

# IMKH California



## KINDERGARTEN

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Student Edition

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UNITS

7 | 8



**Kendall Hunt**

Book 4  
Certified by Illustrative Mathematics®

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**SAMPLE COPY**



KINDERGARTEN

UNIT

7

## Solid Shapes All Around Us

### Content Connections

In this unit you will identify, describe, compare and create two- and three- dimensional shapes. You will make connections by:

- **Exploring Changing Quantities** while counting up to 20 objects, write and comparing numbers, and solving story problems.
- **Taking Wholes Apart, Putting Parts Together** while creating figures with pattern blocks and using manipulatives to solve addition and subtraction problems.

- **Reasoning with Data** while comparing flat and solid shapes.
- **Discovering Shape and Space** while identifying, describing, comparing and creating two- and three-dimensional shapes.

## Addressing the Standards

As you work your way through **Unit 7 Solid Shapes All Around Us**, you will use some mathematical practices that you may have started using in kindergarten and have continued strengthening over your school career. These practices describe types of thinking or behaviors that you might use to solve specific math problems.

Mathematical Practices	Where You Use these MPs
<b>MP1</b> Make sense of problems and persevere in solving them.	Lesson 5
<b>MP2</b> Reason abstractly and quantitatively.	Lesson 2, 3, 4, 5, and 6
<b>MP3</b> Construct viable arguments and critique the reasoning of others.	Lesson 3 and 9
<b>MP4</b> Model with mathematics.	Lesson 3, 13, and 16
<b>MP5</b> Use appropriate tools strategically.	Lesson 1, 12, and 15

<b>Mathematical Practices</b>	<b>Where You Use these MPs</b>
<b>MP6</b> Attend to precision.	Lesson 8, 10, 11, 13, and 14
<b>MP7</b> Look for and make use of structure.	Lesson 2, 6, 7, and 9
<b>MP8</b> Look for and express regularity in repeated reasoning.	

The California Common Core State Standards for Mathematics (CA CCSSM) describe the topics you will learn in this unit. Many of these topics build upon knowledge you already have and challenge you to expand upon that knowledge. The table below shows what standards are being addressed in this unit.

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
<ul style="list-style-type: none"> <li>How Many?</li> </ul>	<b>K.CC.1</b> Count to 100 by ones and by tens.	Lesson 2, 6, and 9
<ul style="list-style-type: none"> <li>How Many?</li> <li>Place and Position of Numbers</li> </ul>	<b>K.CC.3</b> Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	Lesson 1

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> </ul>	<p><b>K.CC.4</b></p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.</p>	<p>Lesson 1 and 3</p>



Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.CC.5</b> Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.</p>	Lesson 1, 3, and 15
<ul style="list-style-type: none"> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Being Flexible within 10</li> </ul>	<p><b>K.CC.6</b> Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.</p>	Lesson 2
<ul style="list-style-type: none"> <li>● How Many?</li> </ul>	<p><b>K.CC.7</b> Compare two numbers between 1 and 10 presented as written numerals.</p>	Lesson 2

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>Shapes in the World</li> </ul>	<b>K.G.1</b> Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above</i> , <i>below</i> , <i>beside</i> , <i>in front of</i> , <i>behind</i> , and <i>next to</i> .	Lesson 11, 13, and 14
<ul style="list-style-type: none"> <li>Shapes in the World</li> </ul>	<b>K.G.2</b> Correctly name shapes regardless of their orientations or overall size.	Lesson 10, 11, and 14
<ul style="list-style-type: none"> <li>Shapes in the World</li> </ul>	<b>K.G.3</b> Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).	Lesson 7 and 14

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Bigger or Equal?</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.G.4</b> Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).</p>	<p>Lesson 7, 10, 11, 12, 15</p>
<ul style="list-style-type: none"> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.G.5</b> Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</p>	<p>Lesson 3, 7, 10, 12, 13, 15, and 16</p>
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.G.6</b> Compose simple shapes to form larger shapes. <i>For example, "Can you join these two triangles with full sides touching to make a rectangle?"</i></p>	<p>Lesson 1, 2, 3, 4, 6, 14, and 15</p>

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.1</b> Represent addition and subtraction with objects, fingers, mental images, drawings, 2 sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p>	Lesson 3, 4, 5, and 6
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.2</b> Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>	Lesson 3, 5, and 6
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> </ul>	<p><b>K.OA.3</b> Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</p>	Lesson 6

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>Being Flexible within 10</li> </ul>	<p><b>K.OA.4</b></p> <p>For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p>	Lesson 6
<ul style="list-style-type: none"> <li>Being Flexible within 10</li> <li>Model with Numbers</li> </ul>	<p><b>K.OA.5</b></p> <p>Fluently add and subtract within 5.</p>	Lesson 6 and 10
<ul style="list-style-type: none"> <li>Place and Position of Numbers</li> </ul>	<p><b>K.NBT.1</b></p> <p>Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., <math>18 = 10 + 8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>	Lesson 1

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.MD.1</b></p> <p>Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</p>	<p>Lesson 8 and 9</p>
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Bigger or Equal?</li> <li>● Model with Numbers</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.MD.2</b></p> <p>Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	<p>Lesson 8 and 9</p>
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Shapes in the World</li> </ul>	<p><b>K.MD.3</b></p> <p>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	<p>Lesson 7 and 11</p>

## Unit 7, Lesson 1

Addressing CA CCSSM K.CC.3, K.CC.4, K.CC.5, K.G.6, K.NBT.1; practicing MP5

# Build Shapes

Let's use one shape.



Sec A

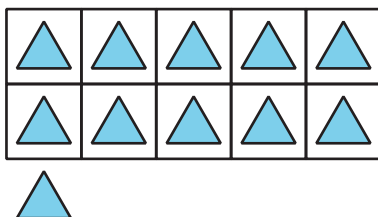
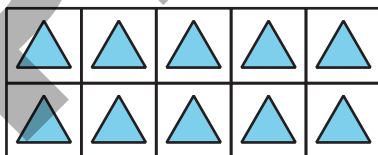
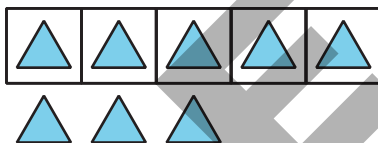
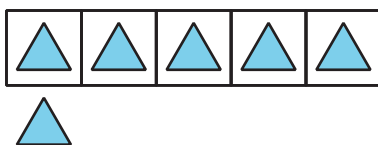
SAMPLE COPY

## How Many Do You See: Triangles

Sec A

How many do you see?

How do you see them?



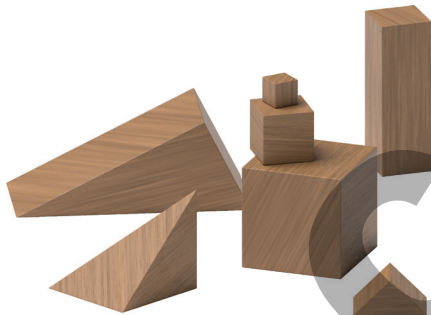


### Activity 3

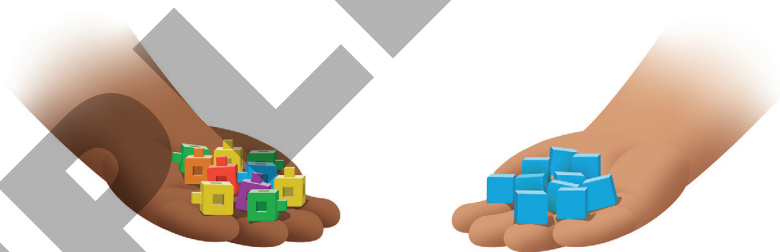
## Centers: Choice Time

Choose a center.

Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 2

Addressing CA CCSSM K.CC.1, K.CC.6, K.CC.7, K.G.6; practicing MP2 and MP7



Sec A

# More or Fewer Pattern Blocks

Let's see how many pattern blocks.

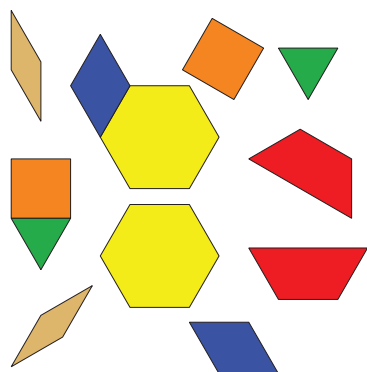
SAMPLE COPY

### Activity 3

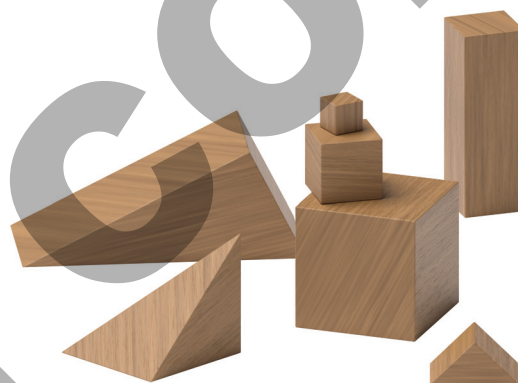
## Introduce Pattern Blocks—Place the Last Pattern Block

Choose a center.

Pattern Blocks



Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 3

Addressing CA CCSSM K.CC.4-5, K.G.5, K.G.6,  
K.OA.1, K.OA.2; practicing MP2, MP3, and MP4

Sec A

# Questions and Stories about Shapes

Let's ask questions.

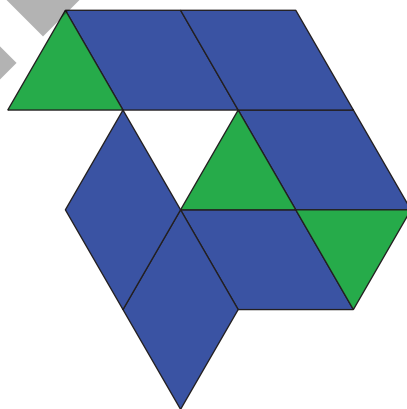
Warm-up

## Notice and Wonder: Mai's Shape

Mai made a pattern.

What do you notice?

What do you wonder?



## Activity 1

# Ask Math Questions about Shapes

Sec A

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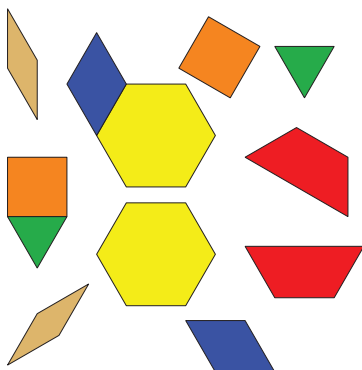
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## Activity 3

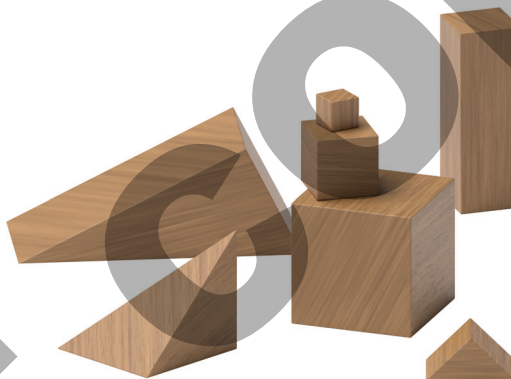
# Introduce Pattern Blocks—Build and Draw

Choose a center.

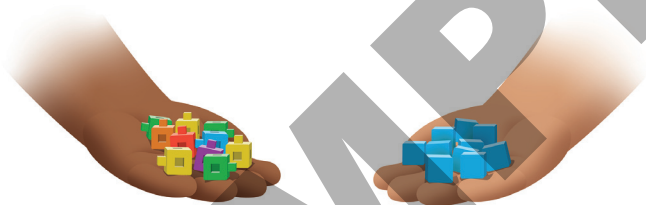
Pattern Blocks



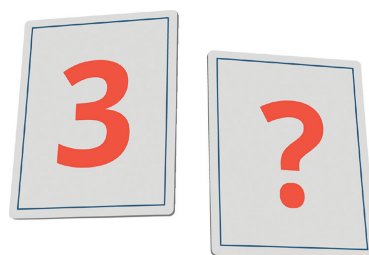
Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 4

Addressing CA CCSSM K.G.6, K.OA.1; building towards, K.G.6; practicing MP2

# Pattern Block Puzzles and Equations

Let's use equations.

Warm-up

## Which Three Go Together: Equations

Which 3 go together?

A

$$10 - 4 = 6$$

B

$$4 + 3 = 7$$

C

$$6 = 4 + 2$$

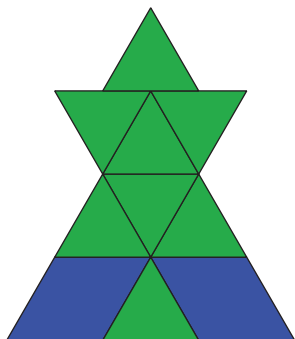
D

$$3 + 3 = 6$$

## Activity 1

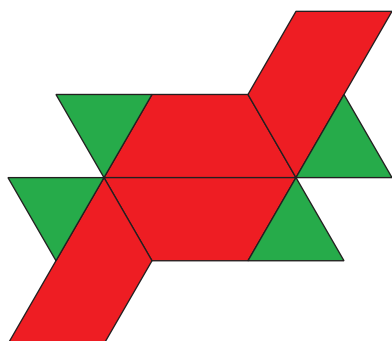
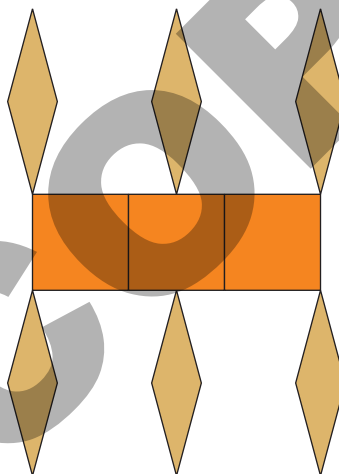
# Match Equations to Pattern Block Puzzles

Sec A



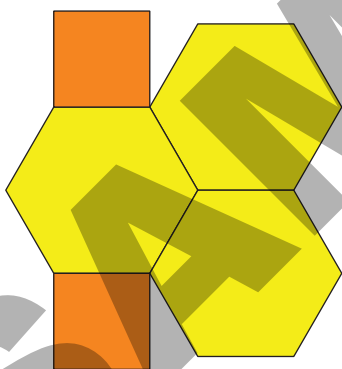
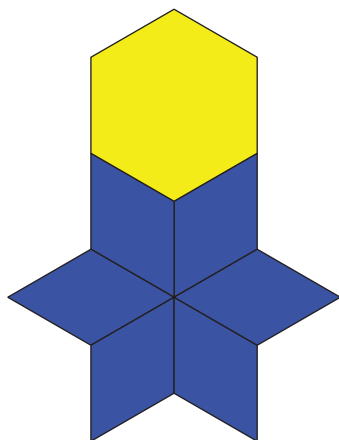
$$8 = 4 + 4$$

$$6 + 1 = 7$$



$$10 = 2 + 8$$

$$7 = 6 + 1$$



$$2 + 3 = 5$$

$$9 = 6 + 3$$



## Activity 2

# Make Shapes to Represent Equations

$$4 = 1 + 3$$

$$10 + 0 = 10$$

$$5 + 4 = 9$$

Sec A

$$8 = 2 + 6$$

$$3 + 3 = 6$$

$$7 = 2 + 5$$

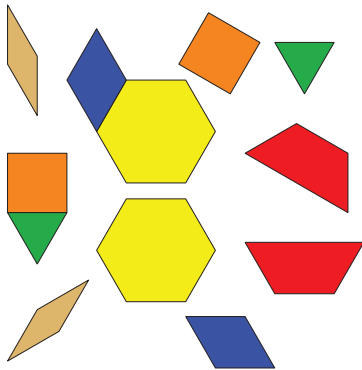
SAMPLE COPY

## Activity 3

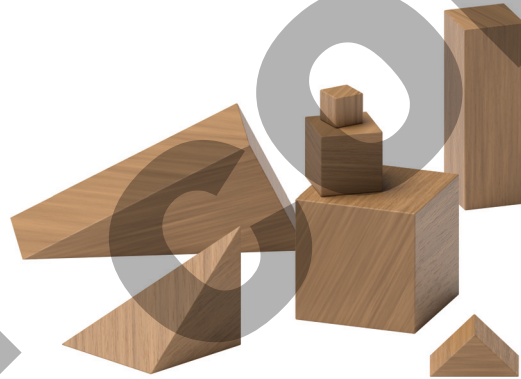
### Centers: Choice Time

Choose a center.

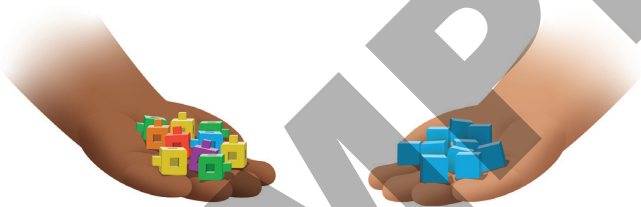
Pattern Blocks



Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 5

Addressing CA CCSSM K.OA.1, K.OA.2; building towards K.OA.2; practicing MP1 and MP2

# Story Problems about Shapes

Let's use equations with story problems.



Sec A

SAMPLE COPY

## Notice and Wonder: Questionless Story Problem

Sec A

What do you notice?  
What do you wonder?

Elena makes a train with 9 pattern blocks.  
She takes away 3 pattern blocks.

## Activity 1

### Match Story Problems to Equations

1. Clare has 7 pattern blocks.  
Her brother takes 3.

How many now?

$$7 = 4 + 3$$

$$7 - 3 = 4$$

$$7 + 3 = 10$$

2. Kiran has 2 pattern blocks.  
Jada adds 5 more.

How many pattern blocks?

$$5 - 2 = 3$$

$$4 = 2 + 2$$

$$2 + 5 = 7$$

## Activity 2

### Solve Story Problems

Sec A

1. Andre has 4 pattern blocks.  
He adds 4 more.

How many pattern blocks?

\_\_\_\_\_

Equation:  $8 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$



2. Elena makes a train with 9 pattern blocks.  
She takes away 3 pattern blocks.

How many pattern blocks make up the train?

\_\_\_\_\_

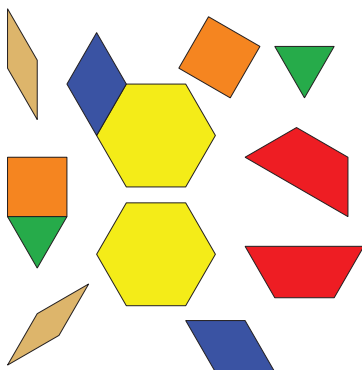
Equation:  $9 - 3 =$  \_\_\_\_\_

## Activity 3

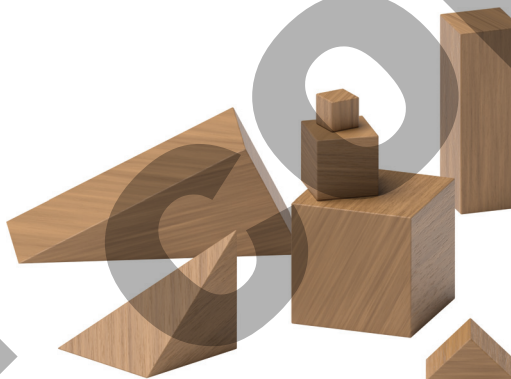
### Centers: Choice Time

Choose a center.

