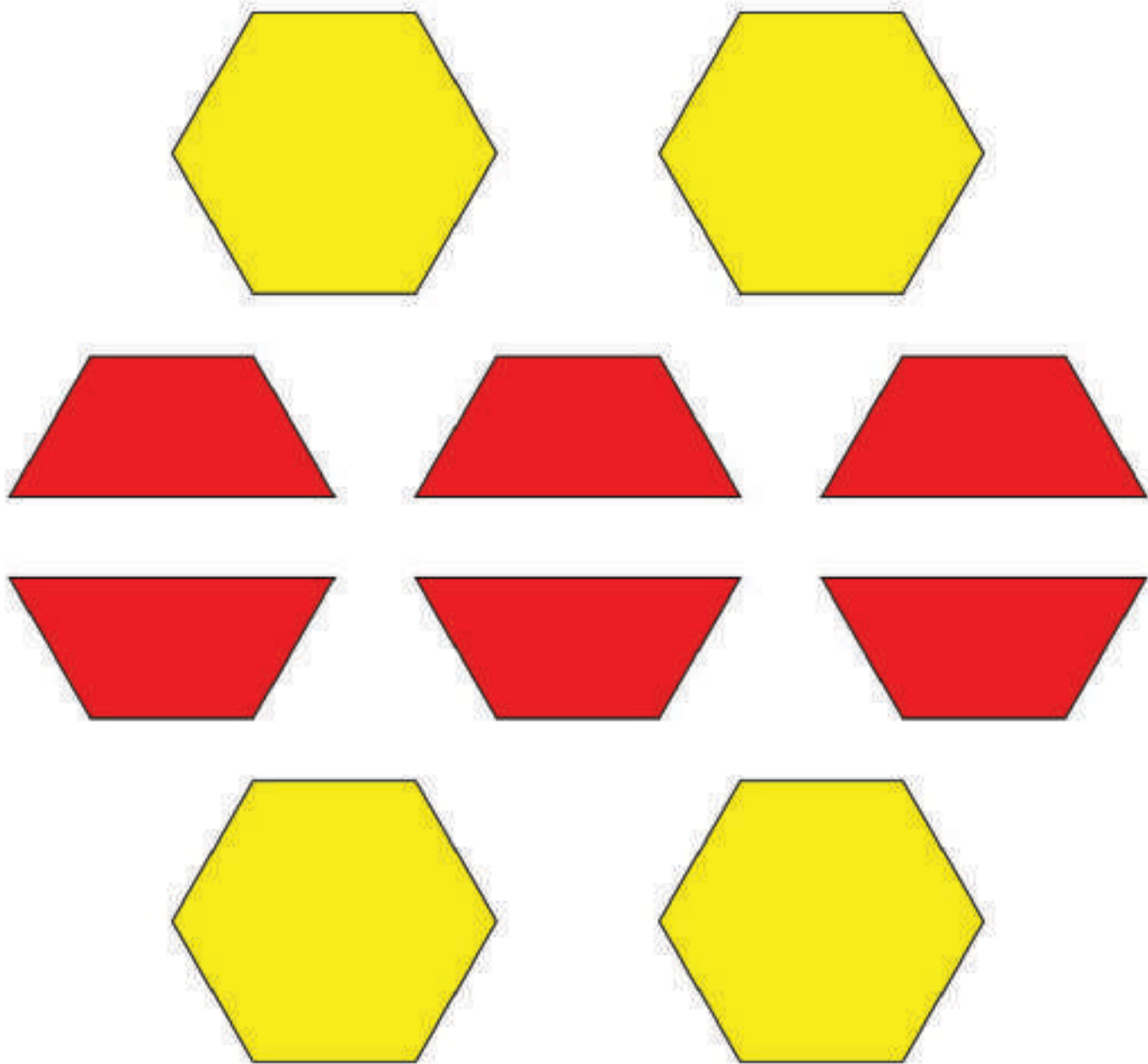


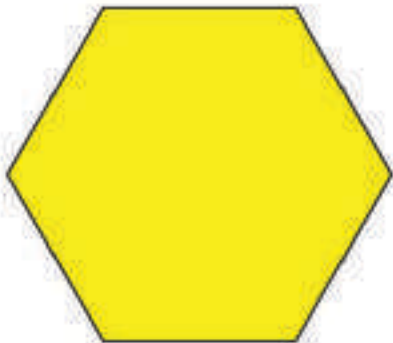
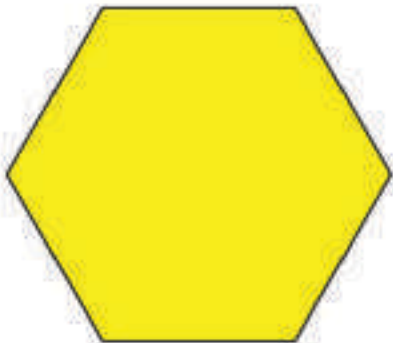
Pattern Blocks Stage 2 Mat