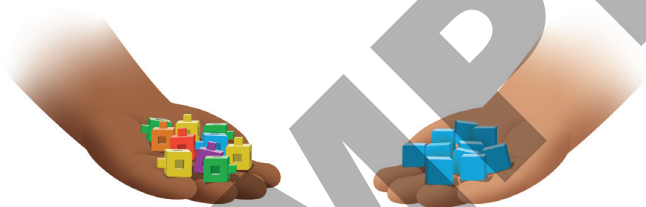
Pattern Blocks



Geoblocks



Grab and Count



Find the Pair



SAMPLE COPY

## Unit 7, Lesson 6



Addressing CA CCSSM K.CC.1, K.G.6, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5; building towards K.OA.4; practicing MP2 and MP7

Sec A

# Make and Break Apart 10 with Pattern Blocks

Let's find ways to make 10.

SAMPLE COPY

## Activity 1

### Diego's Shape

Diego has 10 pattern blocks.  
He has squares and triangles.

How many squares?

How many triangles?

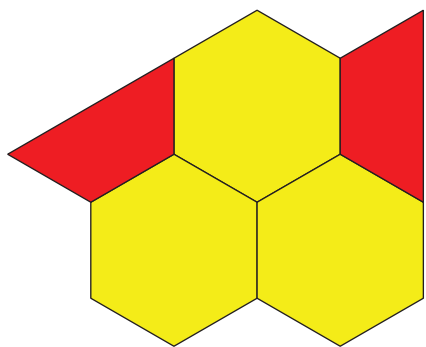
Expression: \_\_\_\_\_

## Section A Summary

We use pattern blocks to make shapes.

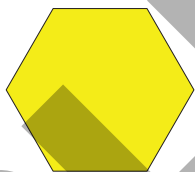
We can write numbers to show how many.

We can use the words “more” and “fewer.”



5

There are more



than



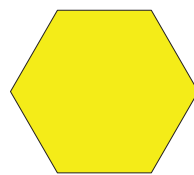
yellow hexagons

red trapezoids.

There are fewer



than



red trapezoids

yellow hexagons.

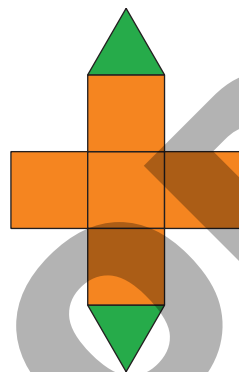
We match equations with shapes and story problems.

$$5 + 2 = 7$$

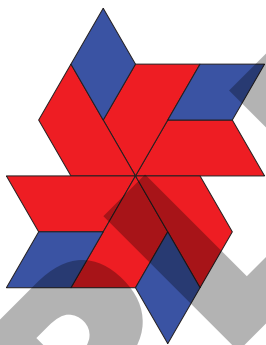
Kiran has 5 pattern blocks.

Jada has 2 more.

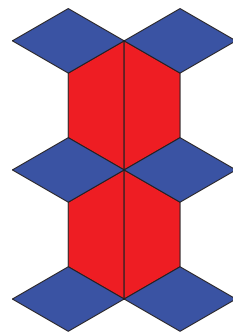
How many now?



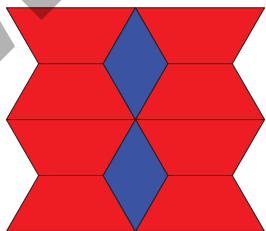
We see ways to make 10 with pattern blocks.



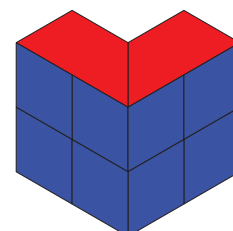
$$4 + 6 = 10$$



$$10 = 6 + 4$$



$$2 + 8 = 10$$



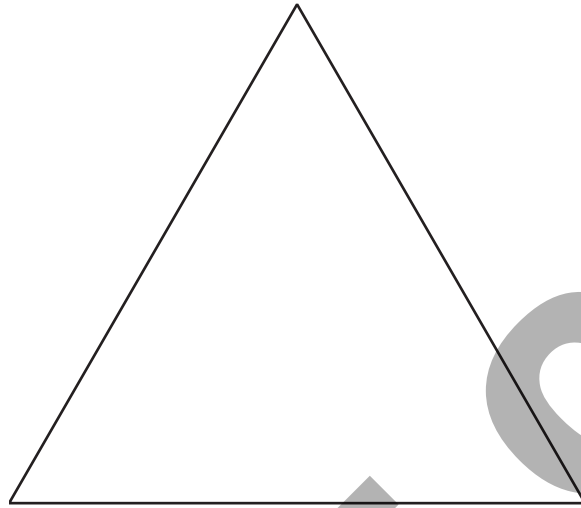
$$10 = 8 + 2$$

# Practice Problems

8 Problems

1 from Unit 7, Lesson 1

Sec A



- a. Fill in the puzzle. Use only triangles.
- b. How many pattern blocks did you use?

\_\_\_\_\_

- c. Fill in the puzzle a different way. Use any pattern blocks.
- d. How many pattern blocks did you use?

\_\_\_\_\_

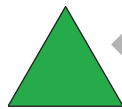


**2** from Unit 7, Lesson 2

- a. Fill in the puzzle.  
Use only green triangles and blue rhombuses.



- b. Circle the shape you used more.



green triangle



blue rhombus

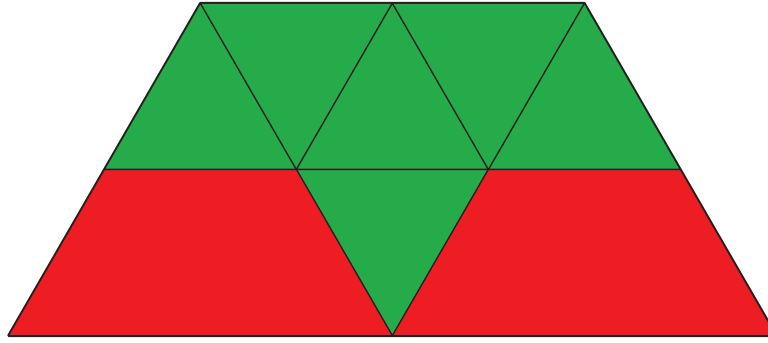
- c. Fill in the puzzle a different way.  
Use only green triangles and blue rhombuses.  
d. Circle the shape you used more.



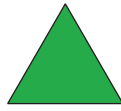
green triangle



blue rhombus

**3** from Unit 7, Lesson 3

a. How many



green triangles?

---

b. How many



red trapezoids?

---

**4** from Unit 7, Lesson 4

Make a shape for the equation.

$$5 + 1 = 6$$

**5** from Unit 7, Lesson 5

Lin has 8 pattern blocks.  
She takes away 3.

How many now?

**6** from Unit 7, Lesson 6

Clare has 10 pattern blocks.  
She has trapezoids and triangles.

How many trapezoids?  
How many triangles?

\_\_\_\_\_

\_\_\_\_\_

**7** Exploration

a. Fill in the shape.



b. How many?

\_\_\_\_\_

c. Can you use 10?

a. Fill in the puzzle.

Use only 10 red trapezoids  
and blue rhombuses.

b. How many?

\_\_\_\_\_ trapezoids

\_\_\_\_\_ rhombuses.

c. Can you use red trapezoids  
and blue rhombuses in a  
different way?

Use 10 red trapezoids  
and blue rhombuses.



## Unit 7, Lesson 7

Addressing CA CCSSM K.G.3, K.G.4-5, K.MD.3;  
practicing MP7

# Flat and Solid Shapes

Let's build shapes with clay.

Sec B



SAMPLE COPY

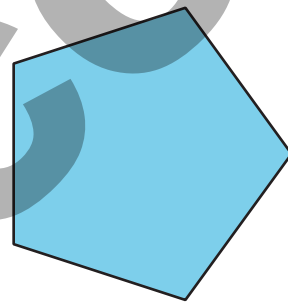
## Which Three Go Together: Flat Shapes

Which 3 go together?

A



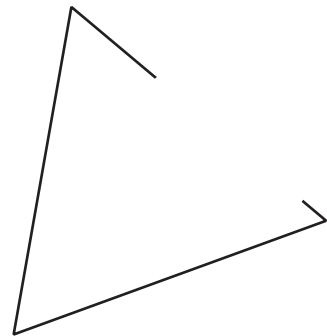
B



C



D



## Activity 2

# Card Sort: Flat and Solid Shapes

Sec B

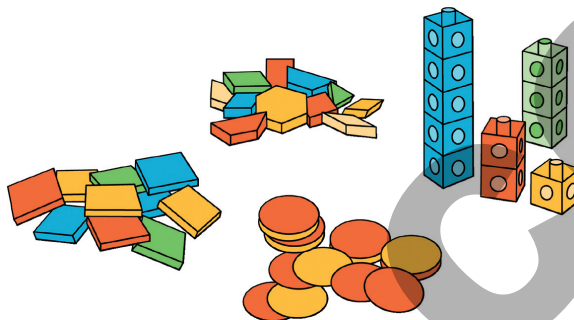


### Activity 3

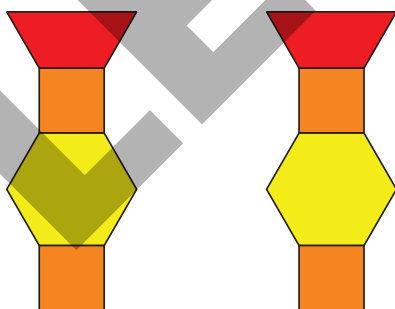
## Centers: Choice Time

Choose a center.

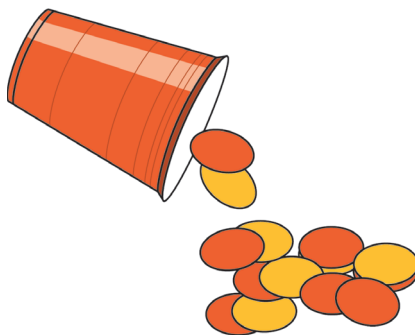
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 8



Addressing CA CCSSM K.MD.1-2; building towards K.MD.1-2; practicing MP6

# Compare Weights

Let's see what is heavier and what is lighter.

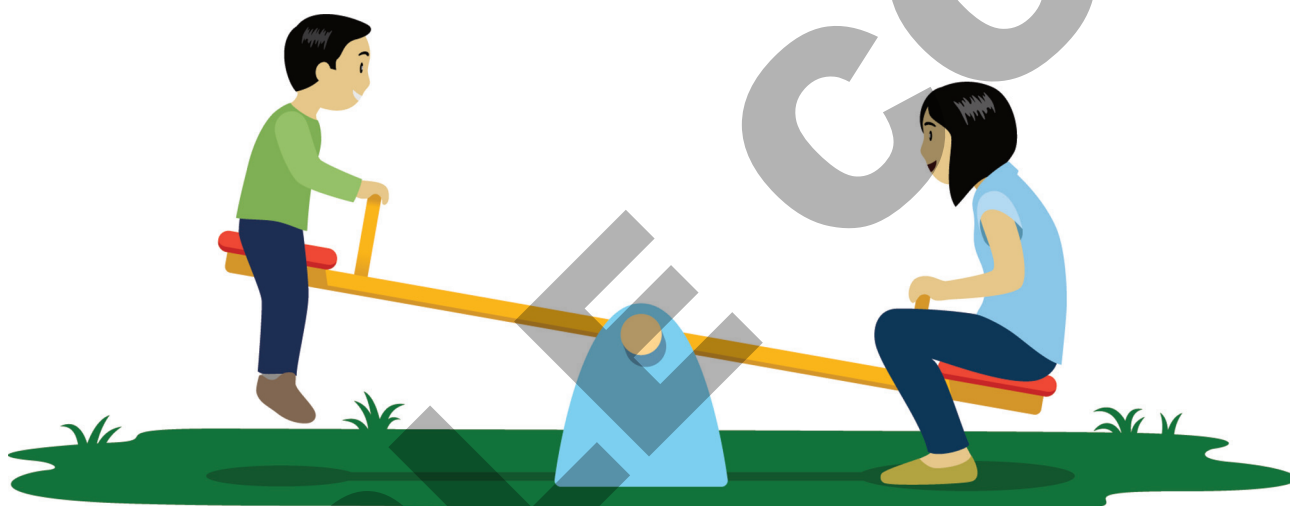
Sec B

SAMPLE COPY

## Notice and Wonder: Seesaw

What do you notice?

What do you wonder?



## Activity 2

### Compare Weights

Use 2 objects.

What is heavier and what is lighter?

Draw a picture.

Circle what is heavier.

Sec B

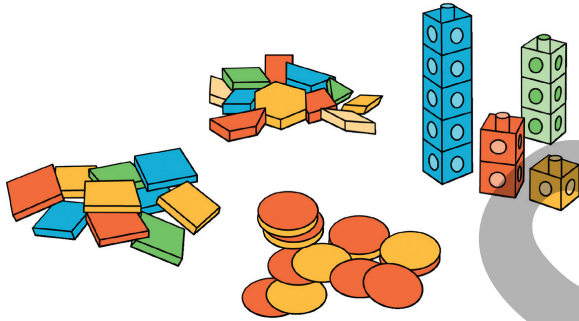
SAMPLE COPY

## Activity 3

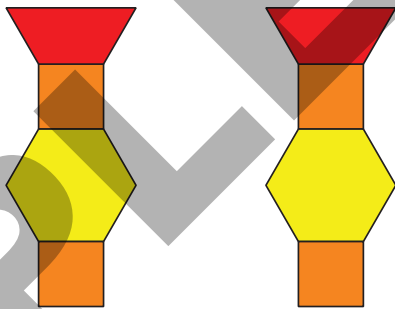
### Centers: Choice Time

Choose a center.

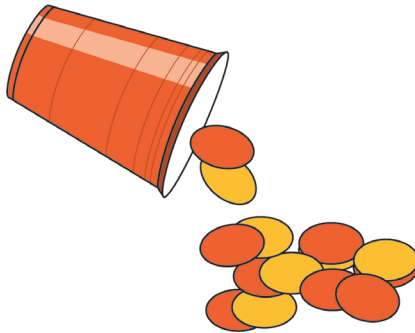
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 9

Addressing CA CCSSM K.CC.1, K.MD.1-2;  
practicing MP3 and MP7

# Compare Capacities

Let's see what holds more.



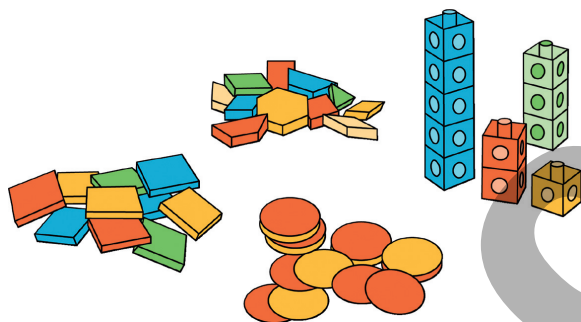
SAMPLE COPY

## Activity 3

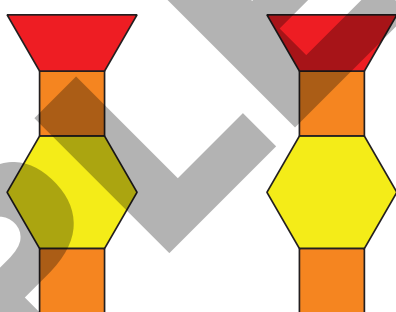
### Centers: Choice Time

Choose a center.

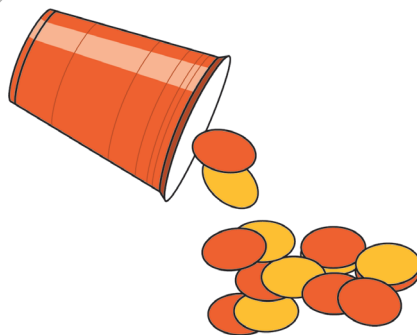
Counting Collections



Match Mine



Shake and Spill





## Unit 7, Lesson 10

Addressing CA CCSSM K.G.2, K.G.4-5, K.OA.5;  
practicing MP6

# Identify and Describe Solid Shapes

Let's make and talk about solid shapes.



Sec B

## Number Talk: Add within 5

Find the value of each expression.

- $2 + 3$

- $3 + 2$

- $4 + 1$

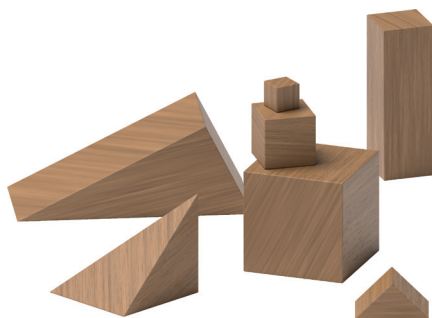
- $5 + 0$

## Activity 3

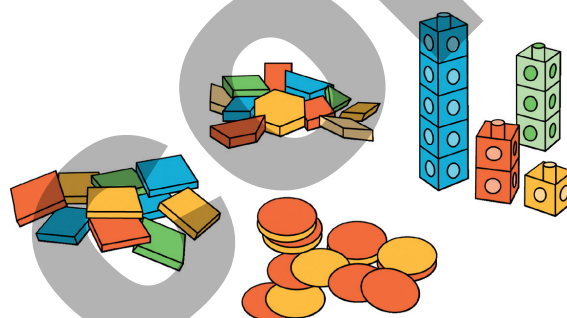
### Centers: Choice Time

Choose a center.

Geoblocks



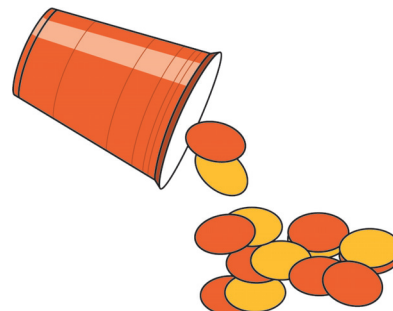
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 11

Addressing CA CCSSM K.G.1-2, K.G.4, K.MD.3;  
practicing MP6

# Compare and Sort Solid Shapes

Let's see how solid shapes are the same and different.

Sec B



SAMPLE COPY

## Activity 1

### Compare Solid Shapes

alike	different
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

## Activity 2

# Sort Solid Shapes

Sec B

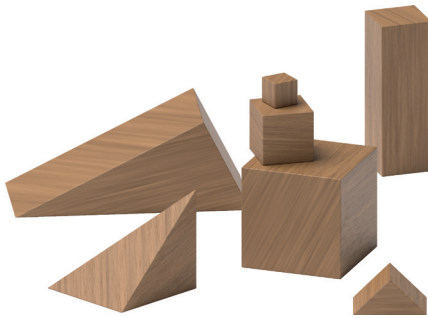
SAMPLE COPY

### Activity 3

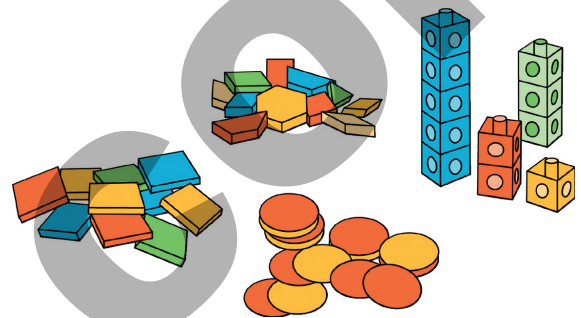
## Introduce Geoblocks—Feel and Guess

Choose a center.

Geoblocks



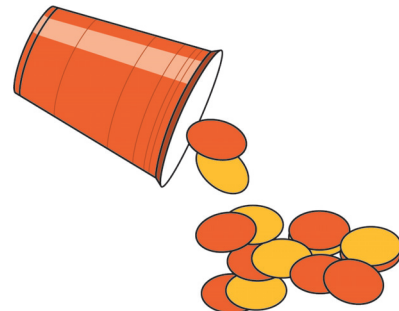
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 12

Addressing CA CCSSM K.G.4-5; practicing MP5



# Build Solid Shapes

Let's create solid shapes.

Sec B

SAMPLE COPY

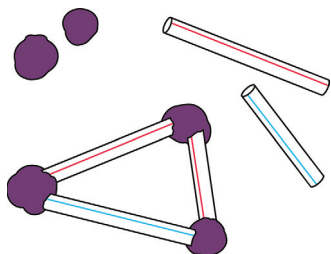


## Activity 3

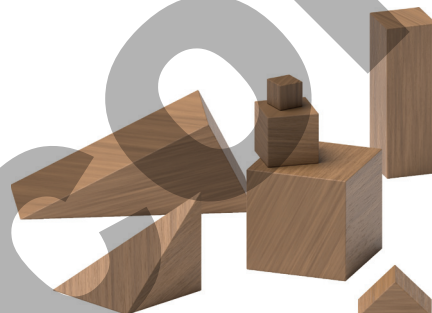
### Centers: Choice Time

Choose a center.

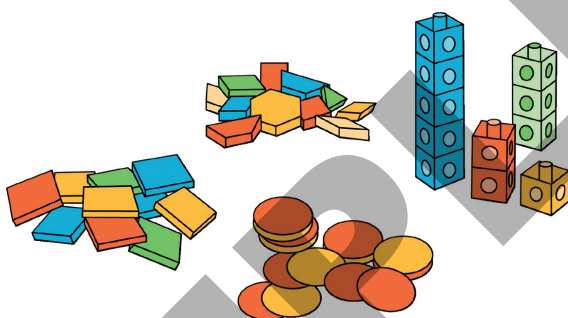
Build Shapes



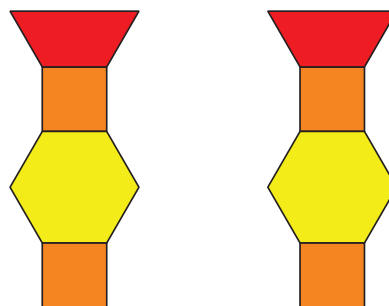
Geoblocks



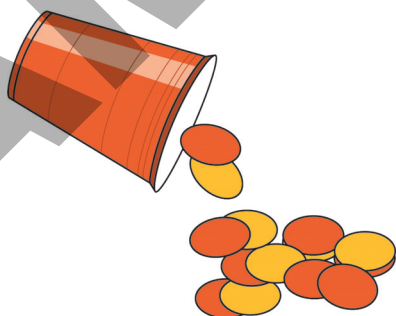
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 13

Addressing CA CCSSM K.G.1, K.G.5; practicing MP4 and MP6

# Describe Solid Shapes around Us

Let's find solid shapes.

Warm-up

## Notice and Wonder: At the Market

What do you notice?

What do you wonder?



## Activity 1

# Solid Shape Walk

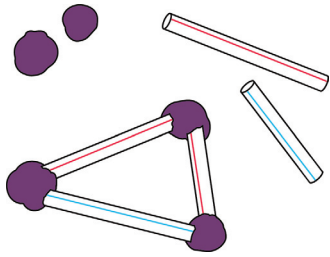


## Activity 3

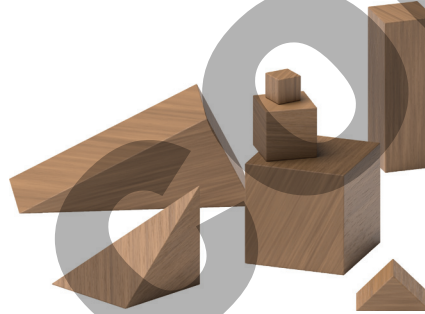
### Centers: Choice Time

Choose a center.

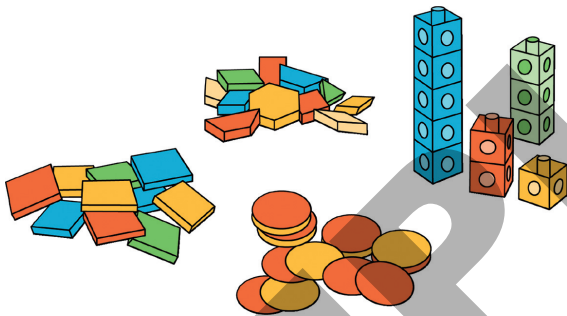
Build Shapes



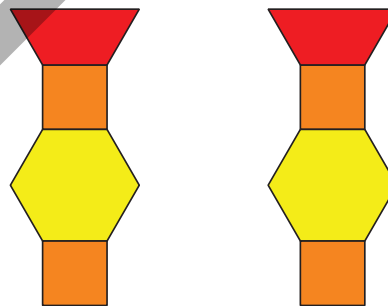
Geoblocks



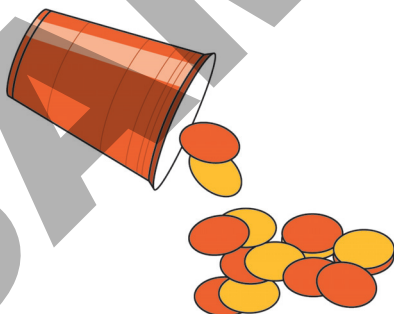
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 14

Addressing CA CCSSM K.G.1-3, K.G.6; building towards K.OA.5; practicing MP6

# Build with Solid Shapes

Let's build with solid shapes.



## Number Talk: Subtract 1 and 2

Find the value of each expression.

- $3 - 1$

- $3 - 2$

- $4 - 2$

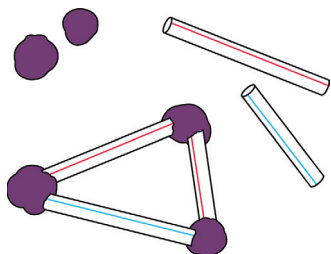
- $5 - 1$

## Activity 3

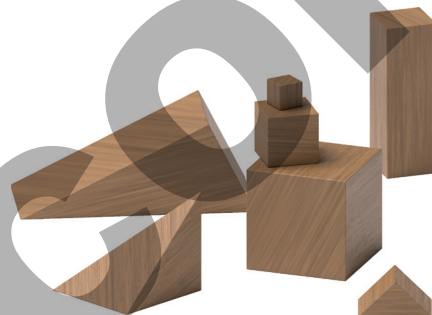
# Introduce Match Mine—Solid Shapes

Choose a center.

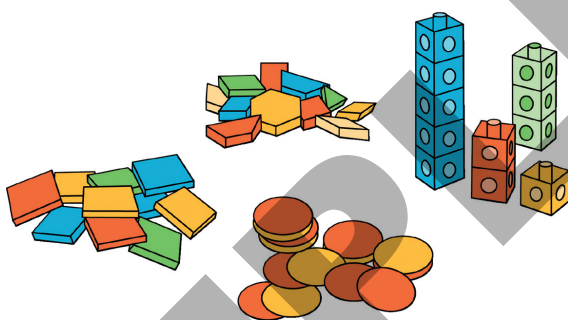
Build Shapes



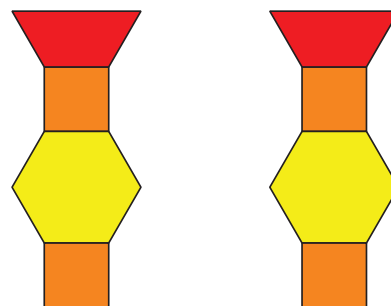
Geoblocks



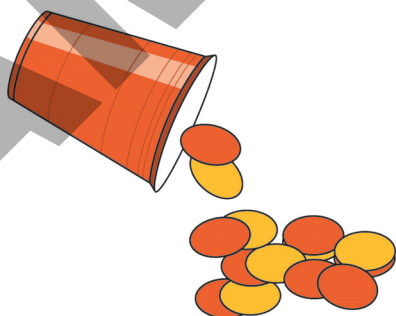
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 15

Addressing CA CCSSM K.CC.5, K.G.4-6; building towards K.NBT.1; practicing MP5



# Build and Count with Solid Shapes

Let's build with and count solid shapes.

Sec B

SAMPLE COPY



## Estimation Exploration: How Many Cubes?

1. Record estimates that are:

too low	about right	too high

2. Record estimates that are:

too low	about right	too high

## Activity 1

# A Tall Tower

How many?

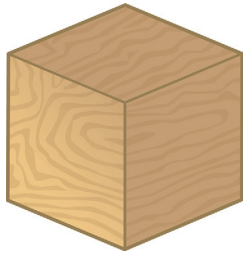
Sec B

\_\_\_\_\_

## Activity 2

### What Can You Make with These Shapes?

1. 5 cubes



4 cylinders



6 cones



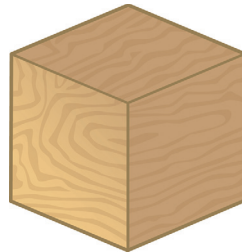
How many shapes did you use?

---

2. 3 cones



4 cubes



5 cylinders



How many?

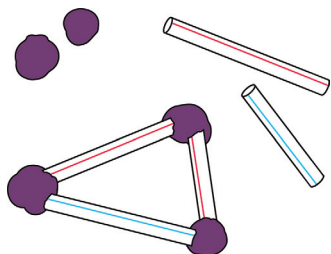
---

## Activity 3

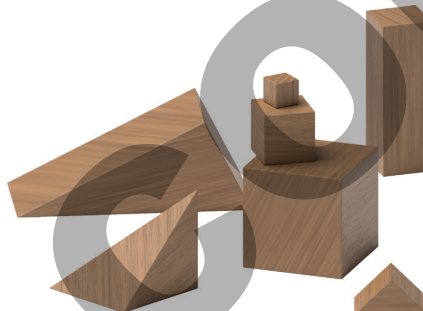
### Centers: Choice Time

Choose a center.

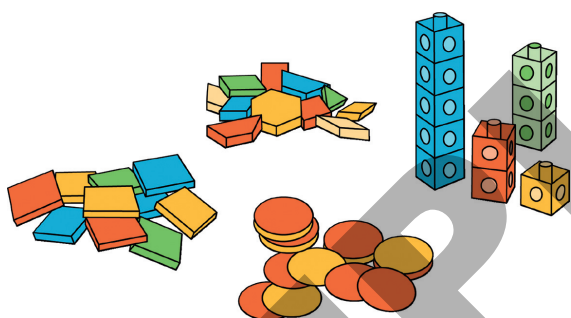
Build Shapes



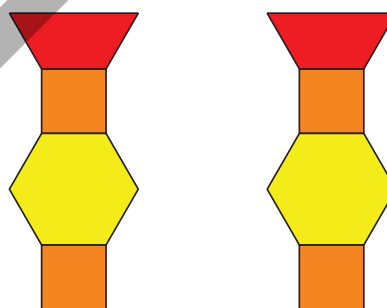
Geoblocks



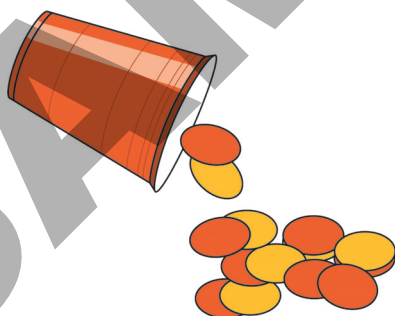
Counting Collections



Match Mine



Shake and Spill

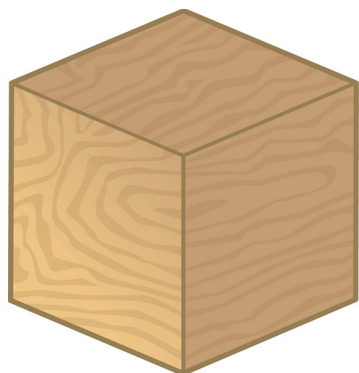


SAMPLE COPY

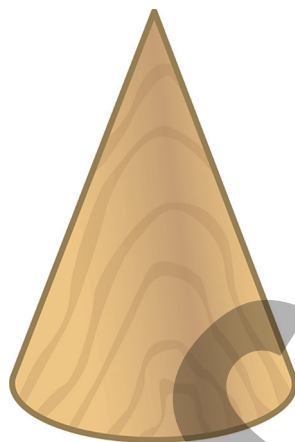
## Section B Summary

We can talk about and make solid shapes.

cube



cone



cylinder



sphere

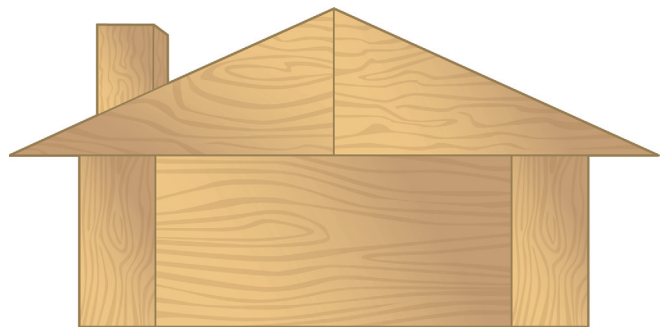
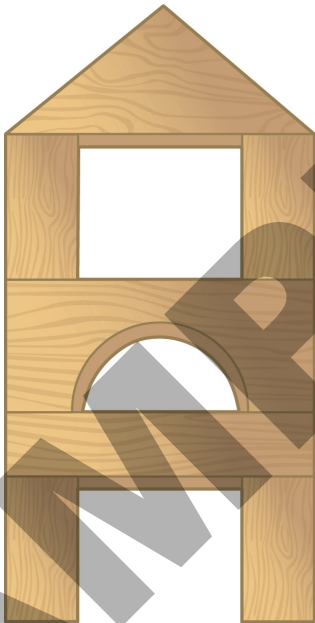


We see solid shapes.



Sec B

We use solid shapes.



## Unit 7, Lesson 16

Addressing CA CCSSM K.G.5; building towards K.G.5; practicing MP4



# Represent the Classroom with Shapes

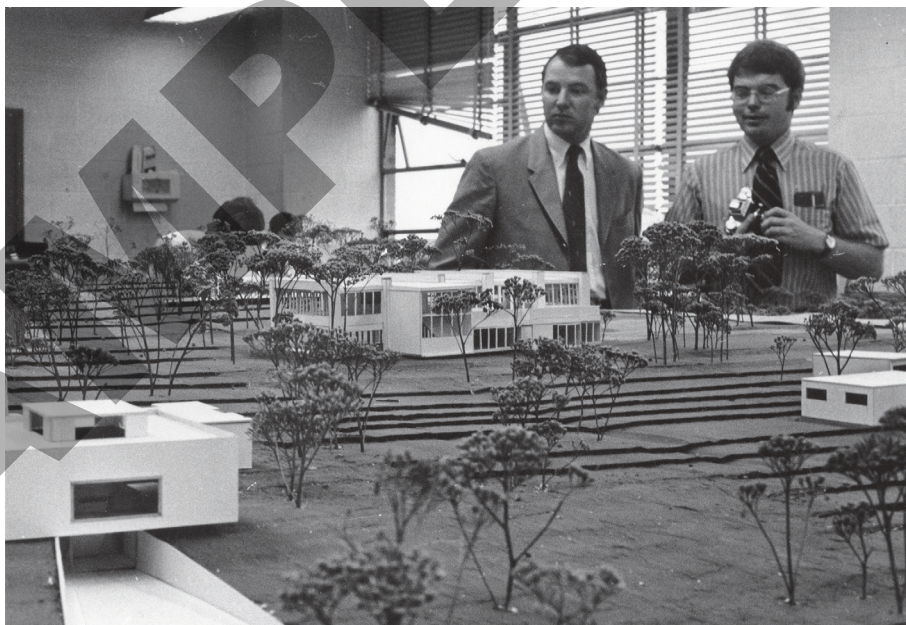
Let's use shapes to make our classroom.

Warm-up

## Notice and Wonder: Architects

What do you notice?

What do you wonder?





# Practice Problems

5 Problems

## 1 Exploration

Show 4 objects.

Describe 1 object.

Your partner guesses the object.

Take turns.

## 2 Exploration

- a. Build with solid shapes.
- b. Can you use 10 shapes?
- c. Can you use 20 shapes?
- d. What strategies did you use?

3

### Exploration

Pick an object.

Do not tell your partner.

Describe it.

Your partner guesses.

Sec B

4

### Exploration

a. Can you find this object?

- I am not flat.
- I am heavy.
- I have rectangles.

Can you find more than 1 object?

b. Can you find this object?

- I am flat.
- I have a lot of colors and shapes.
- I have rectangles.

Can you find more than 1 object?

5

Exploration

a. Count 18 connecting cubes.

Can you make a box?

b. Count 20.

Can you make a box?

SAMPLE COPY



KINDERGARTEN

UNIT

8

## Putting It All Together

### Content Connections

In this unit you will practice counting and comparing, look at math in the community, and practice composing and decomposing within 10. You will make connections by:

- **Exploring Changing Quantities** while becoming fluent in counting and comparing numbers and using different representations to show numbers.
- **Taking Wholes Apart, Putting Parts Together** while composing and decomposing within 10.

- **Reasoning with Data** while comparing, identifying, and describing numbers and shapes.
- **Discovering Shape and Space** while describing the physical world using shapes.

## Addressing the Standards

As you work your way through **Unit 8 Putting It All Together**, you will use some mathematical practices that you may have started using in kindergarten and have continued strengthening over your school career. These practices describe types of thinking or behaviors that you might use to solve specific math problems.

Mathematical Practices	Where You Use these MPs
<b>MP1</b> Make sense of problems and persevere in solving them.	Lesson 21
<b>MP2</b> Reason abstractly and quantitatively.	Lesson 2, 10, 11, 13, 14, and 18
<b>MP3</b> Construct viable arguments and critique the reasoning of others.	Lesson 7 and 20
<b>MP4</b> Model with mathematics.	Lesson 6, 8, 9, and 10
<b>MP5</b> Use appropriate tools strategically.	Lesson 17, 18, and 19
<b>MP6</b> Attend to precision.	Lesson 12 and 16

Mathematical Practices	Where You Use these MPs
<b>MP7</b> Look for and make use of structure.	Lesson 12, 13, 14, 15, 16, and 18
<b>MP8</b> Look for and express regularity in repeated reasoning.	Lesson 1, 3, 4, and 5

The California Common Core State Standards for Mathematics (CA CCSSM) describe the topics you will learn in this unit. Many of these topics build upon knowledge you already have and challenge you to expand upon that knowledge. The table below shows what standards are being addressed in this unit.