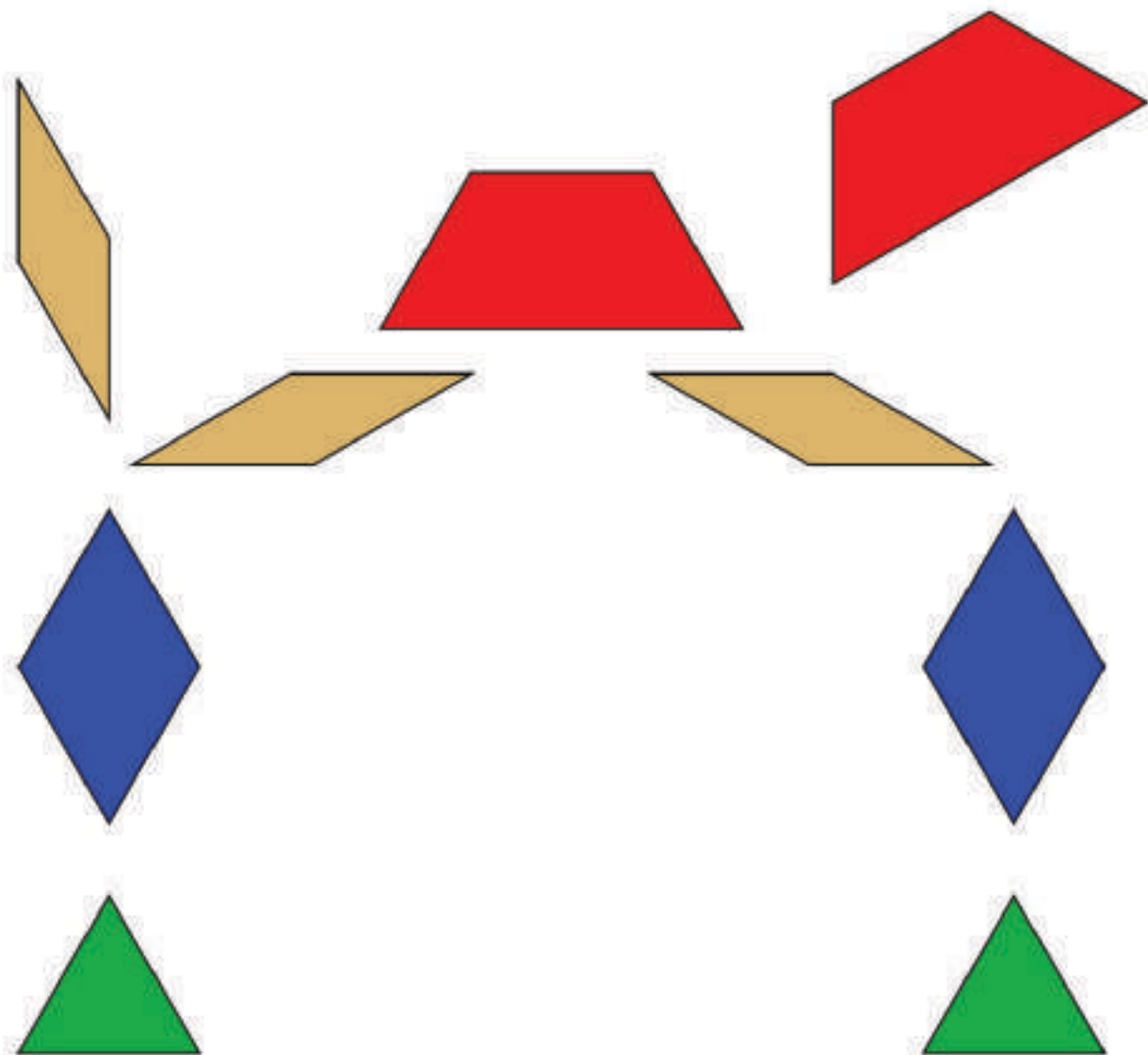


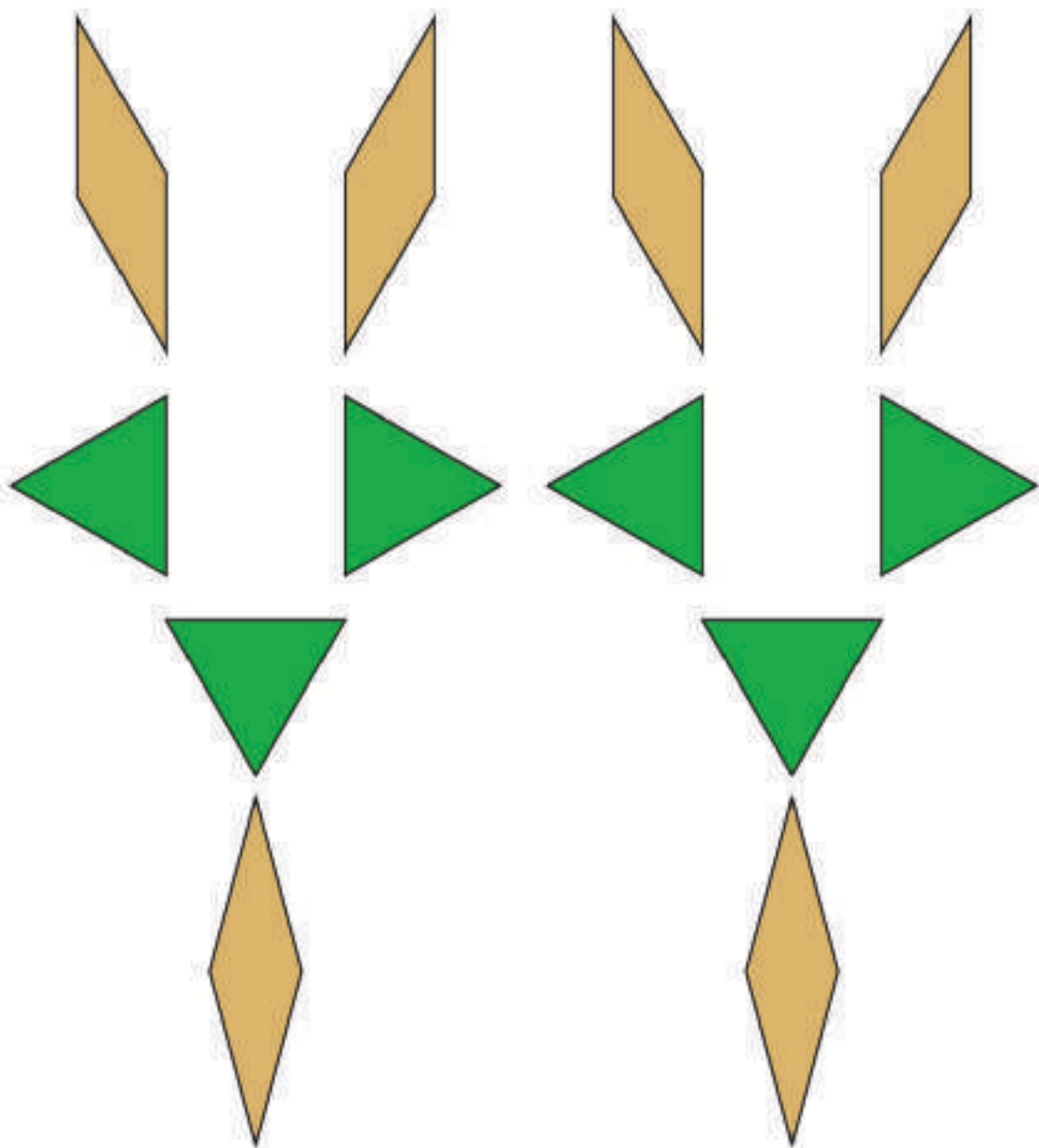




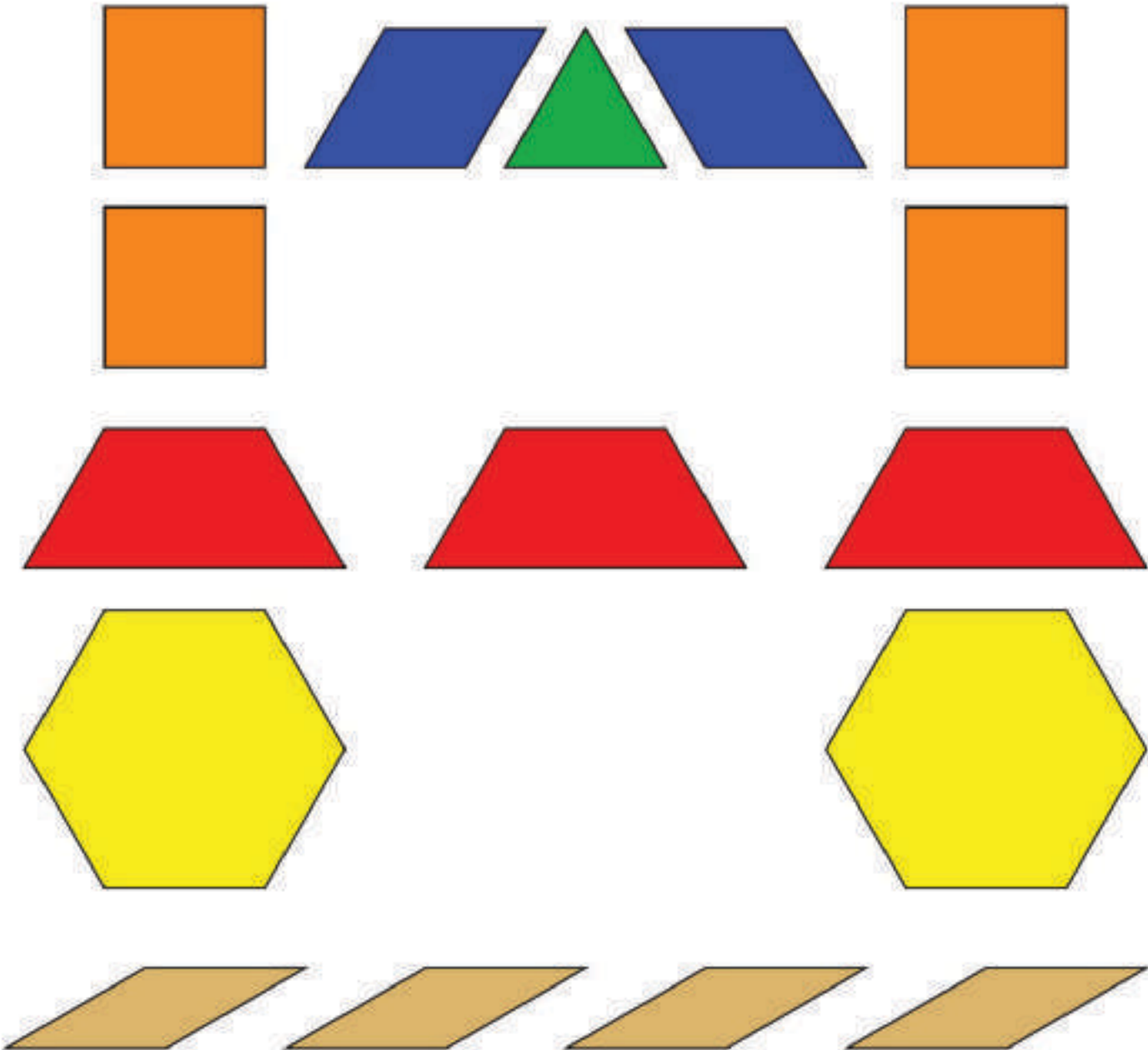




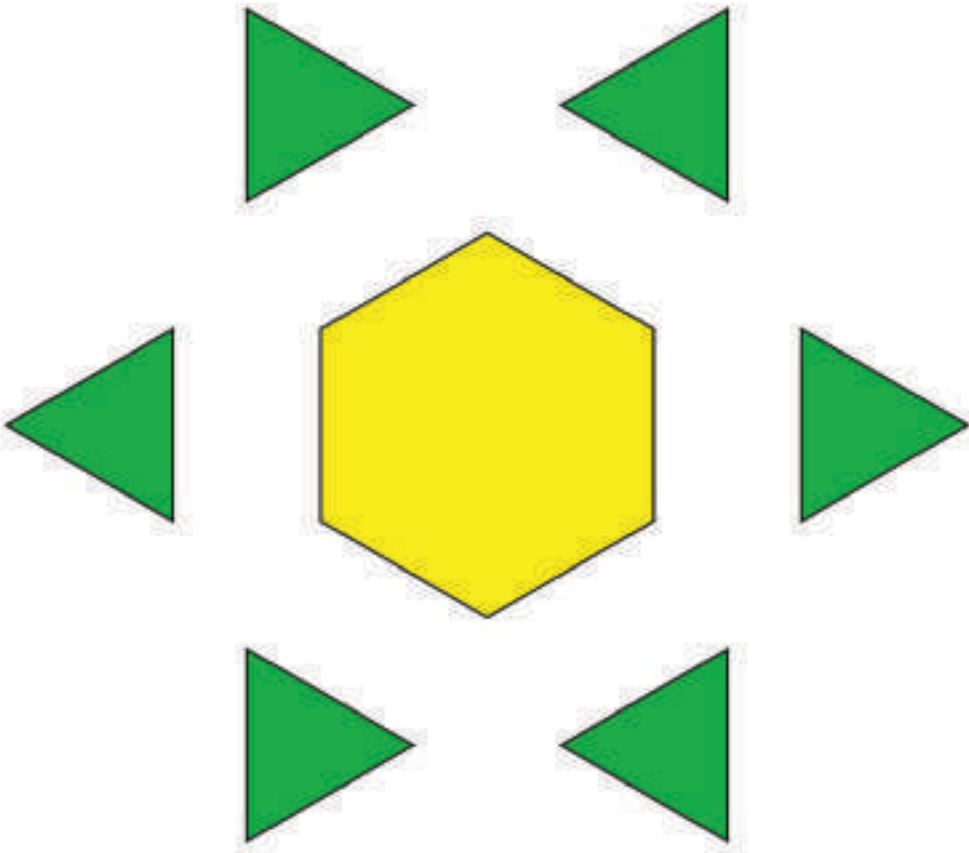




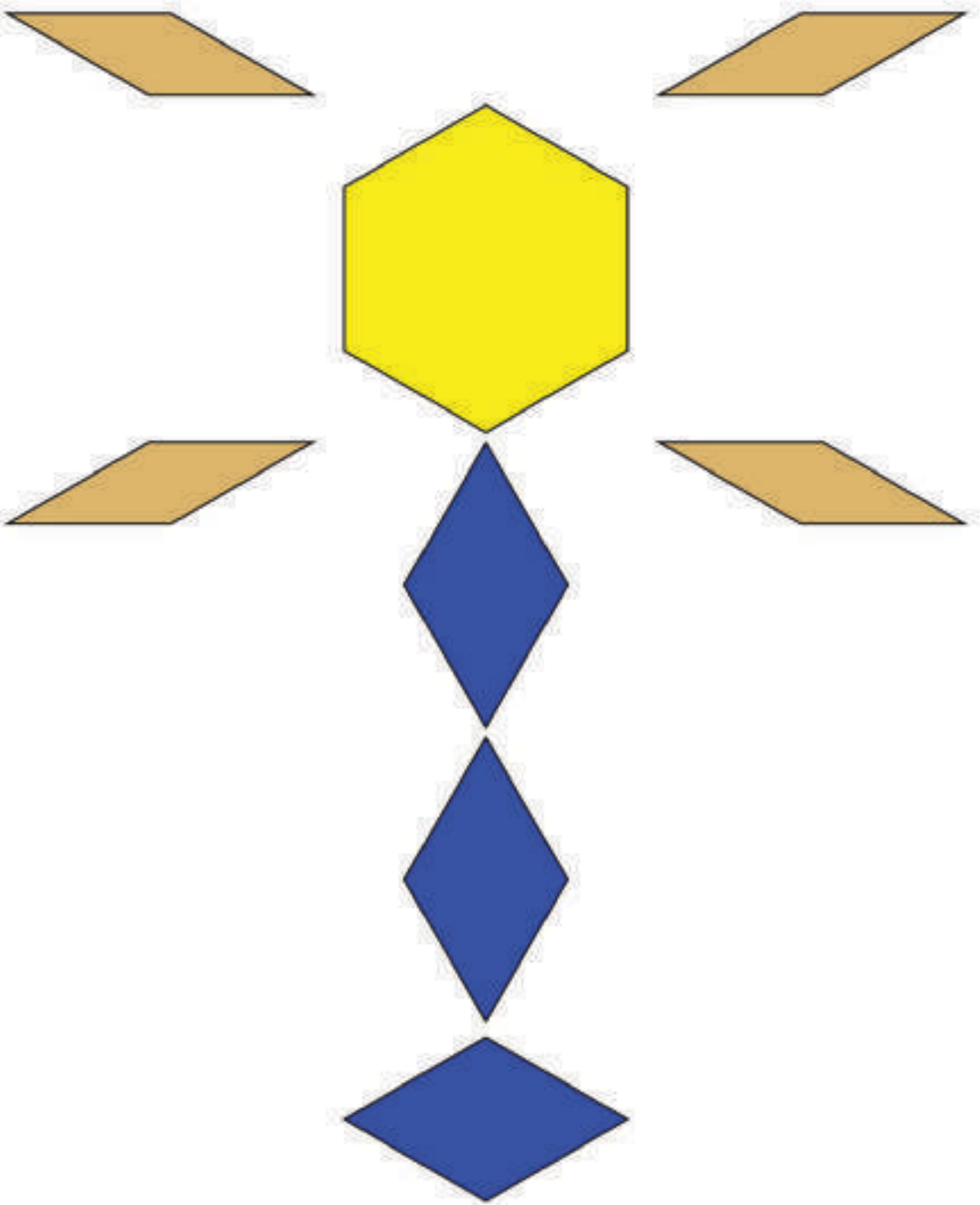