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
● How Many?	<b>K.CC.1</b> Count to 100 by ones and by tens.	Lesson 3, 4, 5, 6, 8, and 10
● How Many?	<b>K.CC.2</b> Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	Lesson 1, 3, 4, 5, 6, 10, and 14

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● How Many?</li> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.CC.3</b></p> <p>Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).</p>	<p>Lesson 1, 2, 4, 5, 6, 7, and 10</p>
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> </ul>	<p><b>K.CC.4</b></p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.</p>	<p>Lesson 1, 2, 4, 6, 7, 8, 10, and 20</p>



Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
	<p>b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.</p> <p>c. Understand that each successive number name refers to a quantity that is one larger.</p>	
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> </ul>	<p><b>K.CC.4c</b> Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>c. Understand that each successive number name refers to a quantity that is one larger.</p>	Lesson 3 and 18

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.CC.5</b> Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.</p>	<p>Lesson 1, 2, 4, 6, 7, 8, 9, and 10</p>
<ul style="list-style-type: none"> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Being Flexible within 10</li> </ul>	<p><b>K.CC.6</b> Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.</p>	<p>Lesson 1, 2, 8, 9, 13, and 15</p>
<ul style="list-style-type: none"> <li>● How Many?</li> </ul>	<p><b>K.CC.7</b> Compare two numbers between 1 and 10 presented as written numerals.</p>	<p>Lesson 1 and 2</p>

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.1</b> Represent addition and subtraction with objects, fingers, mental images, drawings, 2 sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p>	Lesson 11 and 18
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.2</b> Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>	Lesson 3, 8, 11, 15, and 18
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> </ul>	<p><b>K.OA.3</b> Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</p>	Lesson 8, 12, 13, 14, 17, 18, and 19

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>Being Flexible within 10</li> </ul>	<p><b>K.OA.4</b> For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p>	<p>Lesson 18 and 19</p>
<ul style="list-style-type: none"> <li>Being Flexible within 10</li> <li>Model with Numbers</li> </ul>	<p><b>K.OA.5</b> Fluently add and subtract within 5.</p>	<p>Lesson 7, 11, 12, 13, 14, 15, and 16</p>
<ul style="list-style-type: none"> <li>Shapes in the World</li> </ul>	<p><b>K.G.2</b> Correctly name shapes regardless of their orientations or overall size.</p>	<p>Lesson 8</p>
<ul style="list-style-type: none"> <li>Shapes in the World</li> <li>Making Shapes from Parts</li> </ul>	<p><b>K.G.5</b> Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</p>	<p>Lesson 8</p>

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Bigger or Equal?</li> <li>● Model with Numbers</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.MD.2</b></p> <p>Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	Lesson 8
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Shapes in the World</li> </ul>	<p><b>K.MD.3</b></p> <p>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	Lesson 1, 13, and 14

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>Place and Position of Numbers</li> </ul>	<p><b>K.NBT.1</b></p> <p>Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., <math>18 = 10 + 8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>	<p>Lesson 2 and 21</p>

## Unit 8, Lesson 1

Addressing CA CCSSM K.CC.2-3, K.CC.4-5, K.CC.6-7, K.MD.3; practicing MP8

# Sort, Count, and Compare Groups of Objects

Let's find out which group has more or fewer.



Sec A

SAMPLE COPY

## Activity 1

### Sort, Count, and Compare

Sec A

How many beads?

Show your thinking, using objects, drawings, numbers, or words.

Circle the group with fewer.



## Activity 2

### Who Has More?

1. How many beads each?

Show your thinking, using objects, drawings, numbers, or words.

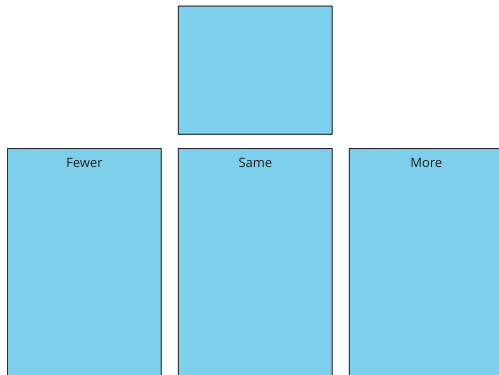
2. How many beads in all?

## Activity 3

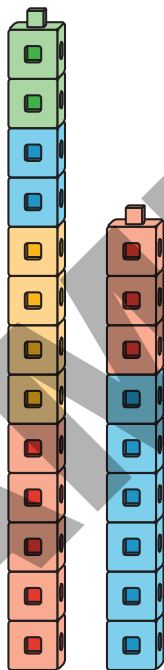
### Centers: Choice Time

Choose a center.

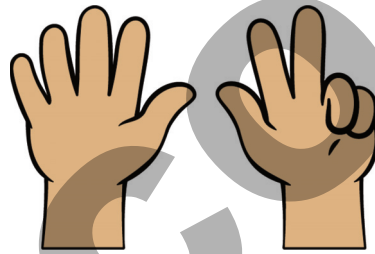
Fewer, Same, More



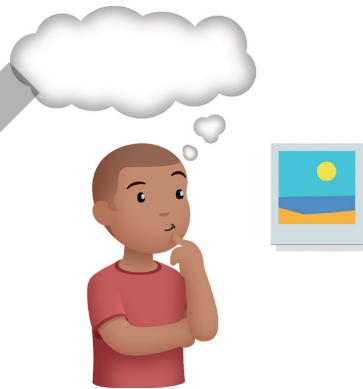
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 2

Addressing CA CCSSM K.CC.3, K.CC.4-5, K.CC.6-7,  
K.NBT.1; practicing MP2

# Count and Compare Collections

Let's count and compare.



Sec A

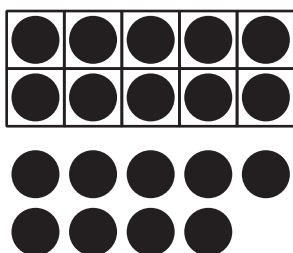
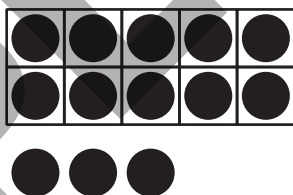
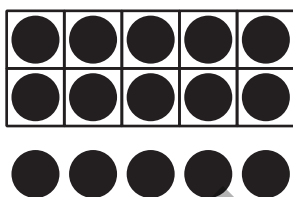
SAMPLE COPY

## Warm-up

# How Many Do You See: 10 and Some More

Sec A

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



## Activity 1

# Counting Collections

How many?

Show your thinking, using objects, drawings, numbers, or words.

## Activity 2

# Comparing Collections

Sec A

How many?

Show your thinking, using objects, drawings, numbers, or words.

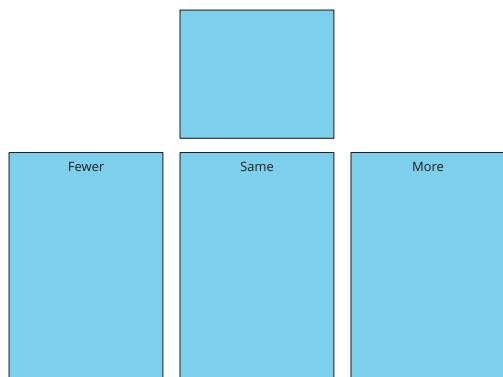
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## Activity 3

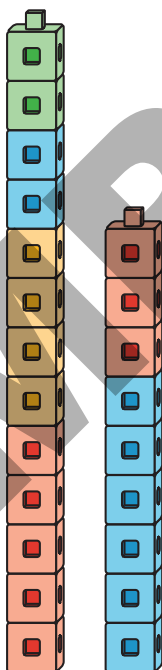
### Centers: Choice Time

Choose a center.

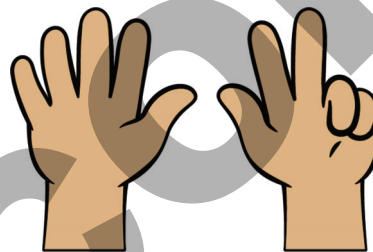
Fewer, Same, More



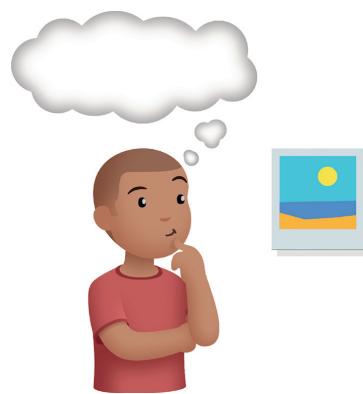
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 3

Addressing CA CCSSM K.CC.1-2, K.CC.4c, K.OA.2;  
building towards 1.OA.5; practicing MP8

Sec A

# Count to Add and Subtract

Let's do story problems.

### Activity 1

## Ride the Bus

1. There are 7 kids on the bus.  
1 more kid gets on the bus.  
How many kids are on the bus?

Show your thinking, using objects, drawings, numbers, or words.



2. There are 10 kids on the bus.

1 kid gets off the bus.

How many kids are on the bus?

Show your thinking, using objects, drawings, numbers, or words.

---

## Activity 2

### Singing Students

Sec A

1. \_\_\_\_\_ kids sing.  
1 more kid sings.  
How many kids sing?

Show your thinking, using objects, drawings, numbers, or words.

\_\_\_\_\_

2. \_\_\_\_\_ kids sing.

1 kid stops.

How many kids sing?

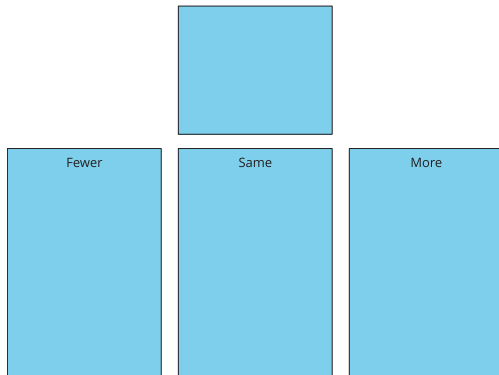
Show your thinking, using objects, drawings, numbers, or words.

## Activity 3

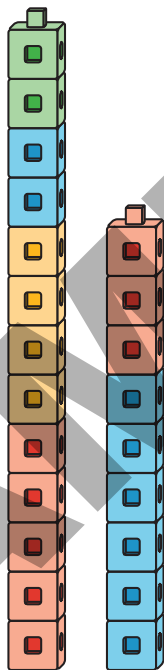
### Centers: Choice Time

Choose a center.

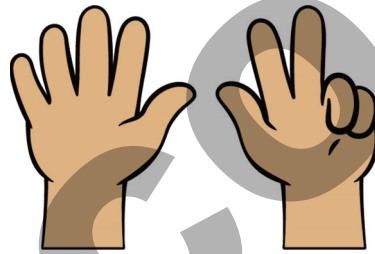
Fewer, Same, More



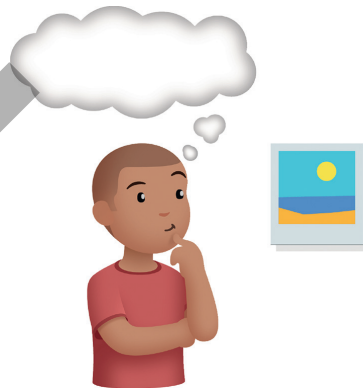
Tower Build



Math Fingers



Math Stories



Which One?



SAMPLE COPY

## Unit 8, Lesson 4

Addressing CA CCSSM K.CC.1-3, K.CC.4-5;  
practicing MP8

Sec A

# 1 More and 1 Less

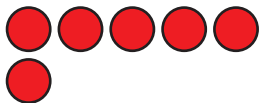
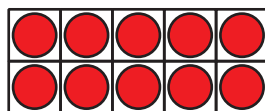
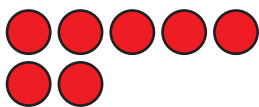
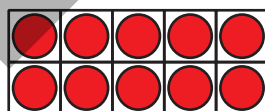
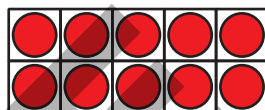
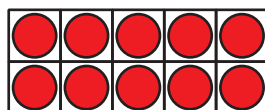
Let's find 1 more or 1 less.



SAMPLE COPY

## How Many Do You See: 1 Less

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



## Activity 1

### Count Out and Show 1 More or 1 Less

Sec A

Show your number.

1.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

2.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_



3.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

4.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

## Activity 2

### Color 1 More or 1 Less

- Roll to choose a number and 1 more or 1 less.
- Color the number that is 1 more or 1 less than your number.
- Record the starting number and the new number.

10	17	2	9
19	5	13	16
7	1	18	12
20	14	6	3
4	8	11	15

Starting Number:

New Number:

1.

\_\_\_\_\_

\_\_\_\_\_

2.

\_\_\_\_\_

\_\_\_\_\_

3.

\_\_\_\_\_

\_\_\_\_\_

4.

\_\_\_\_\_

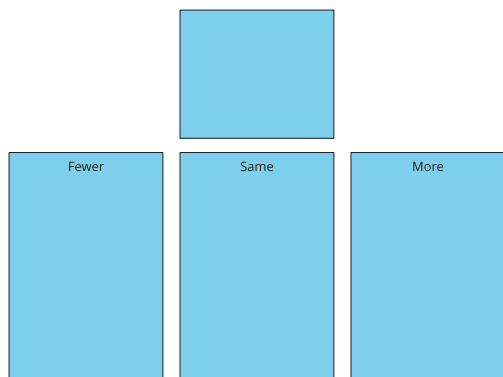
\_\_\_\_\_

## Activity 3

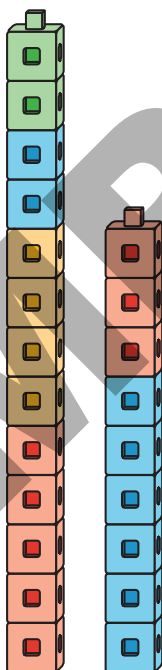
### Centers: Choice Time

Choose a center.

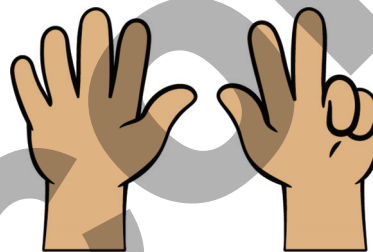
Fewer, Same, More



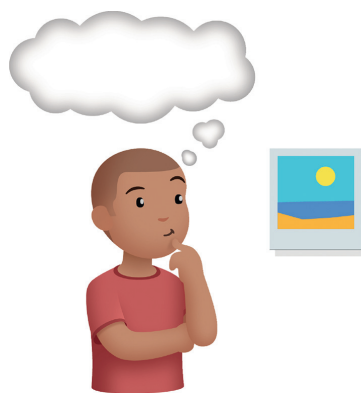
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 5

Addressing CA CCSSM K.CC.1-3; practicing MP8



Sec A

# Order Numbers 1–20

Let's put numbers in order.

### Activity 1

## Order Numbers

Write 1–20.

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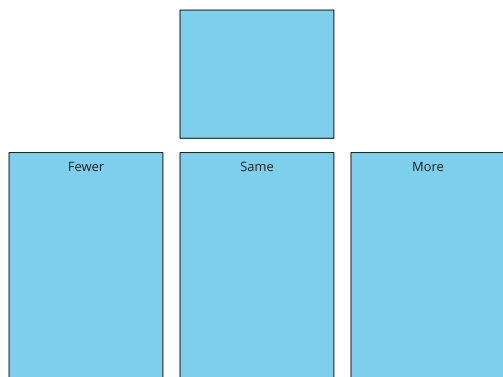
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## Activity 3

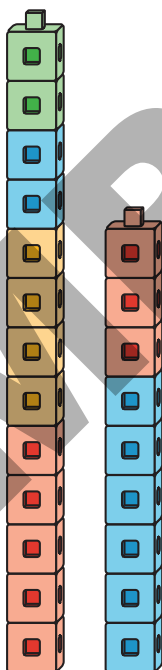
### Centers: Choice Time

Choose a center.

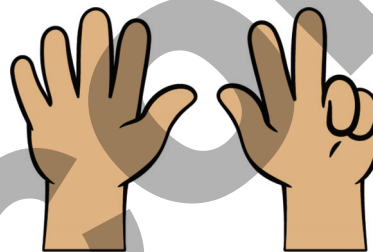
Fewer, Same, More



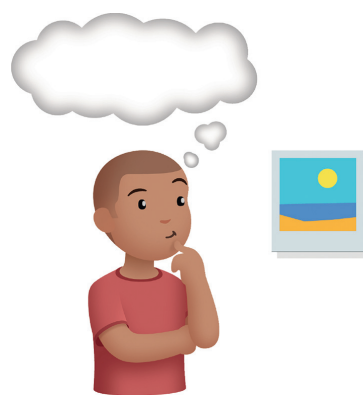
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 6

Addressing CA CCSSM K.CC.1-3, K.CC.4-5;  
practicing MP4



# Create Number Books (Part 1)

Sec B

Let's count objects.

Warm-up

## Notice and Wonder: All Hands On

What do you notice?  
What do you wonder?



## Activity 3

### Centers: Choice Time

Choose a center.

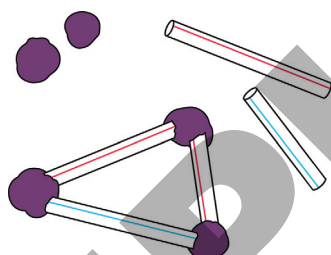
Find the Pair



Math Stories



Build Shapes



Make or Break Apart Numbers

•	•	••••	•
••••	••••	••••	••••••
••••	••••	••••	••••••
••••	••••	••••	••••
••••	••••	••••	••••

Picture Books



## Unit 8, Lesson 7

Addressing CA CCSSM K.CC.3, K.CC.4-5, K.OA.5;  
practicing MP3



# Create Number Books (Part 2)

Let's make a number book.

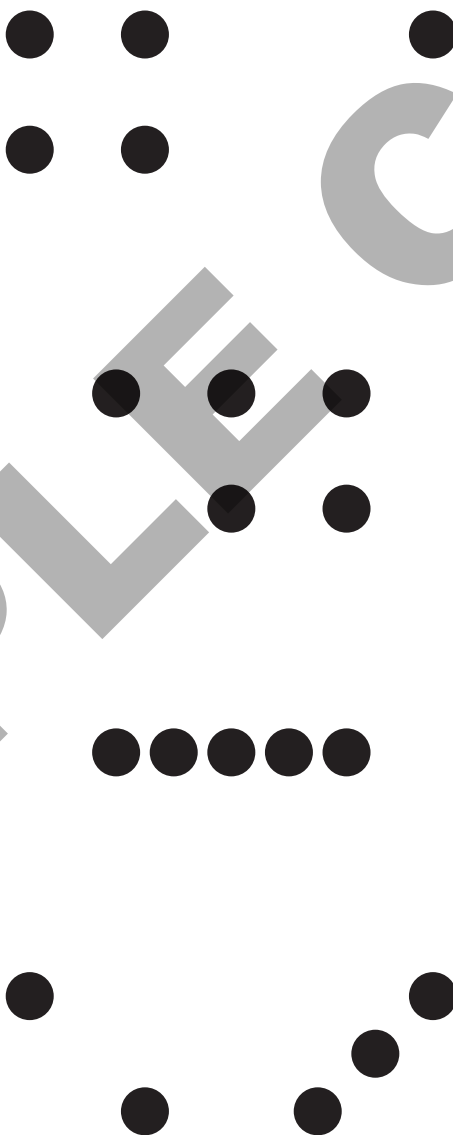
Sec B

SAMPLE COPY



## How Many Do You See: Different Dots

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



## Unit 8, Lesson 8

Addressing CA CCSSM K.CC.1, K.CC.4-5, K.CC.6, K.G.2, K.G.5, K.MD.2, K.OA.2-3; practicing MP4

# Find Someone Who, Find Something That

Let's compare kids and objects.

Sec B

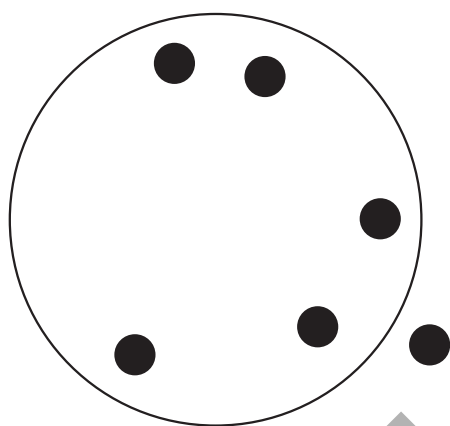


SAMPLE COPY

# Which Three Go Together: Representations of Numbers

Which 3 go together?

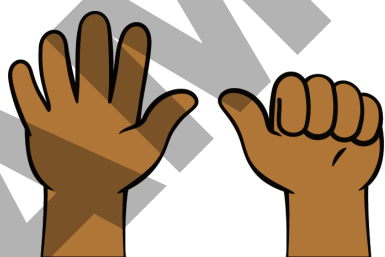
A



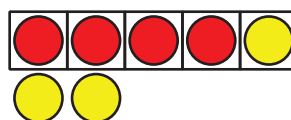
B



C



D



## Activity 2

### Find Something That

1. Find things to count.
2. Find 1 thing that is heavier and 1 thing that is lighter.
3. Find a thing where you know how many without counting.
4. Find 5 of the same thing.
5. Find 2 groups that make 10.

6. Find things to fill in a 10-frame.

7. Find 2 groups to compare.

8. Find 2 groups whose numbers of objects you can compare.

9. Find a thing with a number on it.

10. Find 1 longer thing and 1 shorter thing.

## Unit 8, Lesson 9



Addressing CA CCSSM K.CC.5, K.CC.6; building on K.CC.5, K.CC.6; building towards, K.CC.4-5; practicing MP4

### Where's the Math?

Let's ask about math at school.

Warm-up

### What Do You Know about Our School?

What do you know about our school?

## Activity 1

### Another School Walk

What math questions do you have about our school?

## Activity 2

# Answer Our Mathematical Questions

Question:

Sec B



## Unit 8, Lesson 10

Addressing CA CCSSM K.CC.1-3, K.CC.4-5;  
building on K.OA.2; practicing MP2 and MP4

# Tell Stories about Our School

Let's tell math stories about our school.

Warm-up

## Notice and Wonder: Bubbles in the Park

What do you notice?  
What do you wonder?



## Activity 2

# Write Story Problems about Our School

Sec B

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## Activity 3

### Centers: Choice Time

Choose a center.

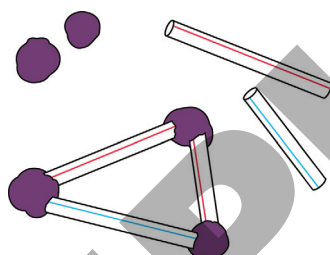
Find the Pair



Math Stories



Build Shapes



Make or Break Apart Numbers

•	•	••••	•
••••	••••	••••	••••••
••••	••••	••••	••••••
••••	••••	••••	••••
••••	••••	••••	••••

Picture Books



## Unit 8, Lesson 11

Addressing CA CCSSM K.OA.1-2, K.OA.5;  
practicing MP2



# Share Story Problems

Let's solve story problems.

Sec B

Warm-up

## Number Talk: Add and Subtract 2 and 3

Find the value of each expression.

- $3 - 2$

- $3 + 2$

- $4 - 2$

- $4 - 3$

## Unit 8, Lesson 12

Addressing CA CCSSM K.OA.3, K.OA.5; building towards K.OA.5; practicing MP6 and MP7

# Make Dot Images

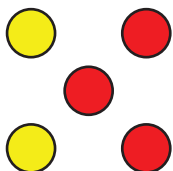
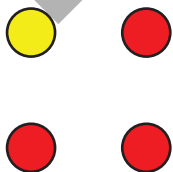
Let's make groups of dots.



## How Many Do You See: Dots in Different Colors

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

Sec C

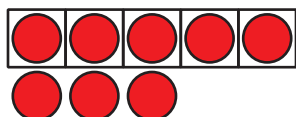


## Activity 3

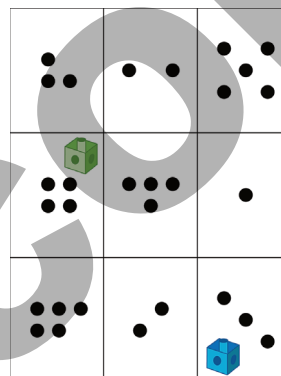
### Centers: Choice Time

Choose a center.

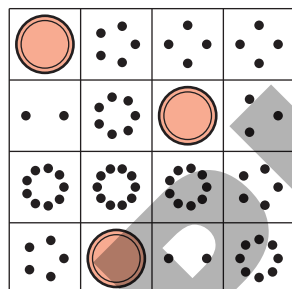
5-Frames



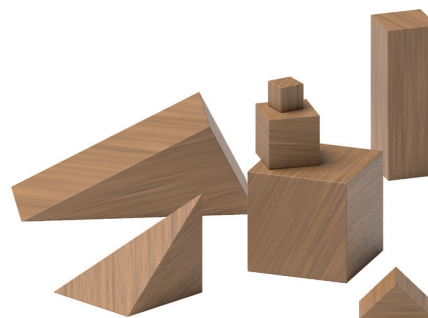
Roll and Add



Bingo



Geoblocks



Find the Value of Expressions

$$3 + 5 \quad 7 - 5$$

## Unit 8, Lesson 13

Addressing CA CCSSM K.CC.6, K.MD.3, K.OA.3, K.OA.5; practicing MP2 and MP7

# Dominoes to 5

Let's make up to 5.

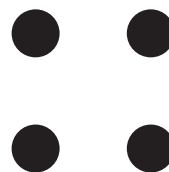
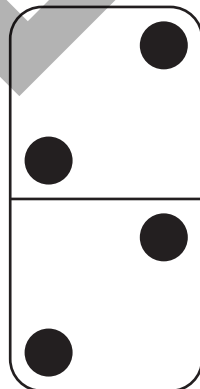
Warm-up

Sec C

## Notice and Wonder: Ways to Make 4

What do you notice?  
What do you wonder?

$$2 + 2$$





## Activity 1

### Card Sort: Dominoes

Choose 1 group.  
Make dot expressions.

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## Activity 2

# Compare Dots on Dominoes

Flip a card.

Fewer or the same?

More or the same?

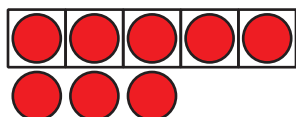
Sec C

## Activity 3

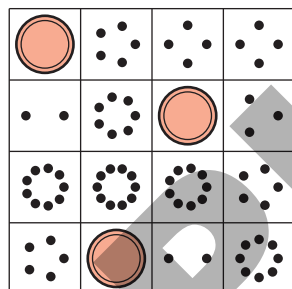
### Centers: Choice Time

Choose a center.

5-Frames



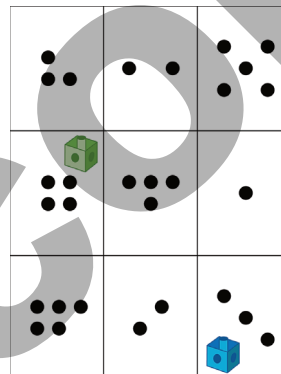
Bingo



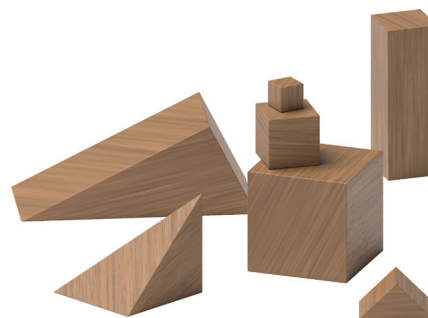
Find the Value of Expressions

$$3 + 5 \quad 7 - 5$$

Roll and Add



Geoblocks



## Unit 8, Lesson 14

Addressing CA CCSSM K.CC.2, K.MD.3, K.OA.3, K.OA.5; practicing MP2 and MP7

# Sort and Color Expressions and Images within 5

Let's add and subtract.

Sec C



SAMPLE COPY

## Activity 1

### Owl Color

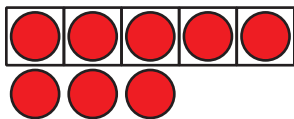


## Activity 3

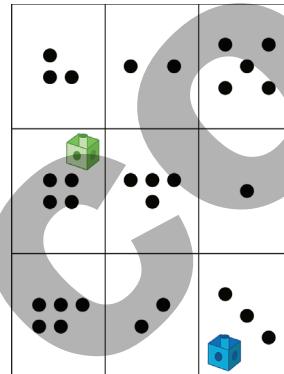
### Centers: Choice Time

Choose a center.

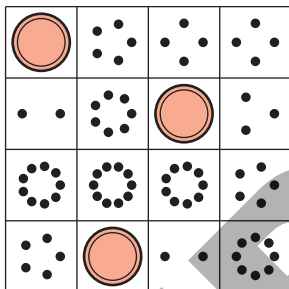
5-Frames



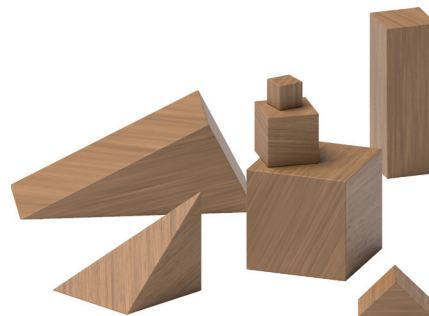
Roll and Add



Bingo



Geoblocks



Find the Value of Expressions

$$3 + 5 \quad 7 - 5$$

## Unit 8, Lesson 15

Addressing CA CCSSM K.CC.6, K.OA.2, K.OA.5;  
practicing MP7

# Addition and Subtraction Expressions within 5

Let's add and subtract.

Warm-up

## Which Three Go Together: Expressions and Equations

Which 3 go together?

A

$$3 + 1$$

B

$$3 = 2 + 1$$

C

$$3 + 0$$

D

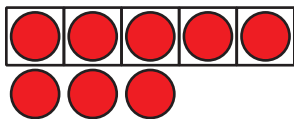
$$4 - 1$$

## Activity 3

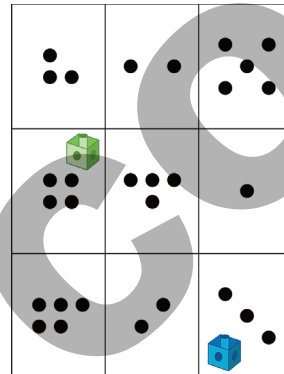
### Centers: Choice Time

Choose a center.

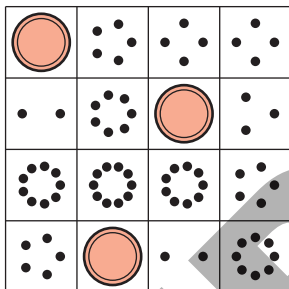
5-Frames



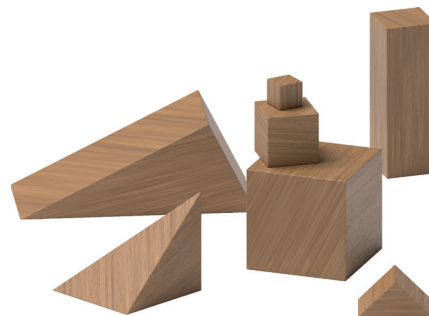
Roll and Add



Bingo



Geoblocks



Find the Value of Expressions

$$3 + 5 \quad 7 - 5$$



## Unit 8, Lesson 16

Addressing CA CCSSM K.OA.5; practicing MP6 and MP7

### Parts to Make 5

Let's find the missing number.



## How Many Do You See: Add and Subtract

How many do you see?

How do you see them?



## Activity 1

### Revisit Shake and Spill—Cover (up to 10)

Put 3, 4, or 5 counters in the cup.

Shake and spill the counters.

Hide some under the cup.

How many are hidden?

Write an expression.

## Activity 2

### Unknown Value

Fill in the missing number.

$$3 - \underline{\quad} = 2$$

$$5 - \underline{\quad} = 4$$

$$2 + \underline{\quad} = 2$$

$$3 + \underline{\quad} = 4$$

$$5 - \underline{\quad} = 2$$

$$4 - \underline{\quad} = 4$$

$$1 + \underline{\quad} = 2$$

$$2 + \underline{\quad} = 4$$

$$5 - \underline{\hspace{2cm}} = 3$$

$$1 + \underline{\hspace{2cm}} = 5$$

$$2 + \underline{\hspace{2cm}} = 3$$

$$4 + \underline{\hspace{2cm}} = 5$$

$$4 - \underline{\hspace{2cm}} = 3$$

$$5 - \underline{\hspace{2cm}} = 5$$

$$0 + \underline{\hspace{2cm}} = 3$$

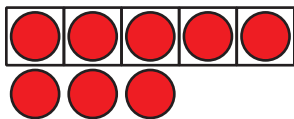
$$3 + \underline{\hspace{2cm}} = 5$$

## Activity 3

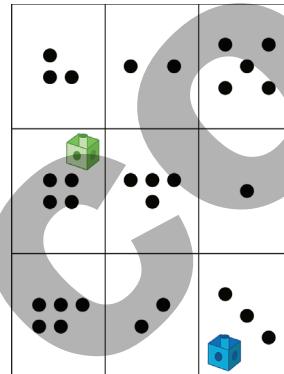
### Centers: Choice Time

Choose a center.

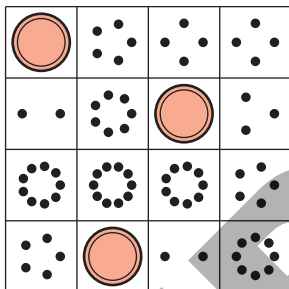
5-Frames



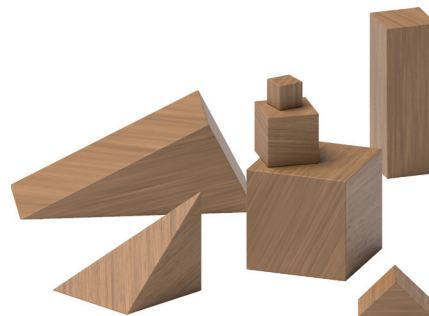
Roll and Add



Bingo



Geoblocks



Find the Value of Expressions

$$3 + 5 \quad 7 - 5$$

## Unit 8, Lesson 17

Addressing CA CCSSM K.OA.3; practicing MP5

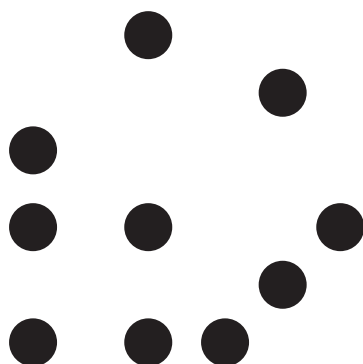
# Make and Break Apart 10

Let's make and break up groups of 10.



## Estimation Exploration: 5 and 5 Make 10

1. How many?

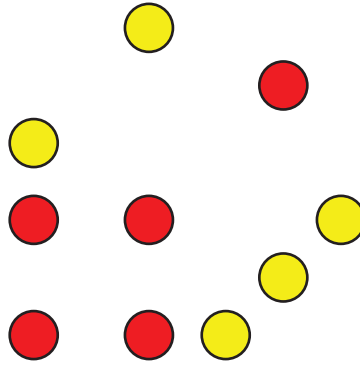


Record an estimate that is:

too low	about right	too high



2. How many?



Record an estimate that is:

too low	about right	too high

## Activity 2

### Make and Break Apart 10

- $7 + 3 = 10$

- $10 = 4 + 6$

- $9 + 1 = 10$

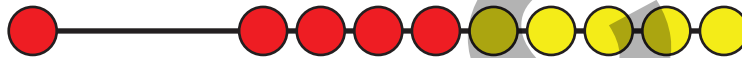
- $10 = 2 + 8$

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• \_\_\_\_\_ + \_\_\_\_\_ = 10



• 10 = \_\_\_\_\_ + \_\_\_\_\_



• \_\_\_\_\_ + \_\_\_\_\_ = 10



• \_\_\_\_\_ + \_\_\_\_\_ = 10

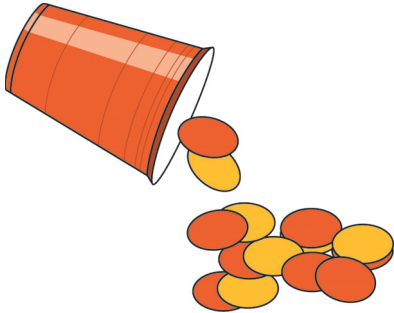


## Activity 3

### Centers: Choice Time

Choose a center.

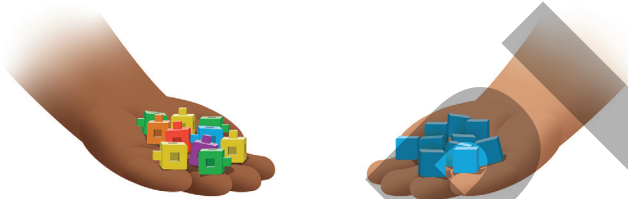
Shake and Spill



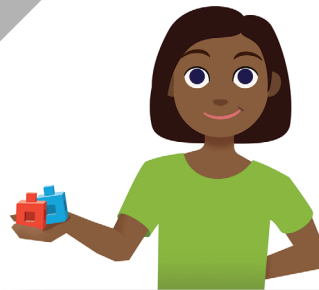
Number Race



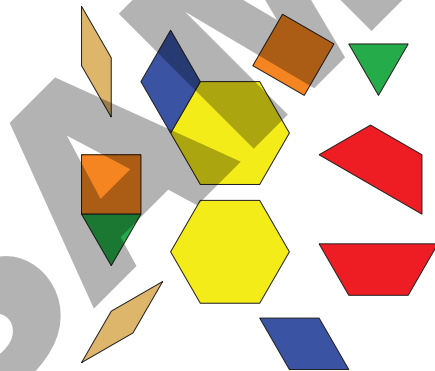
Grab and Count



What's Behind My Back?



Pattern Blocks



## Unit 8, Lesson 18

Addressing CA CCSSM K.CC.4c, K.OA.1-4; building towards K.OA.4; practicing MP2, MP5, MP7

# All the Ways to Make 10

Let's find all the ways to make 10.

Warm-up

## Number Talk: Add and Subtract 1

Find the value of each expression.