Pattern Blocks Stage 2 Mat

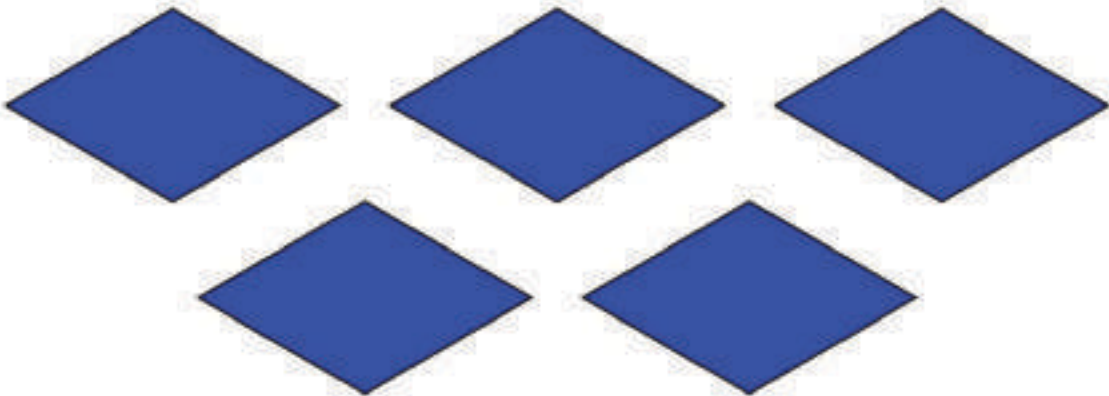




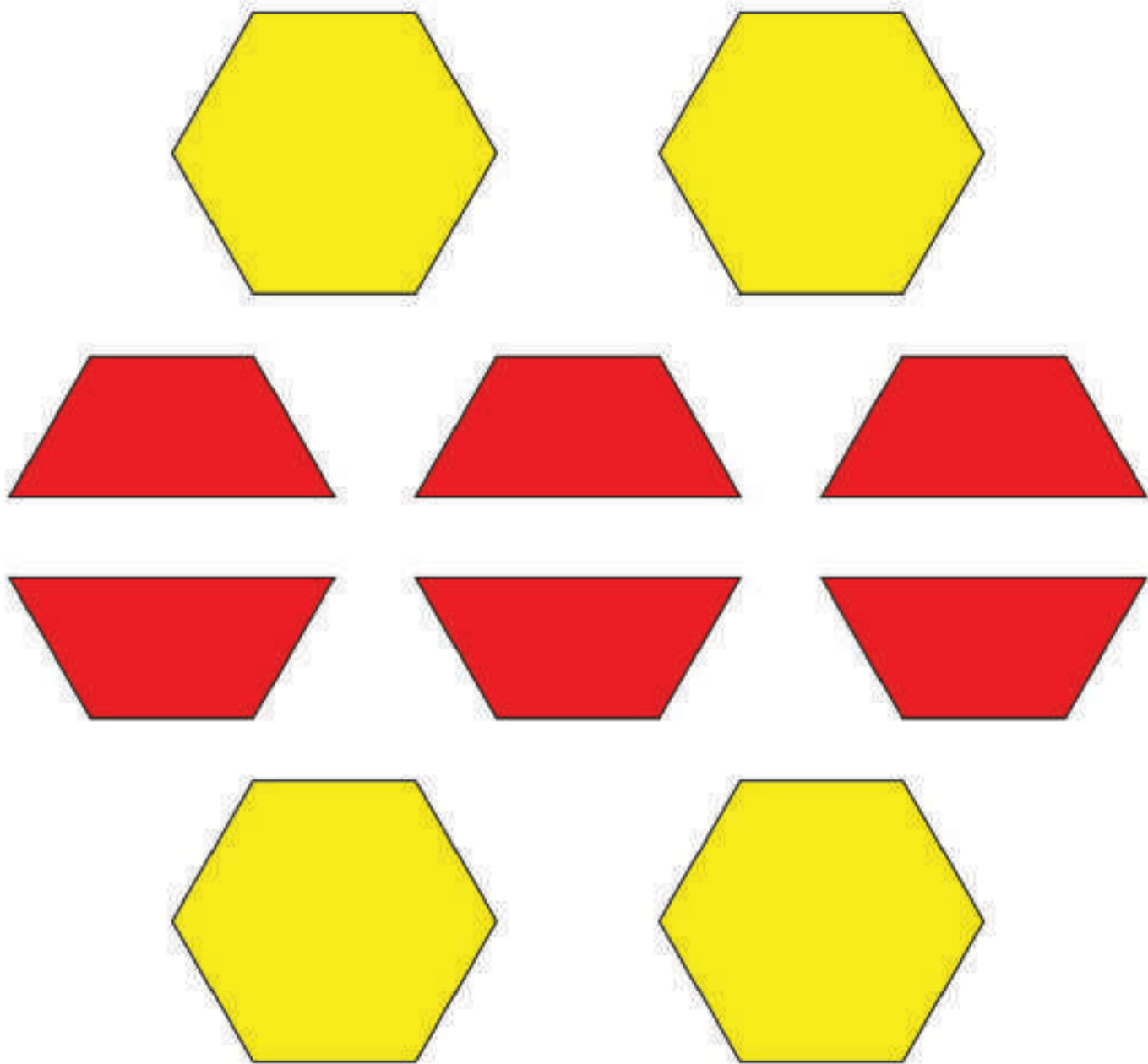


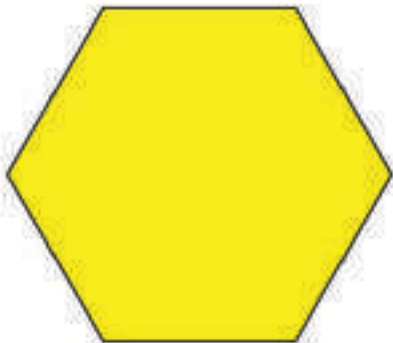
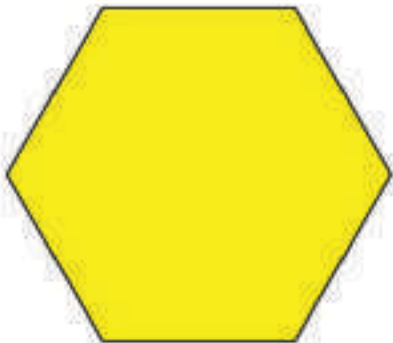