- $4 + 1$

- $5 + 1$

- $8 - 1$

- $7 - 1$

## Activity 1

### Ten Pigeons

1. There are 6 pigeons in water.  
There are 4 pigeons on a bench.  
How many pigeons are there?

Show your thinking with objects, drawings, numbers, or words.

2. There are 10 pigeons.  
Some are in the water.  
The rest are on a bench.  
How many are in the water?  
How many are on the bench?

Show your thinking with objects, drawings, numbers, or words.

## Activity 2

### All of the Ways to Make 10

10 pigeons

Some are in the water.

The rest are on a bench.

How many are in the water?

How many are on the bench?

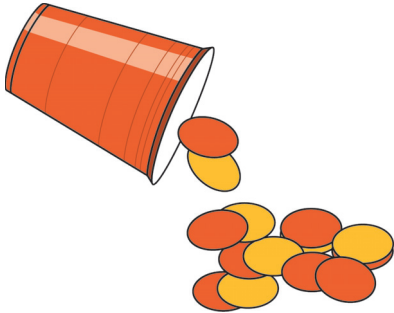
Show your thinking with objects, drawings, numbers, or words.

## Activity 3

### Centers: Choice Time

Choose a center.

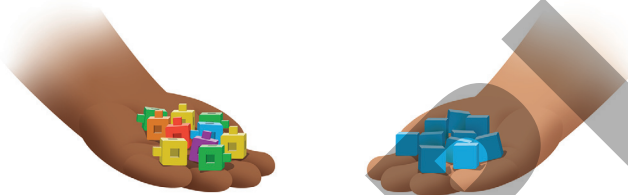
Shake and Spill



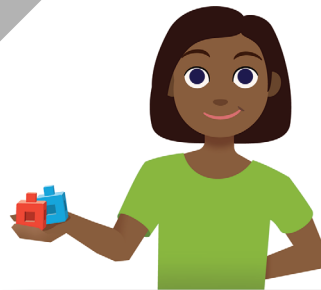
Number Race



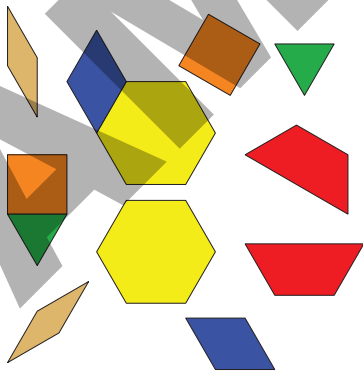
Grab and Count



What's Behind My Back?



Pattern Blocks





## Unit 8, Lesson 19

Addressing CA CCSSM K.OA.3-4; practicing MP5

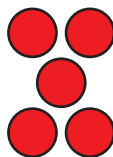
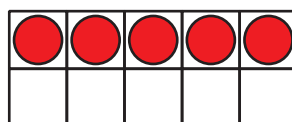
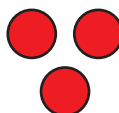
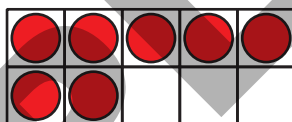
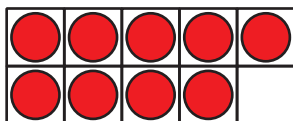
# Find the Number That Makes 10

Let's add to make 10.



## How Many Do You See: Make 10

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



## Activity 1

### Color the Number to Make 10

- Partner A: Color 1 number.
- Partner B: Color the number that makes 10 with the same color.
- Take turns. Swap colors.

10	5	3	2
7	1	9	8
4	8	9	4
6	2	3	0
1	7	5	6

Make 10.  
Fill in the equation.

$$10 = \underline{\quad} + \underline{\quad}$$

## Activity 2

### Add to Make 10

Make 10.

- $10 = 9 + \underline{\quad}$

- $10 = 3 + \underline{\quad}$

- $10 = 5 + \underline{\quad}$

- $10 = 4 + \underline{\quad}$

- $10 = 8 + \underline{\quad}$

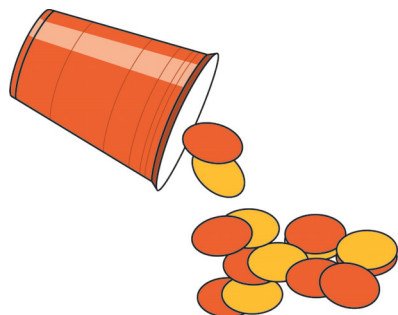
- $10 = 7 + \underline{\quad}$

### Activity 3

## Centers: Choice Time

Choose a center.

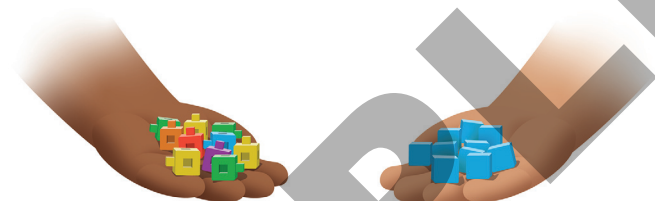
Shake and Spill



Number Race



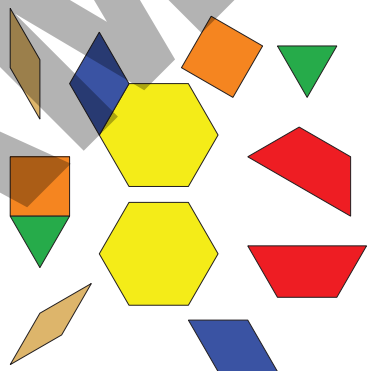
Grab and Count



What's Behind My Back?



Pattern Blocks



## Unit 8, Lesson 20

Addressing CA CCSSM K.CC.4; practicing MP3

# More or Fewer than 10?

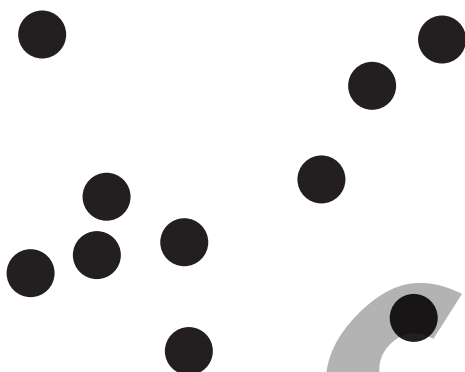
Let's see if we have more or fewer than 10.



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## Estimation Exploration: Close to 10



Record an estimate that is:

too low	about right	too high

## Activity 1

### Use 10 to Estimate

Write “more” or “fewer.”

1. \_\_\_\_\_ than 10



How many? \_\_\_\_\_

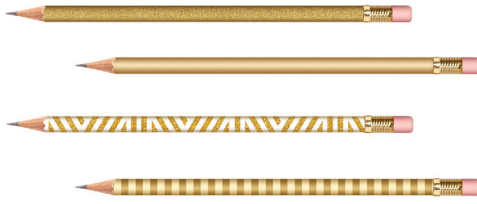
2. \_\_\_\_\_ than 10



How many? \_\_\_\_\_



3. \_\_\_\_\_ than 10



How many? \_\_\_\_\_

4. \_\_\_\_\_ than 10



How many? \_\_\_\_\_

5. \_\_\_\_\_ than 10

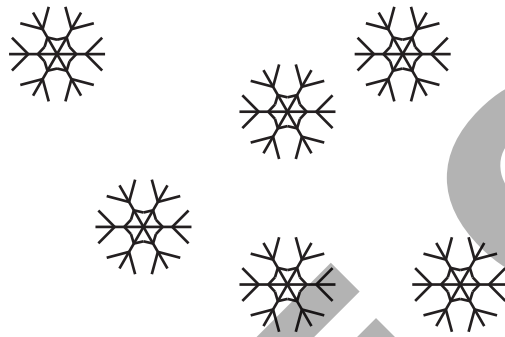


How many? \_\_\_\_\_

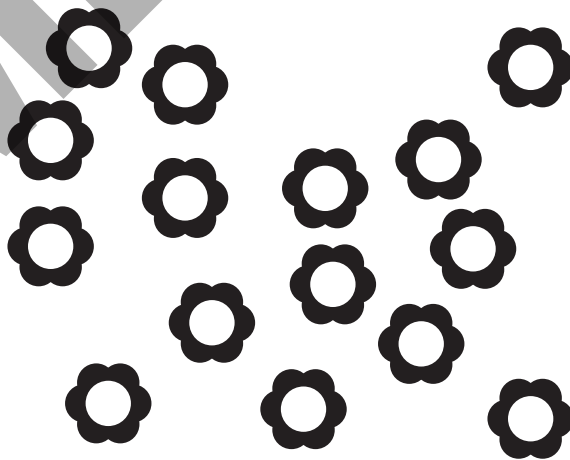
## Activity 2

### Could She Be Right?

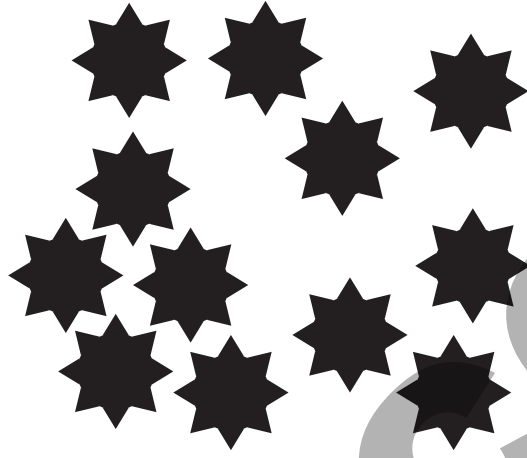
1. Elena says about 11 snowflakes.  
Is she right?  
Why or why not?



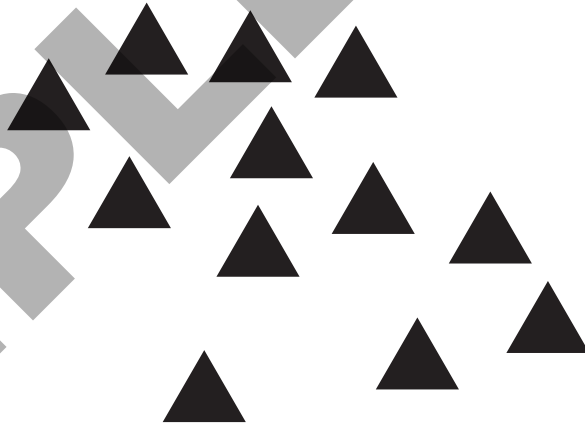
2. She says about 8 flowers.  
Is she right?  
Why or why not?



3. She says about 11 suns.  
Is she right?  
Why or why not?



Synthesis:

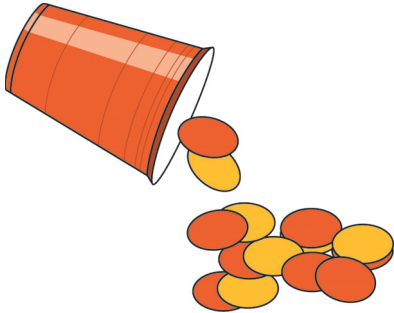


## Activity 3

### Centers: Choice Time

Choose a center.

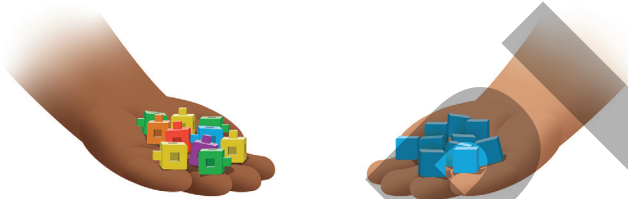
Shake and Spill



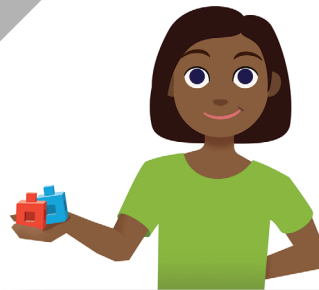
Number Race



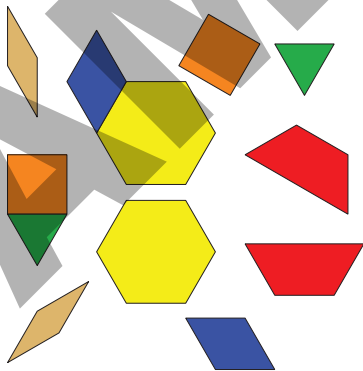
Grab and Count



What's Behind My Back?



Pattern Blocks



## Unit 8, Lesson 21

Addressing CA CCSSM K.CC.5, K.NBT.1;  
practicing MP1

# Make and Break Apart Numbers 11–19

Let's make groups of 11–19.



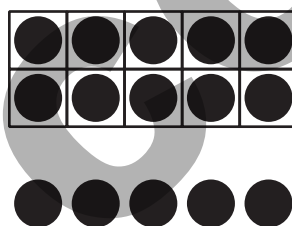
# Which Three Go Together: Numbers 11–20

Which 3 go together?

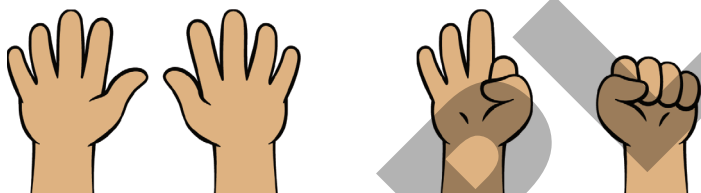
A



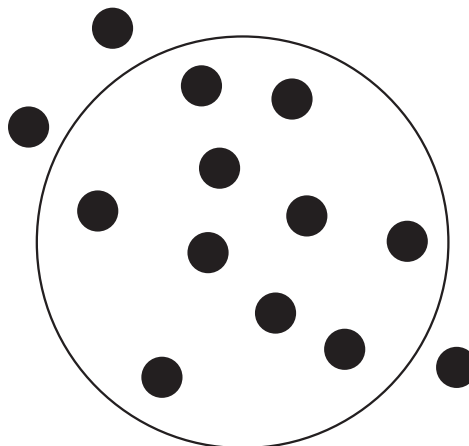
B



C

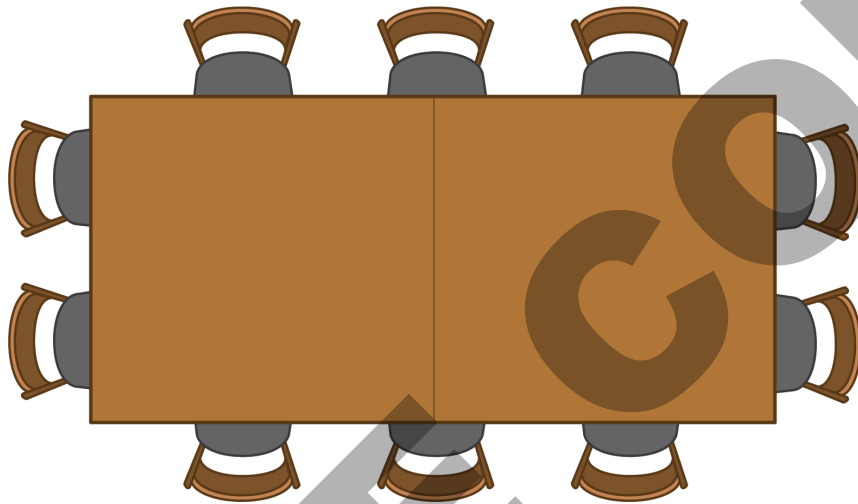


D

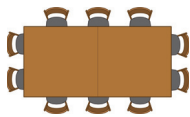


## Activity 1

### Where Will They Sit?

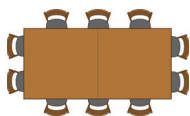


1.



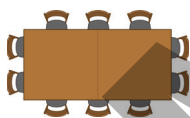
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

2.



$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

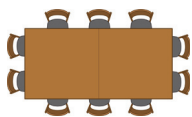
3.



$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

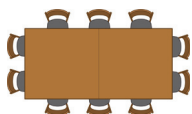


4.



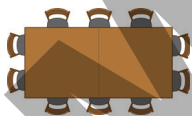
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

5.



$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

6.



$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

## Activity 2

### Finish the Equations

- $17 = 10 + \underline{\hspace{2cm}}$

- $19 = \underline{\hspace{2cm}} + 9$

- $10 + \underline{\hspace{2cm}} = 14$

- $\underline{\hspace{2cm}} + 2 = 12$

- $11 = \underline{\hspace{2cm}} + 1$

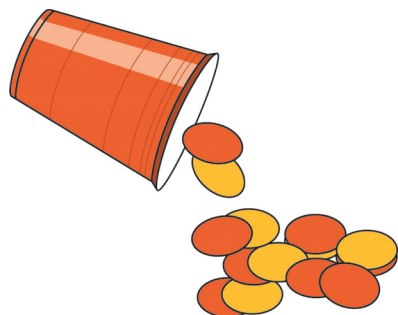
- $15 = 10 + \underline{\hspace{2cm}}$

### Activity 3

## Centers: Choice Time

Choose a center.

Shake and Spill



Number Race



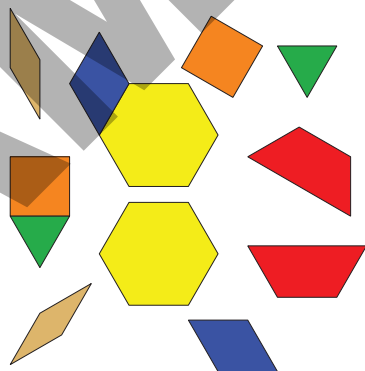
Grab and Count



What's Behind My Back?



Pattern Blocks



SAMPLE COPY

# Glossary

- above

above the square



- add

$4 + 3$

four plus three



- below



below the square

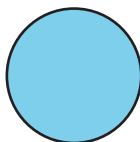
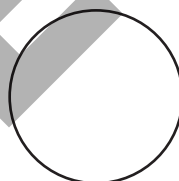
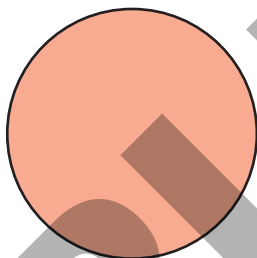
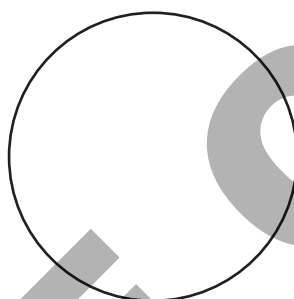
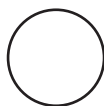
- beside

beside the square

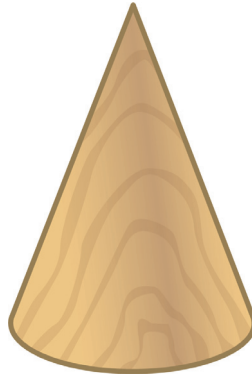


beside the  
square

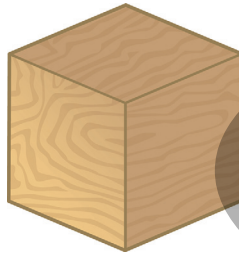
- circle



- cone



- cube



- cylinder



- equation

$$10 = 6 + 4$$

$$5 - 2 = 3$$

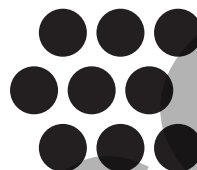
- expression

$$6 + 4$$

$$3 - 3$$

- fewer

fewer



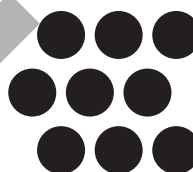
- less

3 is less than 9

3



9



- longer



The straw on top is longer.