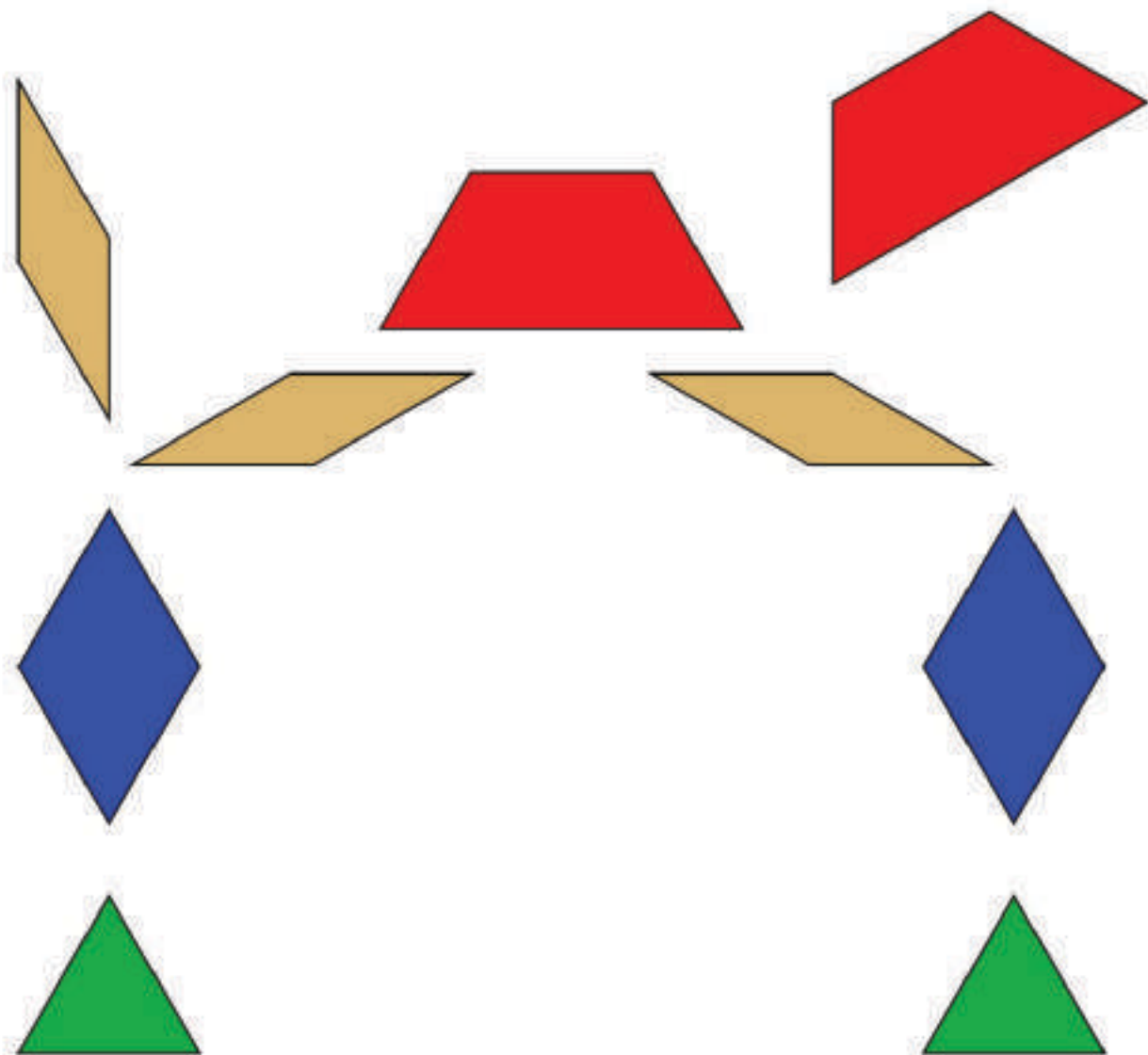


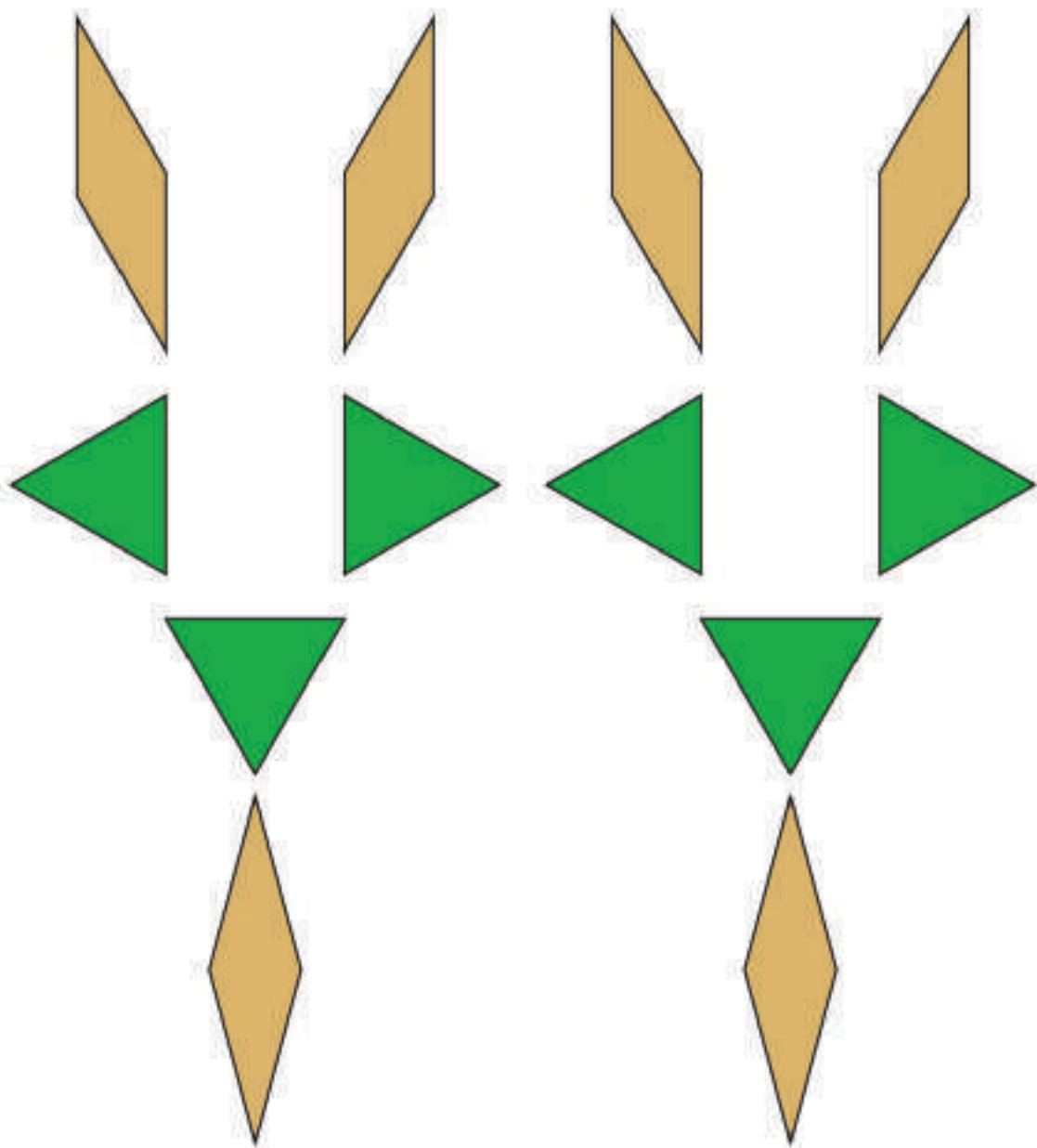




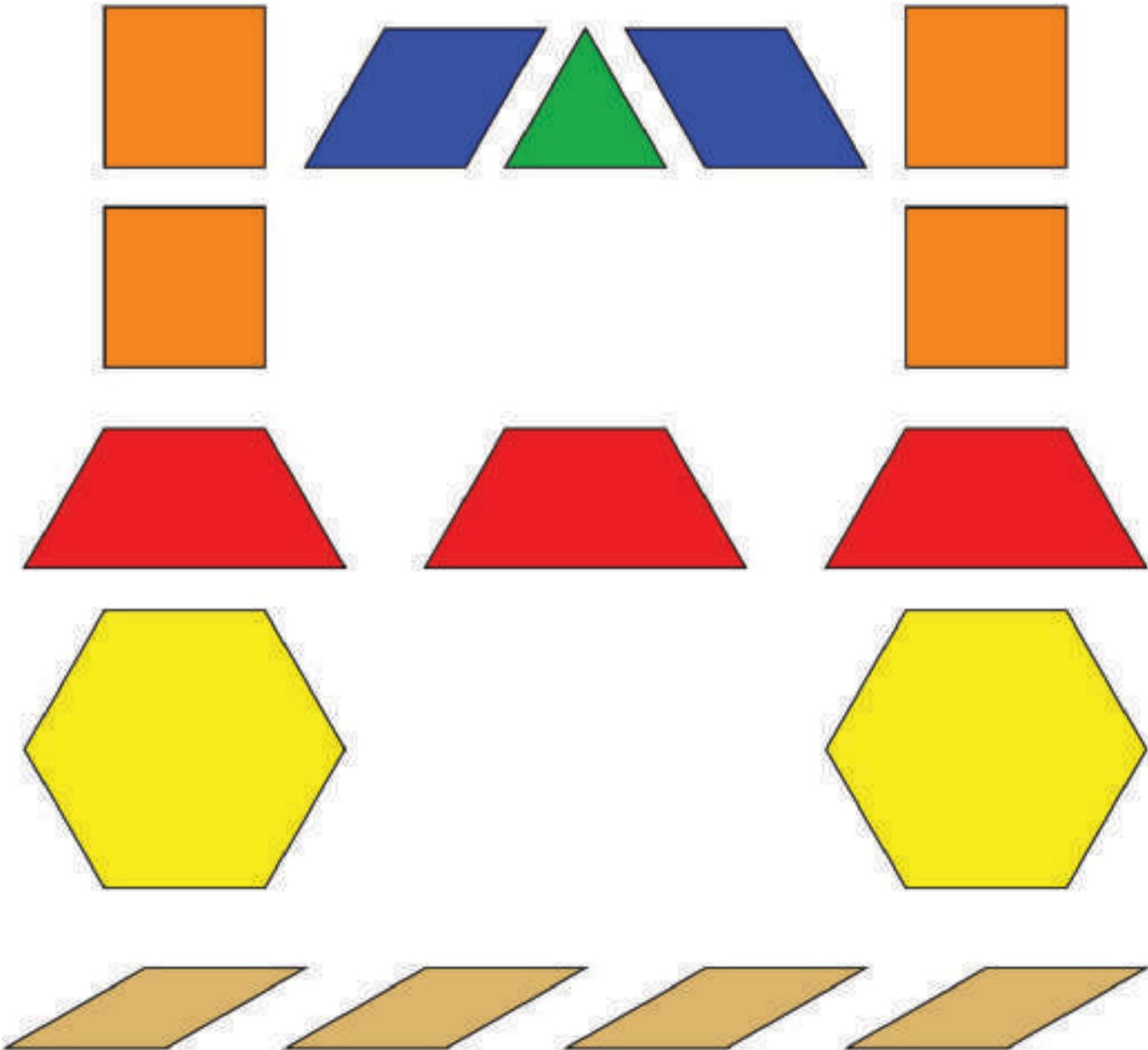








Pattern Blocks Stage 2 Mat





## Checkpoint

Kindergarten, Unit 1  
Sections A-D  
Checkpoints[illegible]





## Checkpoint

Kindergarten, Unit 1  
Sections A-D  
Checkpoints[illegible]



## Checkpoint

Kindergarten, Unit 1  
Sections A-D  
Checkpoints[illegible]



## Checkpoint

## Kindergarten, Unit 1 Sections A-D Checkpoints

[illegible]

## Checkpoint

## Grade K, Unit 1 Sections A-D Checkpoints

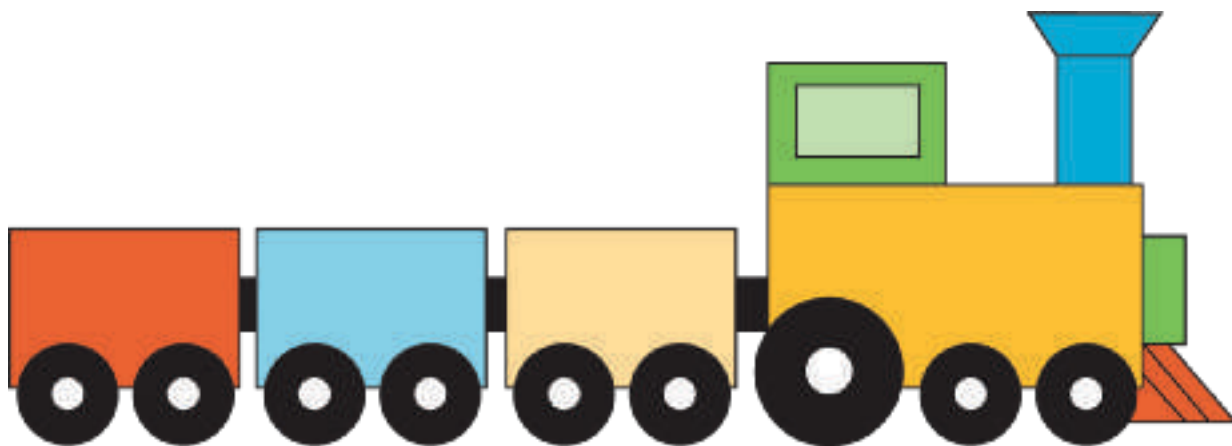
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Picture A

Use blocks to build a house.



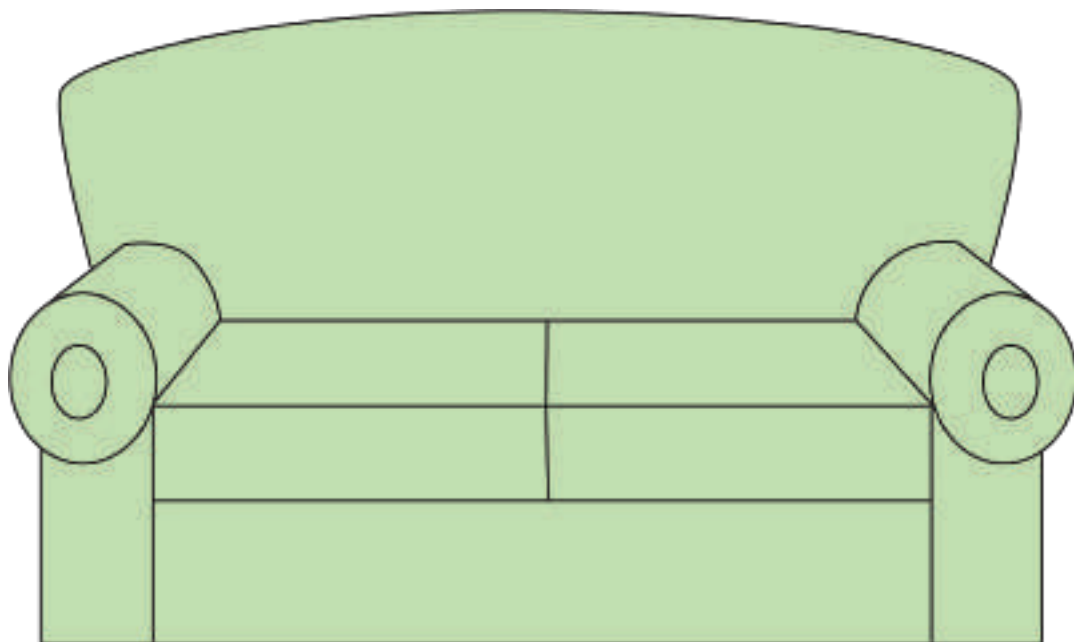
Use blocks to build a train.



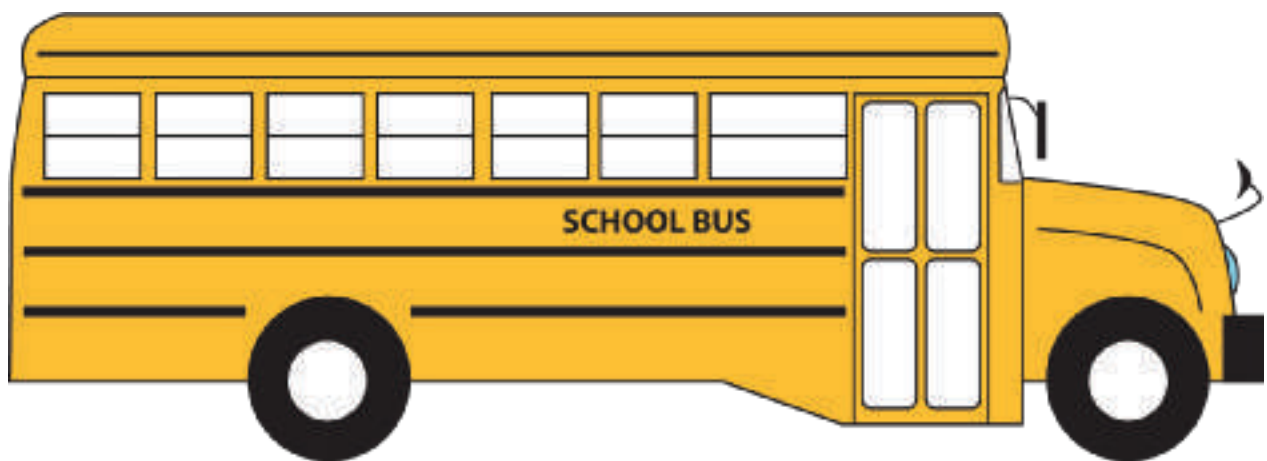


Picture C

Use blocks to build a couch.



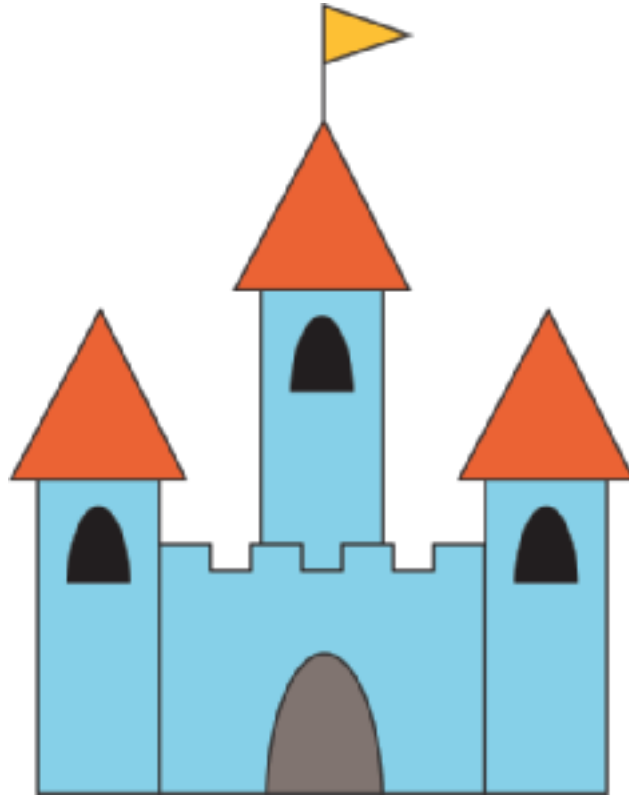
Use blocks to build a bus.



Use blocks to build a school.



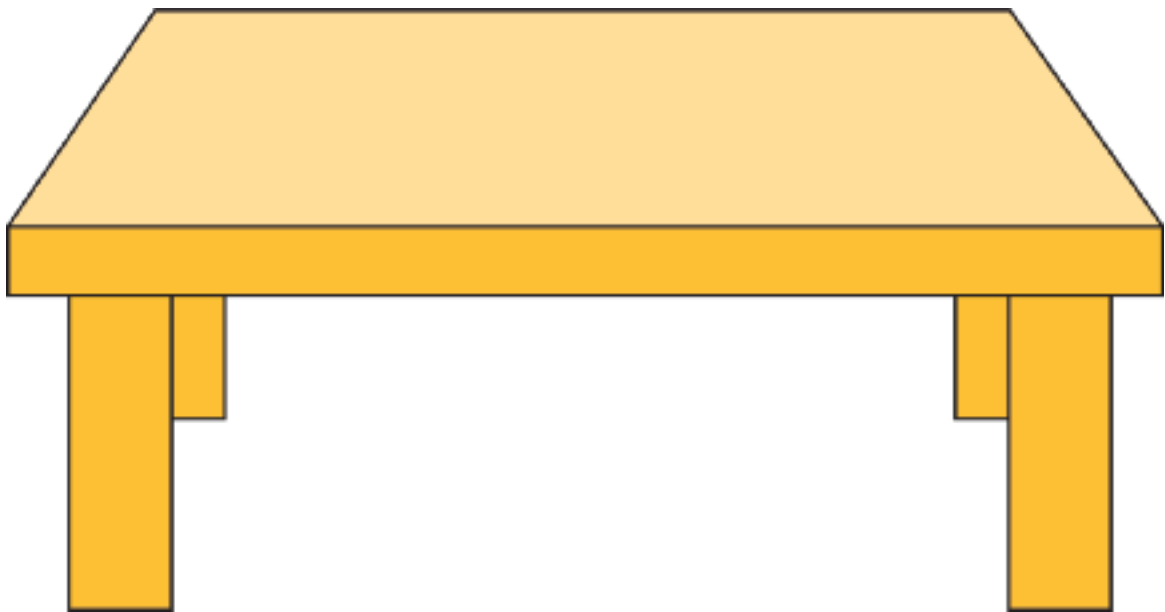
Use blocks to build a castle.



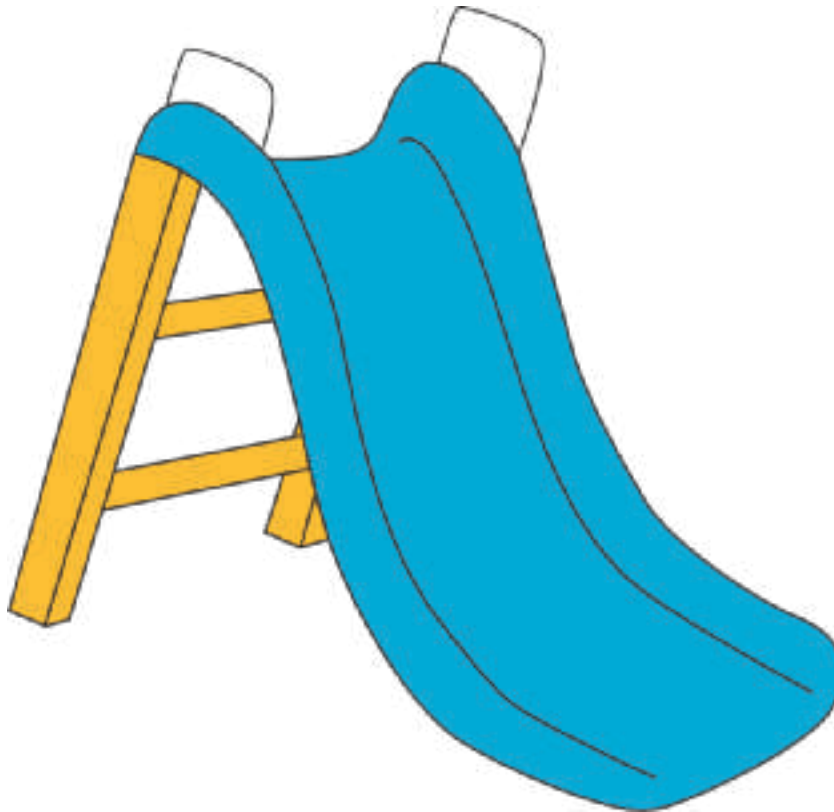
Use blocks to build a road.



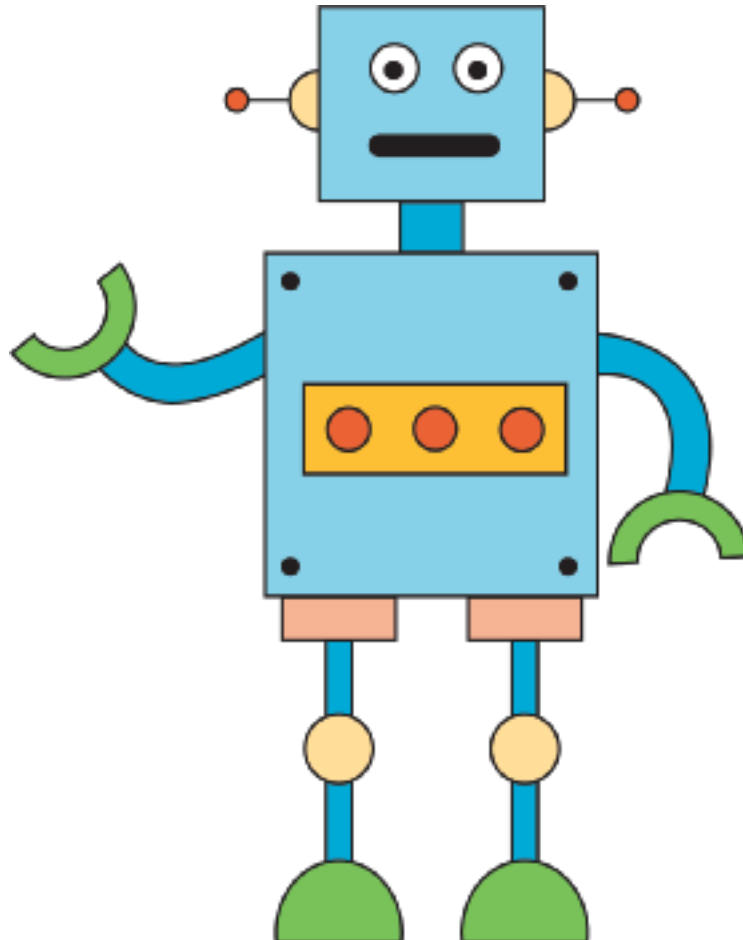
Use blocks to build a table.



Use blocks to build a slide.



Use blocks to build a robot.



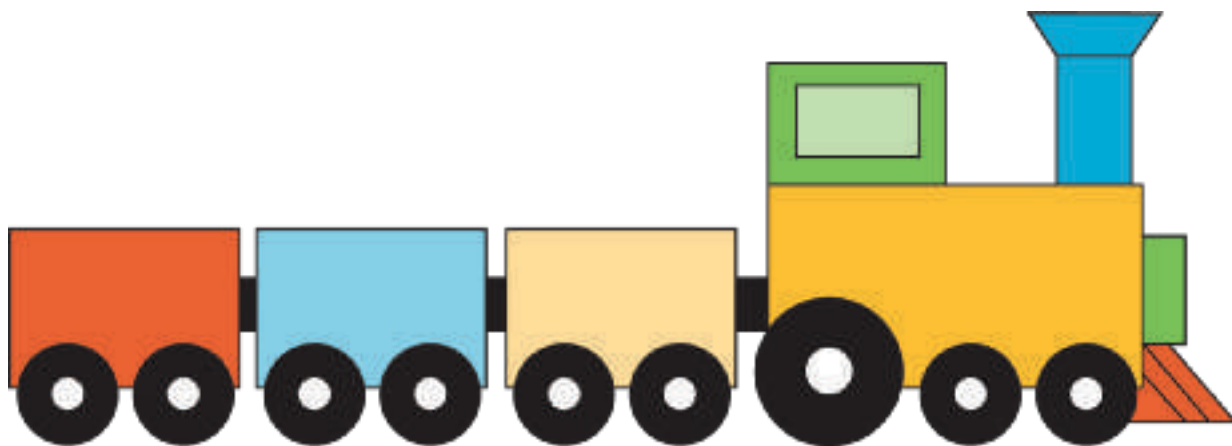


Picture A

Use blocks to build a house.