- more



9 is more than 3.

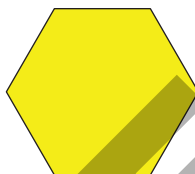


- next to








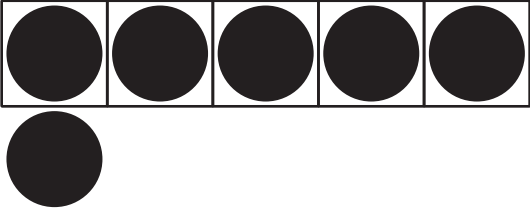
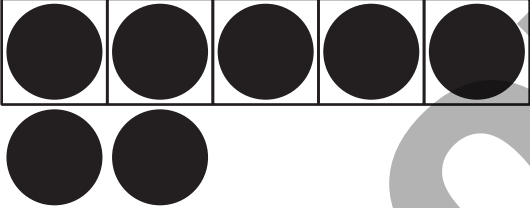
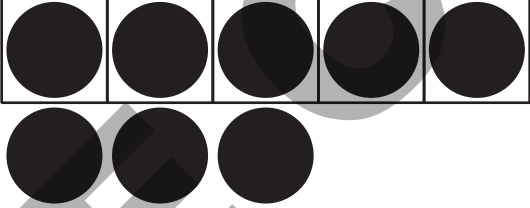
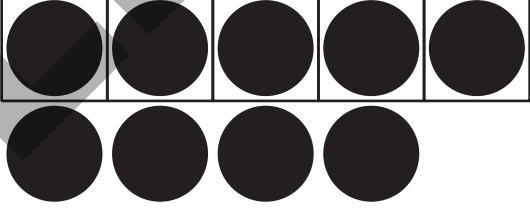
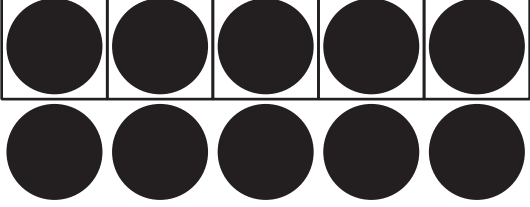
next to the  
square

next to the square

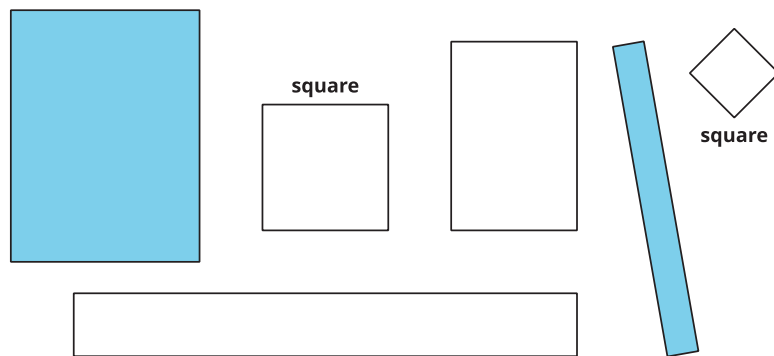


- number writing reference

1 one	
2 two	
3 three	
4 four	
5 five	

6 six	
7 seven	
8 eight	
9 nine	
10 ten	

- rectangle

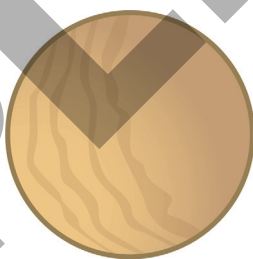


- shorter

The straw on the bottom is shorter.



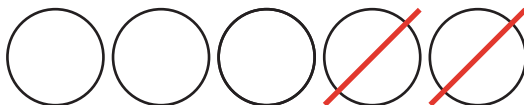
- sphere



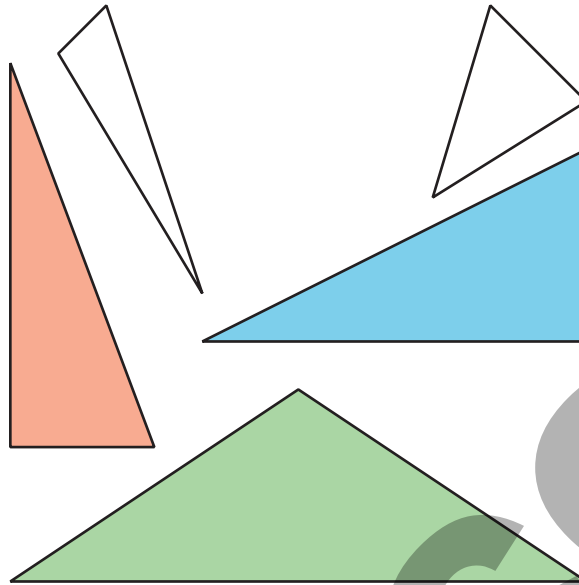
- subtract

$$5 - 2$$

five minus two



- triangle



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Notes

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Notes

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# California Common Core State Standards for Mathematics (CA CCSSM) Reference

## **K.CC: Kindergarten-Counting and Cardinality** Know number names and the count sequence.

### **K.CC.1**

Count to 100 by ones and by tens.

### **K.CC.2**

Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

### **K.CC.3**

Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).

## **Count to tell the number of objects.**

### **K.CC.4**

Understand the relationship between numbers and quantities; connect counting to cardinality.

## **K.CC.4a**

When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

## **K.CC.4b**

Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

## **K.CC.4c**

Understand that each successive number name refers to a quantity that is one larger.

## **K.CC.5**

Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

## **Compare numbers.**

## **K.CC.6**

Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects

in another group, e.g., by using matching and counting strategies. Include groups with up to ten objects.

### **K.CC.7**

Compare two numbers between 1 and 10 presented as written numerals.

## **K.G Kindergarten-Geometry**

**Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).**

### **K.G.1**

Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

### **K.G.2**

Correctly name shapes regardless of their orientations or overall size.

### **K.G.3**

Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

## **Analyze, compare, create, and compose shapes.**

### **K.G.4**

Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).

### **K.G.5**

Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

### **K.G.6**

Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?"

## **K.MD Kindergarten—Measurement and Data**

### **Describe and compare measurable attributes.**

#### **K.MD.1**

Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

## **K.MD.2**

Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

**Classify objects and count the number of objects in each category.**

## **K.MD.3**

Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. Limit category counts to be less than or equal to 10.

## **K.NBT Kindergarten—Number and Operations in Base Ten**

**Work with numbers 11-19 to gain foundations for place value.**

### **K.NBT.1**

Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g.,  $18 = 10 + 8$ ); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

# K.OA Kindergarten—Operations and Algebraic Thinking

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

## K.OA.1

Represent addition and subtraction with objects, fingers, mental images, drawings. Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards), sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

## K.OA.2

Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

## K.OA.3

Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g.,  $5 = 2 + 3$  and  $5 = 4 + 1$ ).



#### **K.OA.4**

For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

#### **K.OA.5**

Fluently add and subtract within 5.

## California Common Core State Standards for Mathematics Standards for Mathematical Practice

These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).

### **MP1. Make sense of problems and persevere in solving them.**

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous

problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

## **MP2. Reason abstractly and quantitatively.**

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own,

without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

### **MP3. Construct viable arguments and critique the reasoning of others.**

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments

using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

- Students build proofs by induction and proofs by contradiction. CA 3.1 (for higher mathematics only).

#### **MP4. Model with mathematics.**

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify

important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

### **MP5. Use appropriate tools strategically.**

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and

compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

### **MP6. Attend to precision.**

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

### **MP7. Look for and make use of structure.**

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same



amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see  $7 \times 8$  equals the well-remembered  $7 \times 5 + 7 \times 3$ , in preparation for learning about the distributive property. In the expression  $x^2 + 9x + 14$ , older students can see the 14 as  $2 \times 7$  and the 9 as  $2 + 7$ . They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see  $5 - 3(x - y)^2$  as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers  $x$  and  $y$ .

### **MP8. Look for and express regularity in repeated reasoning.**

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle



school students might abstract the equation  $(y - 2)/(x - 1) = 3$ . Noticing the regularity in the way terms cancel when expanding  $(x - 1)(x + 1)$ ,  $(x - 1)(x^2 + x + 1)$ , and  $(x - 1)(x^3 + x^2 + x + 1)$  might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

### **Connecting the Mathematical Practices to the Standards for Mathematical Content**

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

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## KINDERGARTEN

Student Edition

UNITS

7 | 8



**Kendall Hunt**

Book 4  
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UNIT



## Solid Shapes All Around Us

### Content Connections

In this unit you will identify, describe, compare and create two- and three- dimensional shapes. You will make connections by:

- **Exploring Changing Quantities** while counting up to 20 objects, write and comparing numbers, and solving story problems.
- **Taking Wholes Apart, Putting Parts Together** while creating figures with pattern blocks and using manipulatives to solve addition and subtraction problems.

- **Reasoning with Data** while comparing flat and solid shapes.
- **Discovering Shape and Space** while identifying, describing, comparing and creating two- and three-dimensional shapes.

## Addressing the Standards

As you work your way through **Unit 7 Solid Shapes All Around Us**, you will use some mathematical practices that you may have started using in kindergarten and have continued strengthening over your school career. These practices describe types of thinking or behaviors that you might use to solve specific math problems.

Mathematical Practices	Where You Use these MPs
<b>MP1</b> Make sense of problems and persevere in solving them.	Lesson 5
<b>MP2</b> Reason abstractly and quantitatively.	Lesson 2, 3, 4, 5, and 6
<b>MP3</b> Construct viable arguments and critique the reasoning of others.	Lesson 3 and 9
<b>MP4</b> Model with mathematics.	Lesson 3, 13, and 16
<b>MP5</b> Use appropriate tools strategically.	Lesson 1, 12, and 15

<b>Mathematical Practices</b>	<b>Where You Use these MPs</b>
<b>MP6</b> Attend to precision.	Lesson 8, 10, 11, 13, and 14
<b>MP7</b> Look for and make use of structure.	Lesson 2, 6, 7, and 9
<b>MP8</b> Look for and express regularity in repeated reasoning.	

The California Common Core State Standards for Mathematics (CA CCSSM) describe the topics you will learn in this unit. Many of these topics build upon knowledge you already have and challenge you to expand upon that knowledge. The table below shows what standards are being addressed in this unit.

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
<ul style="list-style-type: none"> <li>How Many?</li> </ul>	<b>K.CC.1</b> Count to 100 by ones and by tens.	Lesson 2, 6, and 9
<ul style="list-style-type: none"> <li>How Many?</li> <li>Place and Position of Numbers</li> </ul>	<b>K.CC.3</b> Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).	Lesson 1

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> </ul>	<p><b>K.CC.4</b></p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.</p>	<p>Lesson 1 and 3</p>

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.CC.5</b> Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.</p>	Lesson 1, 3, and 15
<ul style="list-style-type: none"> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Being Flexible within 10</li> </ul>	<p><b>K.CC.6</b> Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.</p>	Lesson 2
<ul style="list-style-type: none"> <li>● How Many?</li> </ul>	<p><b>K.CC.7</b> Compare two numbers between 1 and 10 presented as written numerals.</p>	Lesson 2

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Shapes in the World</li> </ul>	<p><b>K.G.1</b> Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above, below, beside, in front of, behind, and next to</i>.</p>	<p>Lesson 11, 13, and 14</p>
<ul style="list-style-type: none"> <li>● Shapes in the World</li> </ul>	<p><b>K.G.2</b> Correctly name shapes regardless of their orientations or overall size.</p>	<p>Lesson 10, 11, and 14</p>
<ul style="list-style-type: none"> <li>● Shapes in the World</li> </ul>	<p><b>K.G.3</b> Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).</p>	<p>Lesson 7 and 14</p>

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Bigger or Equal?</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.G.4</b> Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).</p>	<p>Lesson 7, 10, 11, 12, 15</p>
<ul style="list-style-type: none"> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.G.5</b> Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</p>	<p>Lesson 3, 7, 10, 12, 13, 15, and 16</p>
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.G.6</b> Compose simple shapes to form larger shapes. <i>For example, "Can you join these two triangles with full sides touching to make a rectangle?"</i></p>	<p>Lesson 1, 2, 3, 4, 6, 14, and 15</p>

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.1</b> Represent addition and subtraction with objects, fingers, mental images, drawings, 2 sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p>	Lesson 3, 4, 5, and 6
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.2</b> Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>	Lesson 3, 5, and 6
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> </ul>	<p><b>K.OA.3</b> Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</p>	Lesson 6



Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> </ul>	<p><b>K.OA.4</b></p> <p>For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p>	Lesson 6
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.5</b></p> <p>Fluently add and subtract within 5.</p>	Lesson 6 and 10
<ul style="list-style-type: none"> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.NBT.1</b></p> <p>Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., <math>18 = 10 + 8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>	Lesson 1

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.MD.1</b> Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</p>	<p>Lesson 8 and 9</p>
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Bigger or Equal?</li> <li>● Model with Numbers</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.MD.2</b> Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	<p>Lesson 8 and 9</p>
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Shapes in the World</li> </ul>	<p><b>K.MD.3</b> Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	<p>Lesson 7 and 11</p>

## Unit 7, Lesson 1



Addressing CA CCSSM K.CC.3, K.CC.4, K.CC.5, K.G.6, K.NBT.1; practicing MP5

# Build Shapes

Let's use one shape.

Sec A

COPY

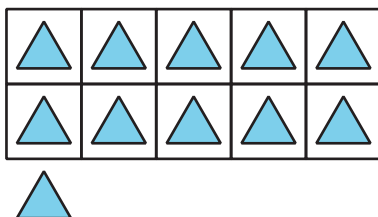
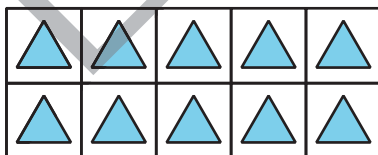
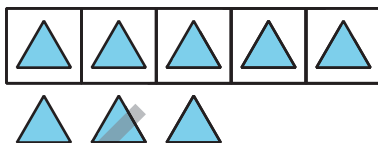
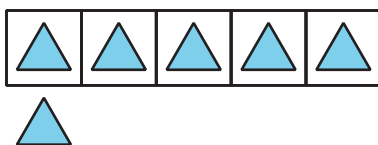
SAMPLE

# How Many Do You See: Triangles

Sec A

How many do you see?

How do you see them?

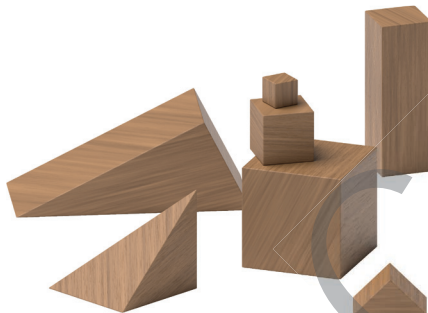


### Activity 3

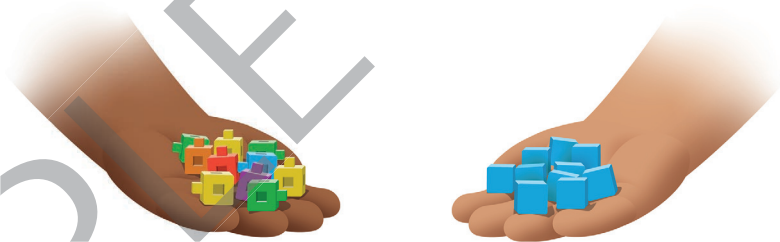
## Centers: Choice Time

Choose a center.

Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 2

Addressing CA CCSSM K.CC.1, K.CC.6, K.CC.7, K.G.6; practicing MP2 and MP7



Sec A

# More or Fewer Pattern Blocks

Let's see how many pattern blocks.

COPY

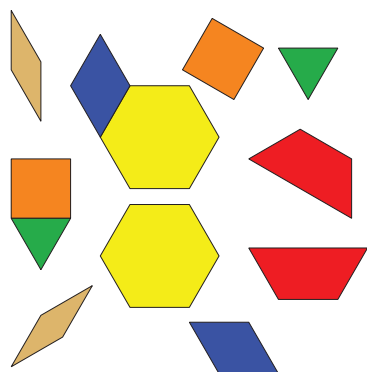
SAMPLE

### Activity 3

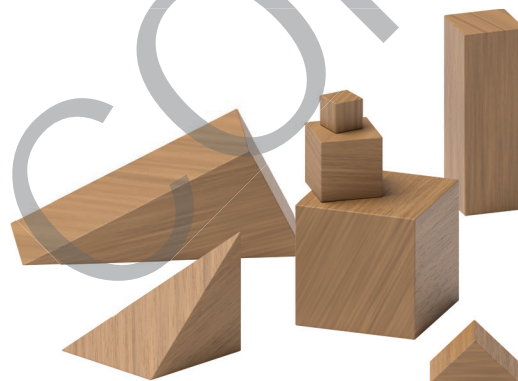
## Introduce Pattern Blocks—Place the Last Pattern Block

Choose a center.

Pattern Blocks



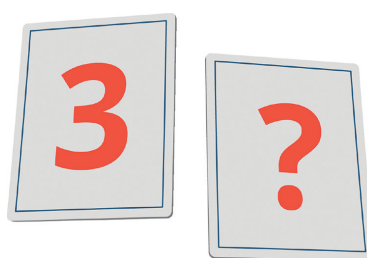
Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 3

Addressing CA CCSSM K.CC.4-5, K.G.5, K.G.6,  
K.OA.1, K.OA.2; practicing MP2, MP3, and MP4

Sec A

# Questions and Stories about Shapes

Let's ask questions.

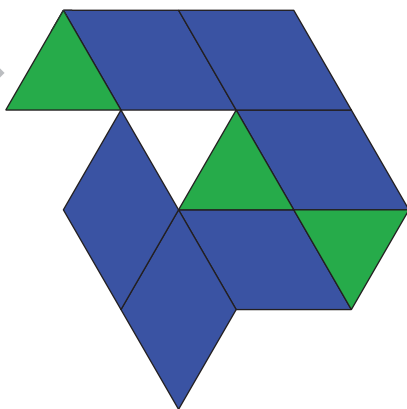
Warm-up

## Notice and Wonder: Mai's Shape

Mai made a pattern.

What do you notice?

What do you wonder?





## Activity 1

# Ask Math Questions about Shapes

Sec A

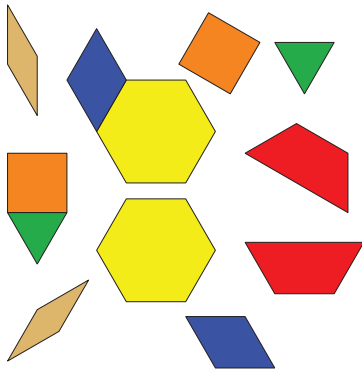
### Activity 3

## Introduce Pattern Blocks—Build and Draw

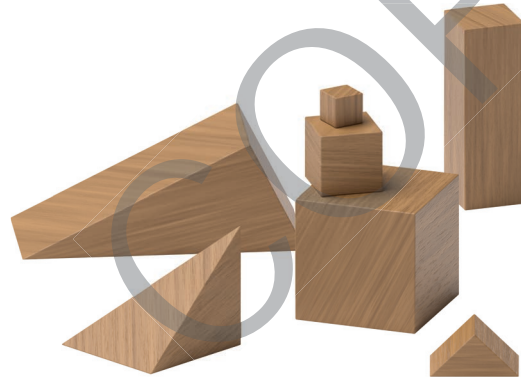
Sec A

Choose a center.