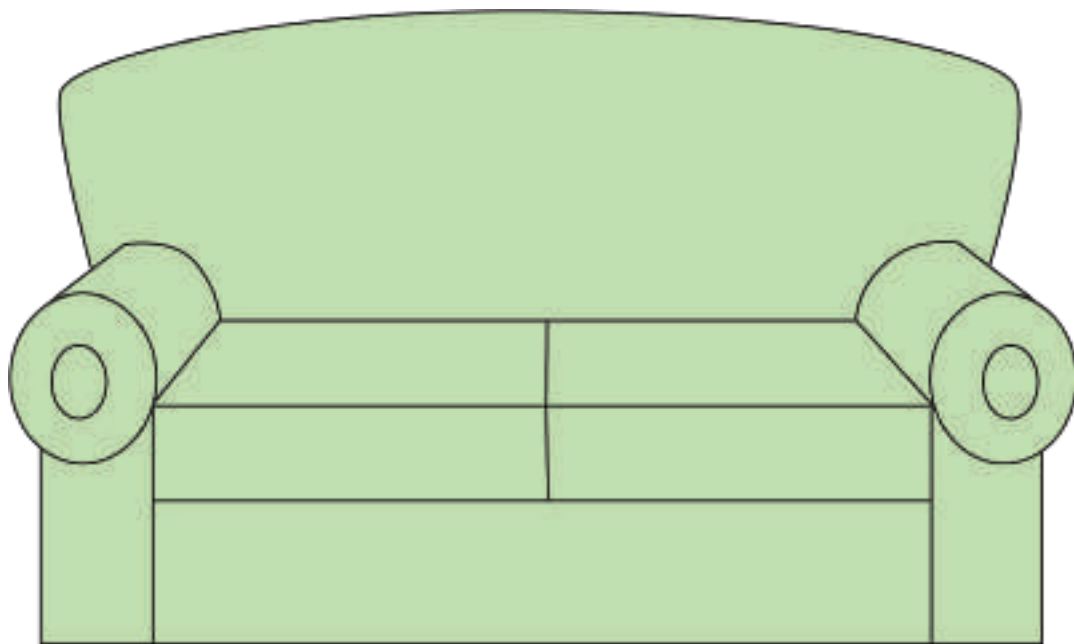


Use blocks to build a train.

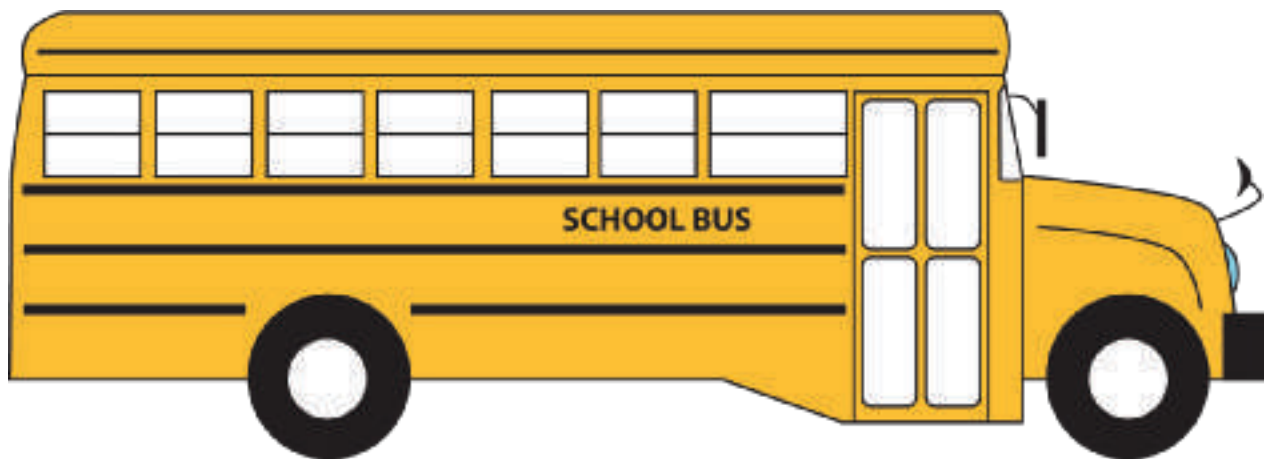


Picture C

Use blocks to build a couch.



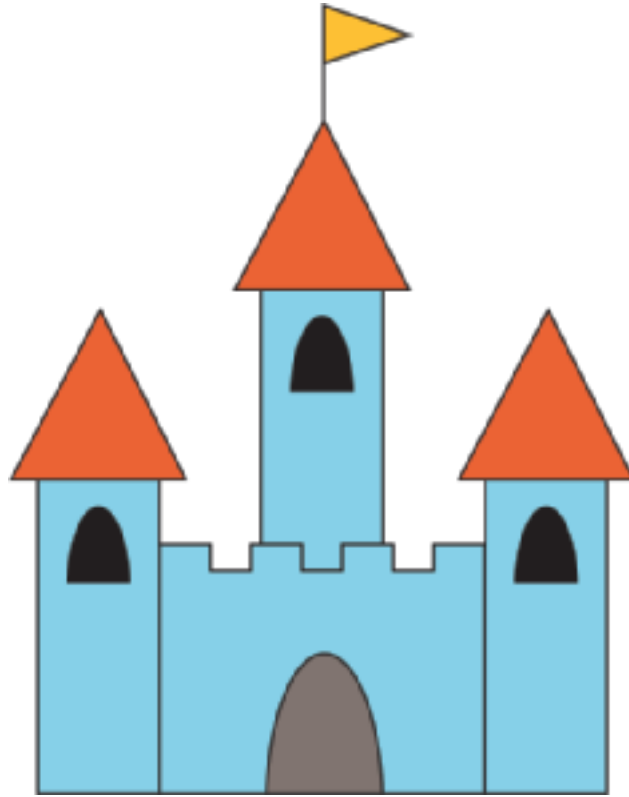
Use blocks to build a bus.



Use blocks to build a school.



Use blocks to build a castle.



Use blocks to build a road.

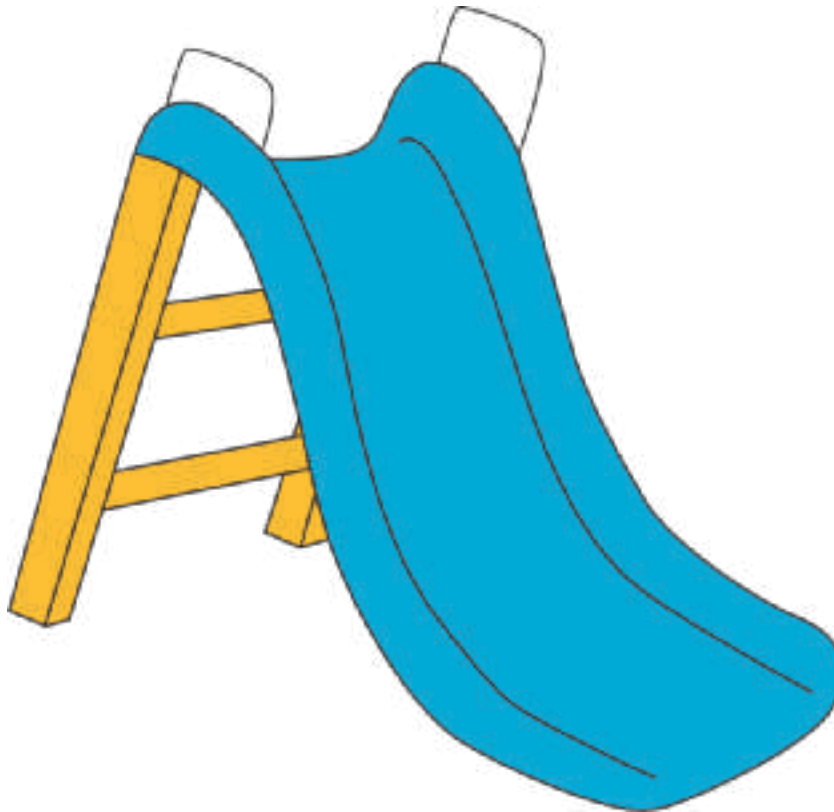


Use blocks to build a table.

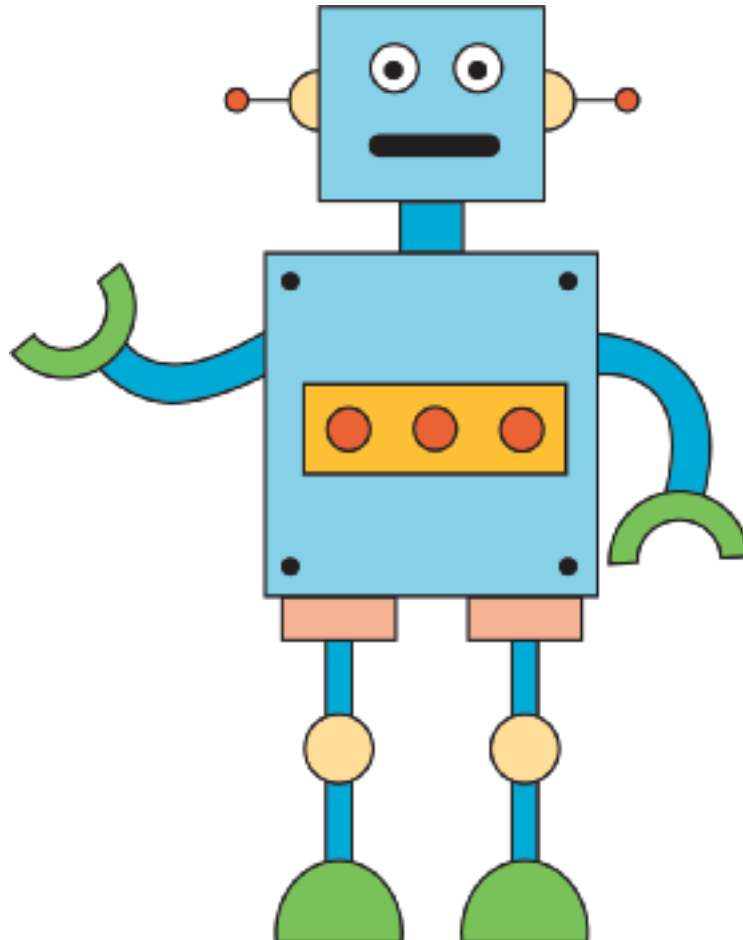




Use blocks to build a slide.



Use blocks to build a robot.



Different Groups, Same Quantity

Different Groups, Same Quantity  
A



Different Groups, Same Quantity  
B



Different Groups, Same Quantity  
C



Different Groups, Same Quantity  
D



Different Groups, Same Quantity

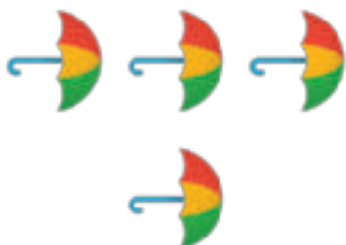
Different Groups, Same Quantity  
E



Different Groups, Same Quantity  
F



Different Groups, Same Quantity  
G



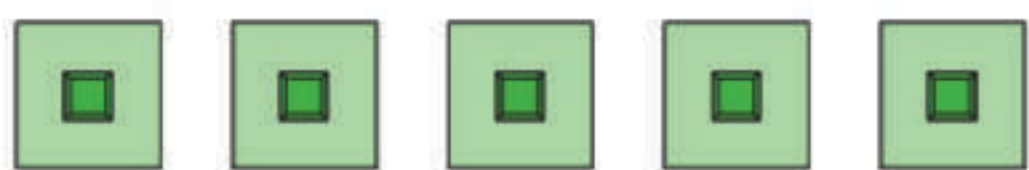
Different Groups, Same Quantity  
H



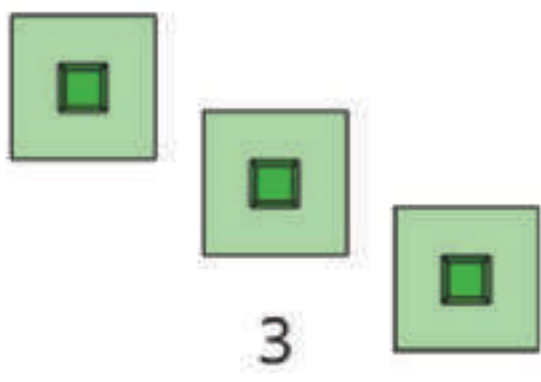
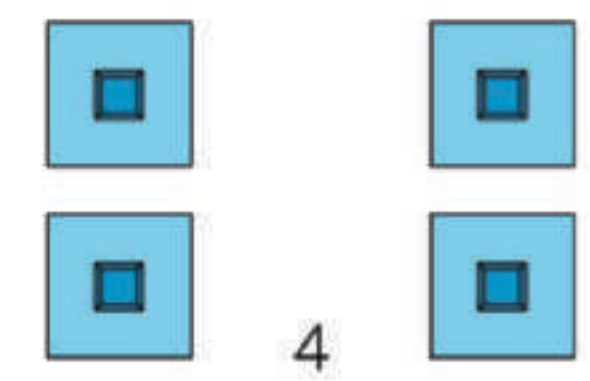
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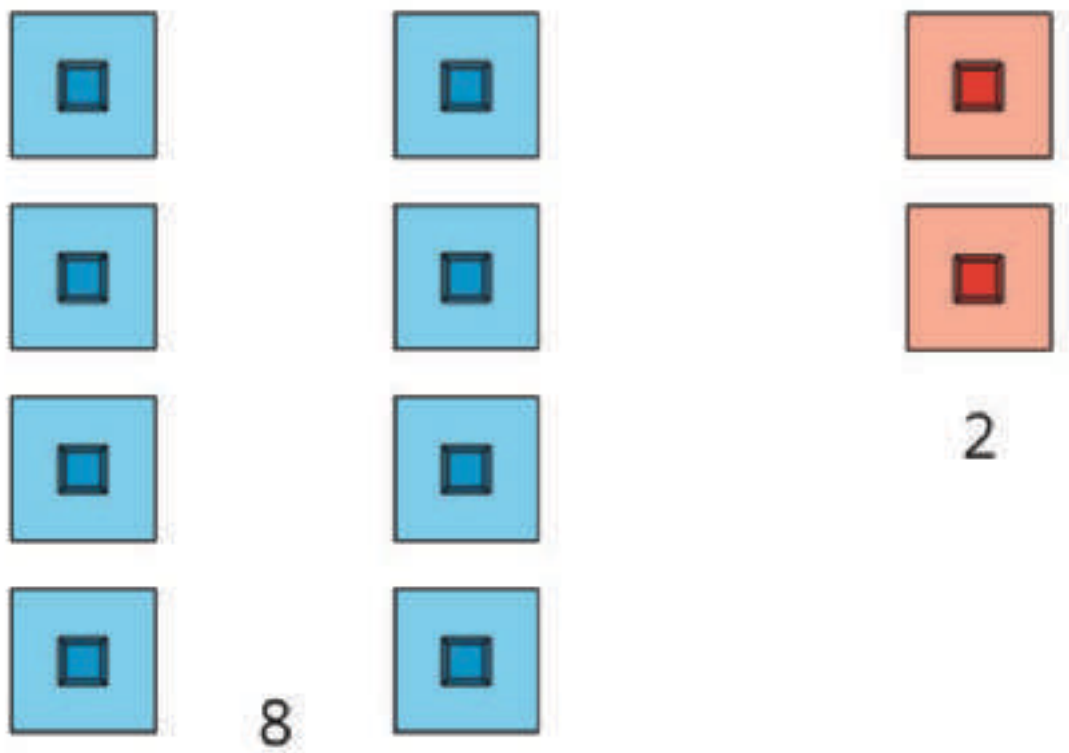
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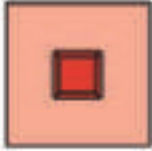
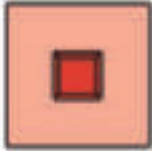
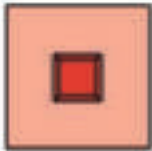
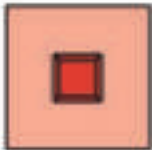
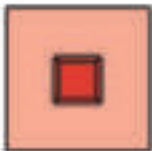
Connecting Cubes Stage 3 Directions



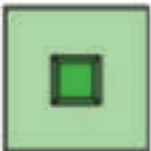
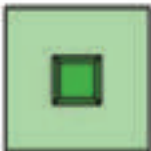
Connecting Cubes Stage 3 Directions



Connecting Cubes Stage 3 Directions



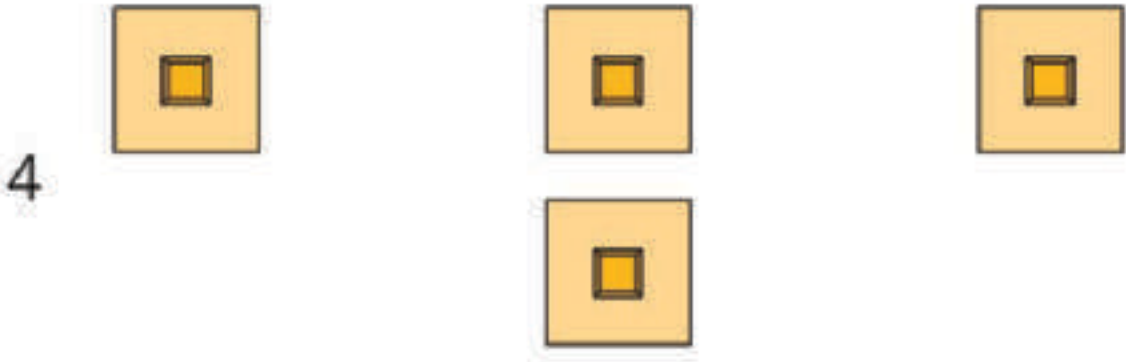
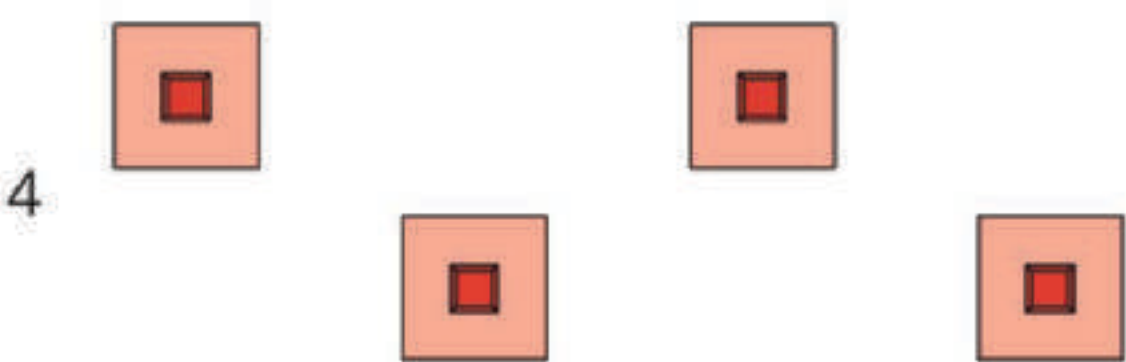
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Connecting Cubes Stage 3 Directions

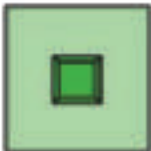
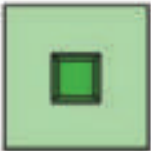
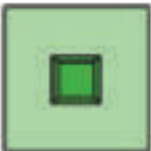


Connecting Cubes Stage 3 Directions

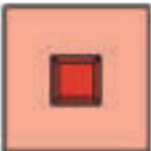
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Connecting Cubes Stage 3 Directions

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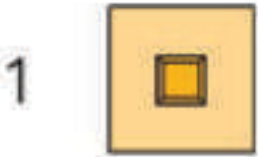
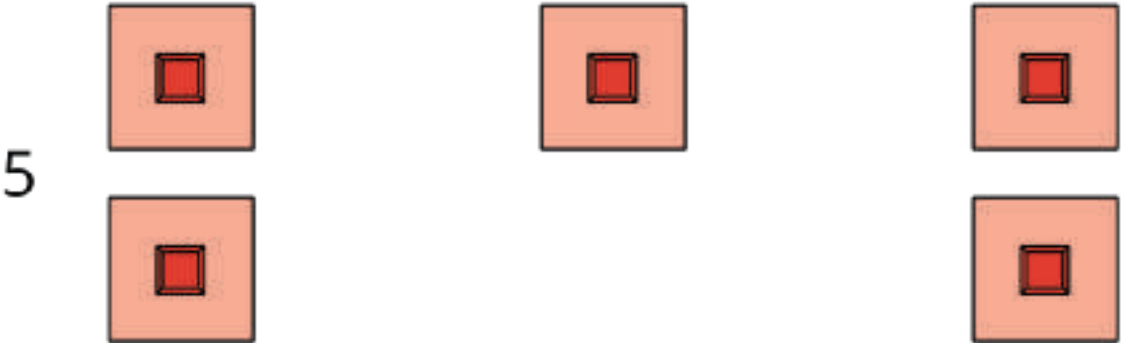
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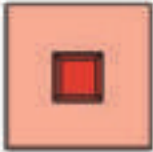


Connecting Cubes Stage 3 Directions



Connecting Cubes Stage 3 Directions

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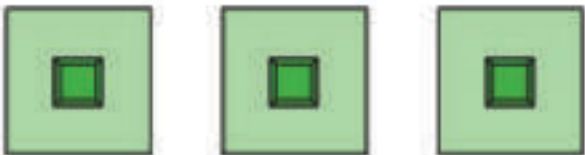


Connecting Cubes Stage 3 Directions

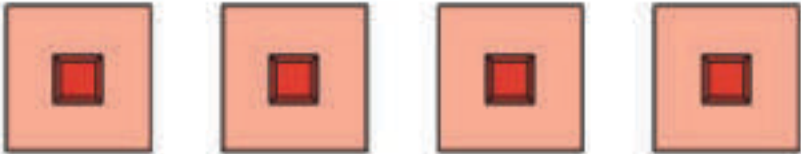
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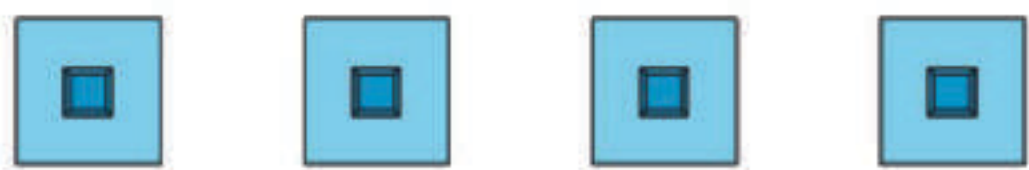
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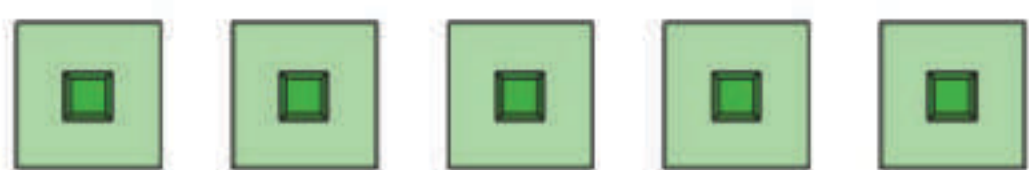
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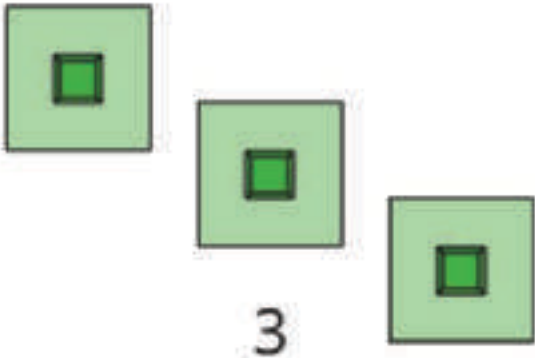
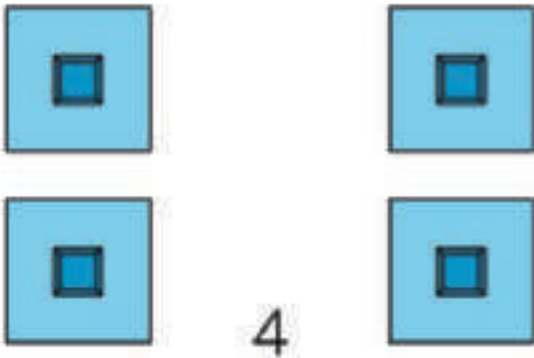
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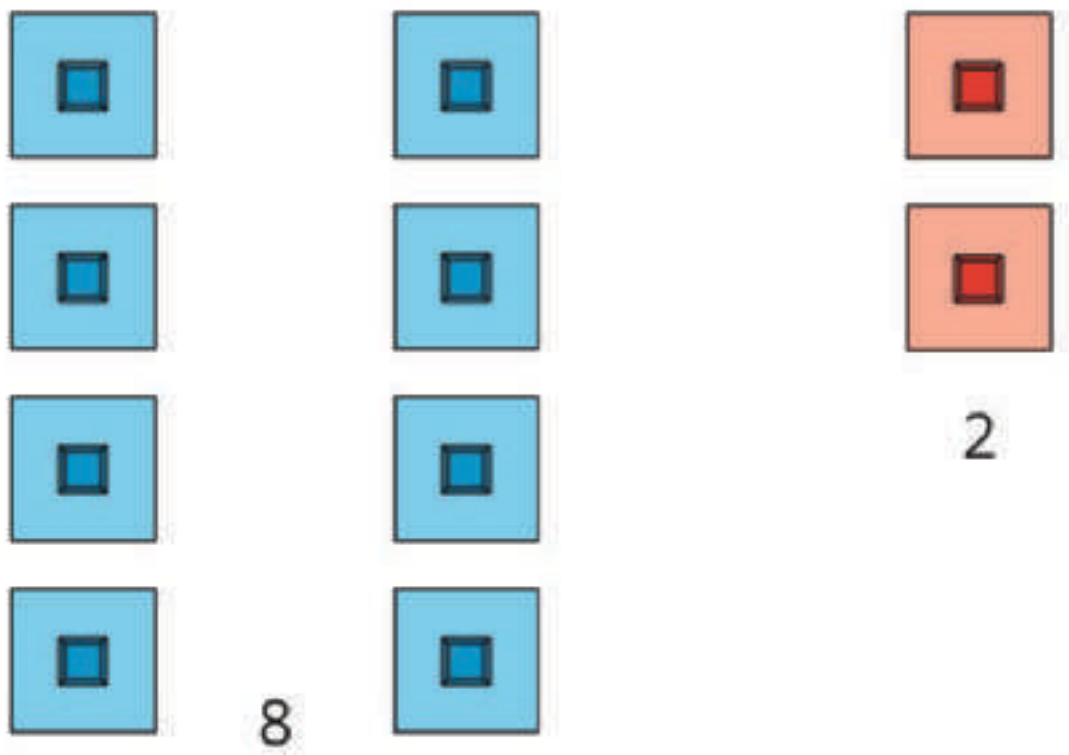


Connecting Cubes Stage 3 Directions

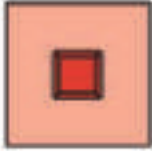
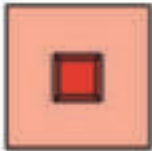
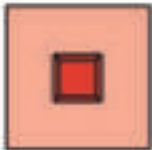




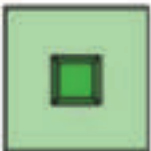
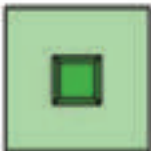
Connecting Cubes Stage 3 Directions



Connecting Cubes Stage 3 Directions

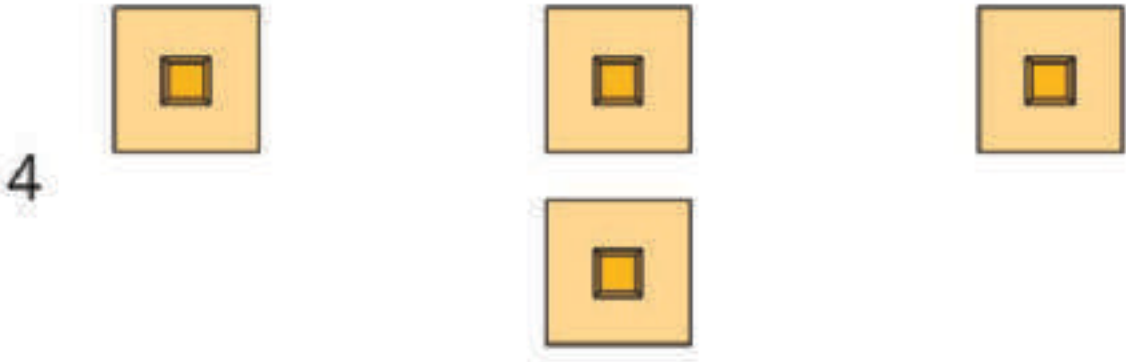
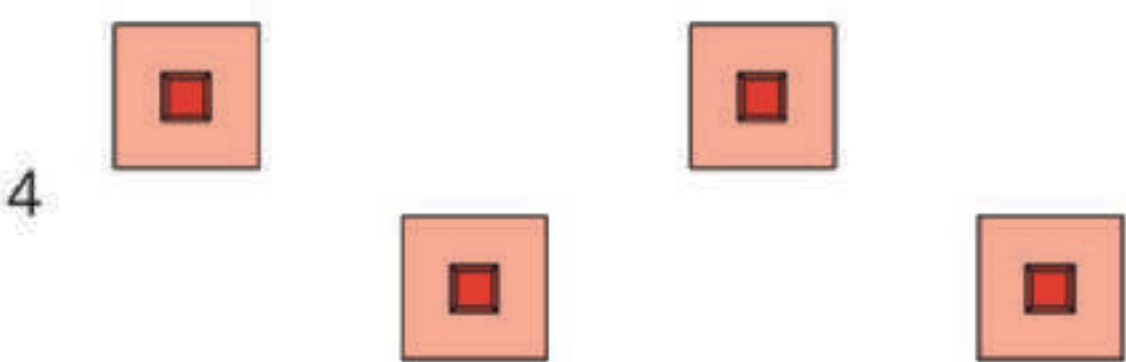


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Connecting Cubes Stage 3 Directions

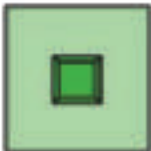
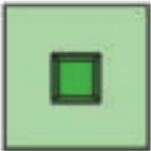
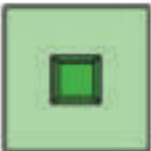


Connecting Cubes Stage 3 Directions

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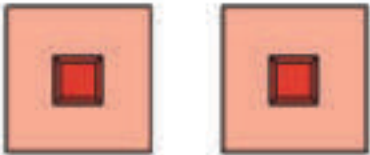


Connecting Cubes Stage 3 Directions

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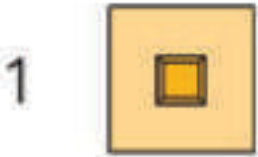
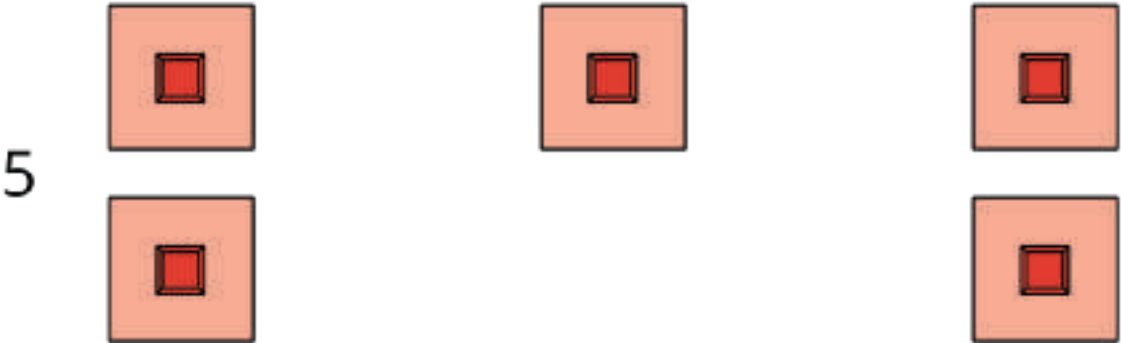
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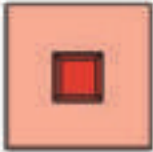
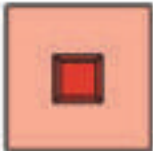


Connecting Cubes Stage 3 Directions



Connecting Cubes Stage 3 Directions

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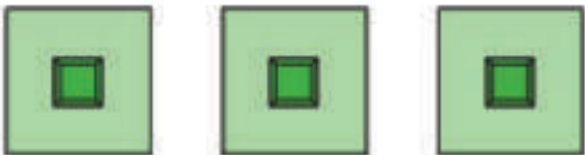


Connecting Cubes Stage 3 Directions

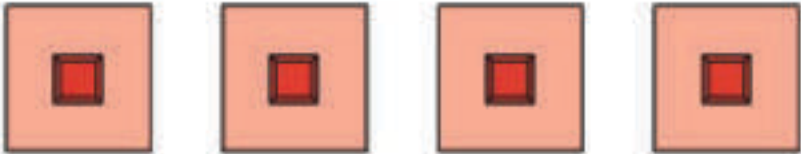
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## End-of-Unit Assessment (Interview Assessment)

### K.1 End-of-Unit Assessment (Interview Assessment)

**Materials Needed** Two cups with 5 cubes each in them.

Student Names	
Question	
1. "Can you please count as high as you can?" When the student stops, ask, "Do you know what number comes after ____ (the number the student stopped at)?"	<i>Note how high the student counts and any mistakes or omissions the student makes.</i>
2. Pour 5 cubes onto the table in front of the student. Ask, "How many cubes are on the table?"	<i>Note whether the student:</i> ____ <i>touches or moves each object one time</i> ____ <i>says one number for each object</i> ____ <i>says the numbers in order</i> ____ <i>keeps track of cubes that have been counted</i>
3. When the student finishes counting, ask, "So how many cubes are there?"	<i>Note whether the student:</i> ____ <i>answers with the last number they said</i> (even if that last number was inaccurate).
Go to question 4a or 4b.	

# End-of-Unit Assessment (Interview Assessment)

Student Names	
Question	
4.a.i If the student answers with a number other than 5, remove 2 cubes and ask, "How many cubes are on the table?"	<p><i>Note whether the student:</i></p> <p>___ touches or moves each object one time</p> <p>___ says one number for each object</p> <p>___ says the numbers in order</p> <p>___ keeps track of cubes that have been counted</p>
4.a.ii When the student finishes counting, ask, "So how many cubes are there?"	<p><i>Note whether the student:</i></p> <p>___ answers with the last number they said (even if that last number was inaccurate).</p>
4.b.i If the student answers with 5 cubes, pour out the other 5 cubes and ask, "How many cubes are on the table?"	<p><i>Note whether the student:</i></p> <p>___ touches or moves each object one time</p> <p>___ says one number for each object</p> <p>___ says the numbers in order</p> <p>___ keeps track of cubes that have been counted</p>
4.b.ii When the student finishes counting, ask, "So how many cubes are there?"	<p><i>Note whether the student:</i></p> <p>___ answers with the last number they said (even if that last number was inaccurate).</p>



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Questions About Us 5-Frames

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