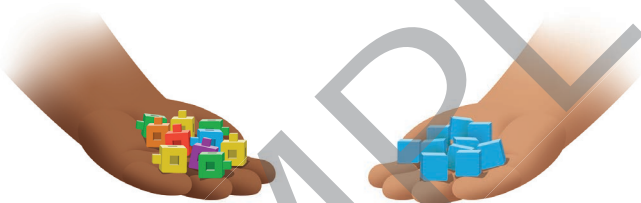
Pattern Blocks



Geoblocks



Grab and Count



Find the Pair



## Unit 7, Lesson 4



Addressing CA CCSSM K.G.6, K.OA.1; building towards, K.G.6; practicing MP2

# Pattern Block Puzzles and Equations

Let's use equations.

Warm-up

## Which Three Go Together: Equations

Which 3 go together?

A

$$10 - 4 = 6$$

B

$$4 + 3 = 7$$

C

$$6 = 4 + 2$$

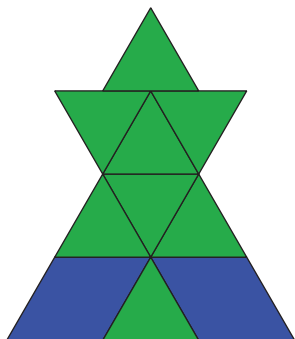
D

$$3 + 3 = 6$$

## Activity 1

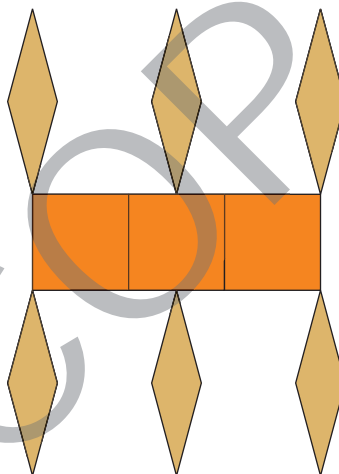
# Match Equations to Pattern Block Puzzles

Sec A

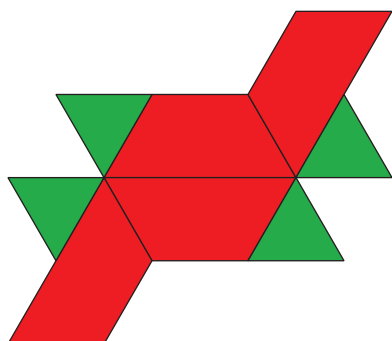


$$8 = 4 + 4$$

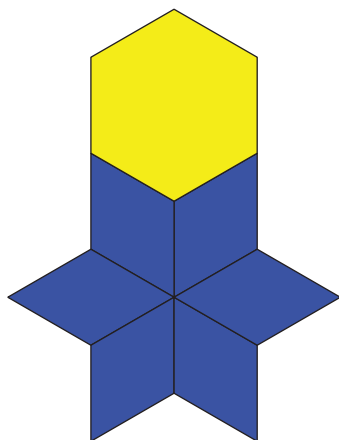
$$6 + 1 = 7$$



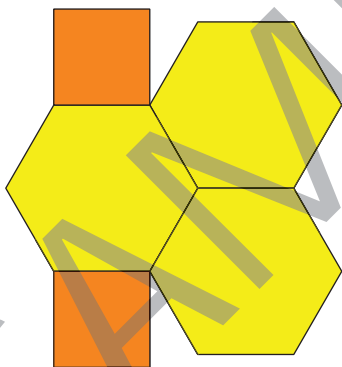
$$10 = 2 + 8$$



$$7 = 6 + 1$$



$$2 + 3 = 5$$



$$9 = 6 + 3$$

## Activity 2

# Make Shapes to Represent Equations

$$4 = 1 + 3$$

$$10 + 0 = 10$$

$$5 + 4 = 9$$

$$8 = 2 + 6$$

$$3 + 3 = 6$$

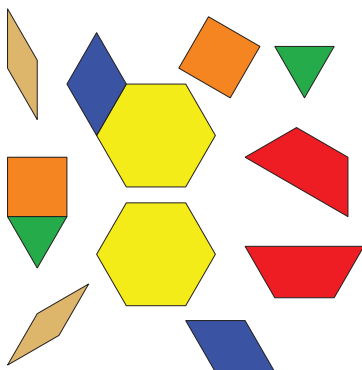
$$7 = 2 + 5$$

## Activity 3

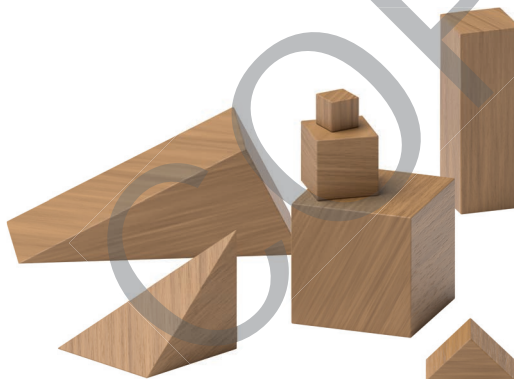
### Centers: Choice Time

Choose a center.

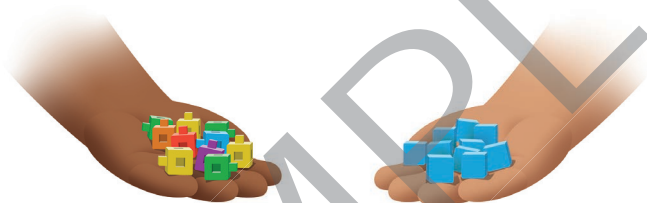
Pattern Blocks



Geoblocks



Grab and Count



Find the Pair





## Unit 7, Lesson 5



Addressing CA CCSSM K.OA.1, K.OA.2; building towards K.OA.2; practicing MP1 and MP2

# Story Problems about Shapes

Let's use equations with story problems.

Sec A

## Notice and Wonder: Questionless Story Problem

What do you notice?

What do you wonder?

Elena makes a train with 9 pattern blocks.  
She takes away 3 pattern blocks.

## Activity 1

### Match Story Problems to Equations

1. Clare has 7 pattern blocks.  
Her brother takes 3.

How many now?

$$7 = 4 + 3$$

$$7 - 3 = 4$$

$$7 + 3 = 10$$

2. Kiran has 2 pattern blocks.  
Jada adds 5 more.

How many pattern blocks?

$$5 - 2 = 3$$

$$4 = 2 + 2$$

$$2 + 5 = 7$$

## Activity 2

### Solve Story Problems

Sec A

1. Andre has 4 pattern blocks.  
He adds 4 more.

How many pattern blocks?

\_\_\_\_\_

Equation:  $8 = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$

2. Elena makes a train with 9 pattern blocks.  
She takes away 3 pattern blocks.

How many pattern blocks make up the train?

\_\_\_\_\_

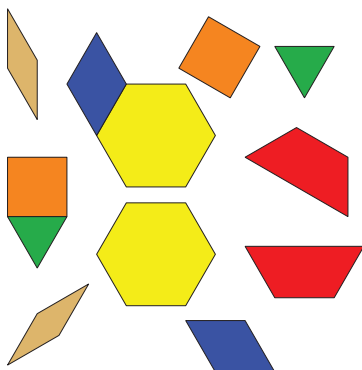
Equation:  $9 - 3 =$  \_\_\_\_\_

## Activity 3

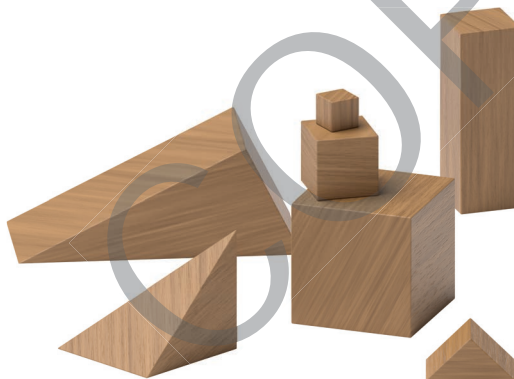
### Centers: Choice Time

Choose a center.

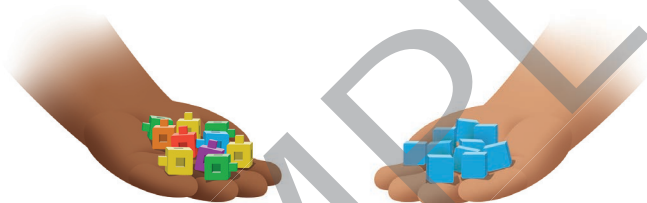
Pattern Blocks



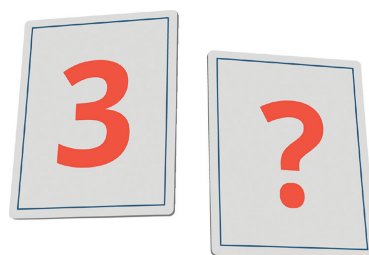
Geoblocks



Grab and Count



Find the Pair



SAMPLE

COPY

## Unit 7, Lesson 6



Addressing CA CCSSM K.CC.1, K.G.6, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5; building towards K.OA.4; practicing MP2 and MP7

Sec A

# Make and Break Apart 10 with Pattern Blocks

Let's find ways to make 10.

COPY

SAMPLE



## Activity 1

### Diego's Shape

Diego has 10 pattern blocks.  
He has squares and triangles.

How many squares?

How many triangles?

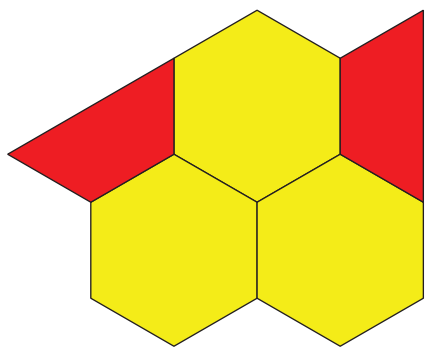
Expression: \_\_\_\_\_

## Section A Summary

We use pattern blocks to make shapes.

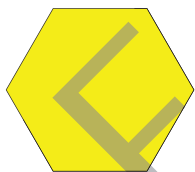
We can write numbers to show how many.

We can use the words “more” and “fewer.”



5

There are more



than



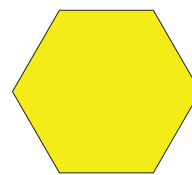
yellow hexagons

red trapezoids.

There are fewer



than



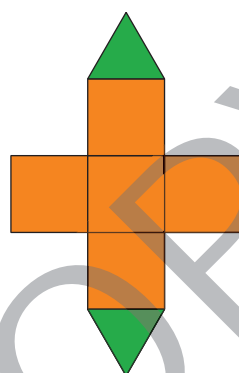
red trapezoids

yellow hexagons.

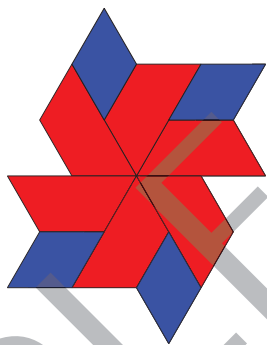
We match equations with shapes and story problems.

$$5 + 2 = 7$$

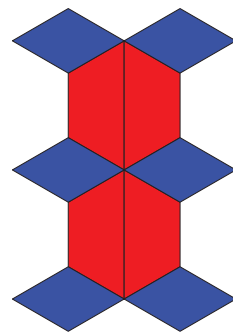
Kiran has 5 pattern blocks.  
Jada has 2 more.  
How many now?



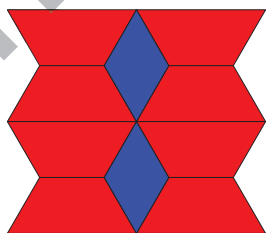
We see ways to make 10 with pattern blocks.



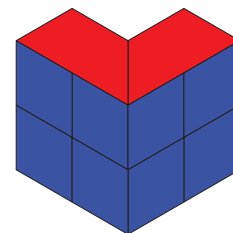
$$4 + 6 = 10$$



$$10 = 6 + 4$$



$$2 + 8 = 10$$



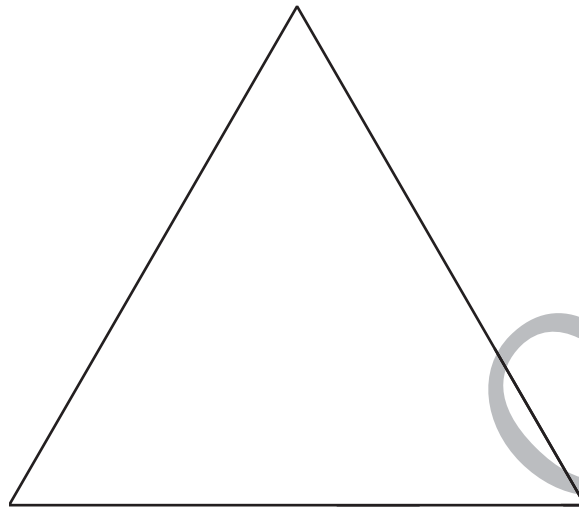
$$10 = 8 + 2$$

# Practice Problems

8 Problems

1 from Unit 7, Lesson 1

Sec A



- a. Fill in the puzzle. Use only triangles.
- b. How many pattern blocks did you use?

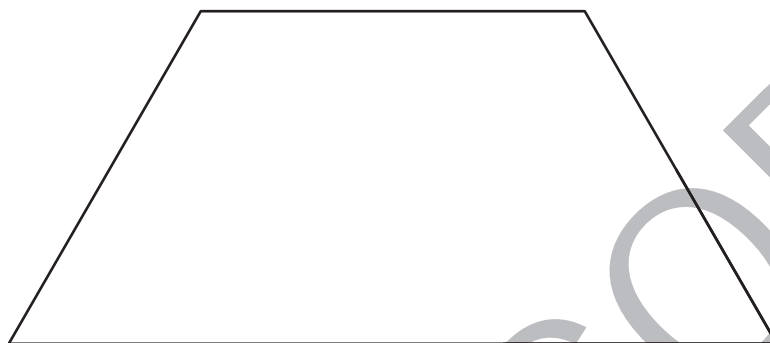
\_\_\_\_\_

- c. Fill in the puzzle a different way. Use any pattern blocks.
- d. How many pattern blocks did you use?

\_\_\_\_\_

**2** from Unit 7, Lesson 2

- a. Fill in the puzzle.  
Use only green triangles and blue rhombuses.



- b. Circle the shape you used more.



green triangle



blue rhombus

- c. Fill in the puzzle a different way.  
Use only green triangles and blue rhombuses.  
d. Circle the shape you used more.

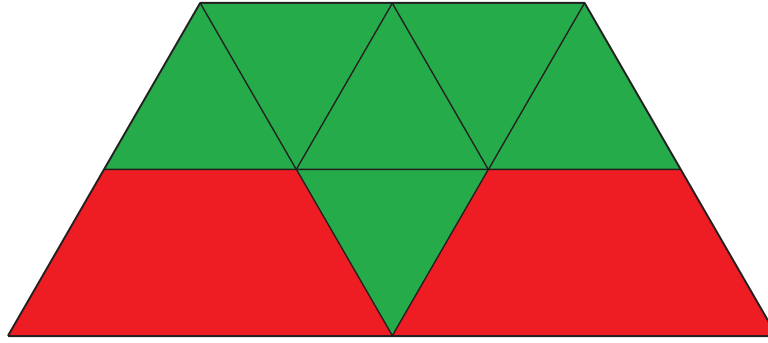


green triangle

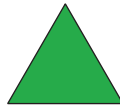


blue rhombus

3 from Unit 7, Lesson 3



a. How many



green triangles?

b. How many



red trapezoids?

\_\_\_\_\_

\_\_\_\_\_

**4** from Unit 7, Lesson 4

Make a shape for the equation.

$$5 + 1 = 6$$

**5** from Unit 7, Lesson 5

Lin has 8 pattern blocks.  
She takes away 3.

How many now?

**6** from Unit 7, Lesson 6

Clare has 10 pattern blocks.  
She has trapezoids and triangles.

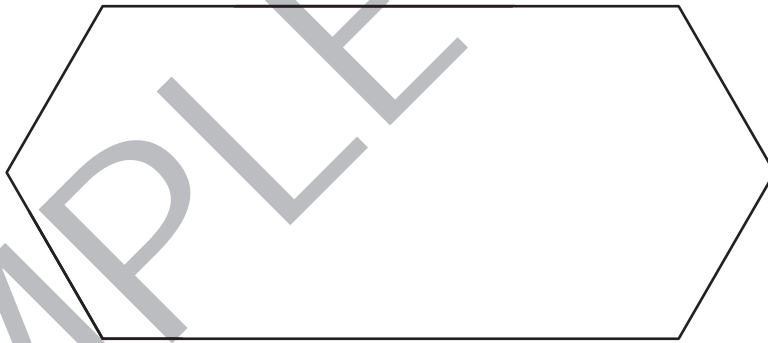
How many trapezoids?  
How many triangles?

---

---

**7** Exploration

a. Fill in the shape.



b. How many?

---

c. Can you use 10?



a. Fill in the puzzle.

Use only 10 red trapezoids  
and blue rhombuses.

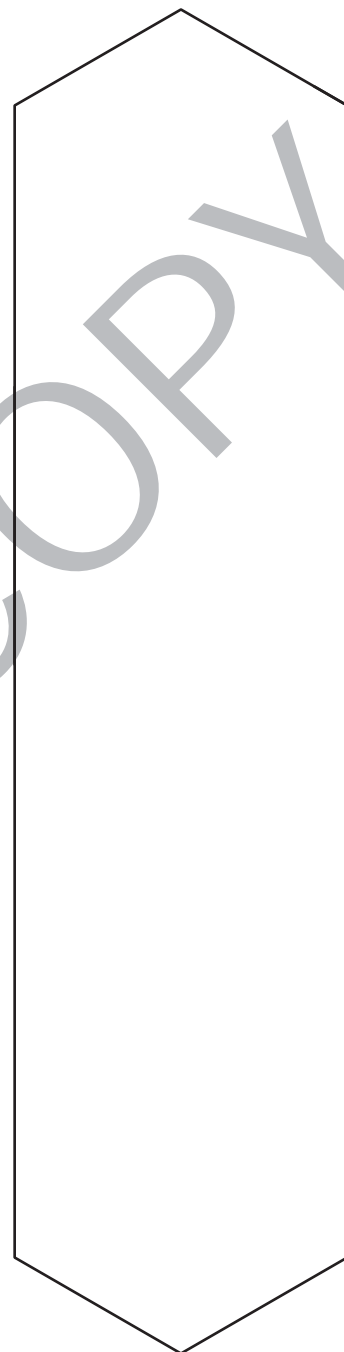
b. How many?

\_\_\_\_\_ trapezoids

\_\_\_\_\_ rhombuses.

c. Can you use red trapezoids  
and blue rhombuses in a  
different way?

Use 10 red trapezoids  
and blue rhombuses.



## Unit 7, Lesson 7

Addressing CA CCSSM K.G.3, K.G.4-5, K.MD.3;  
practicing MP7



# Flat and Solid Shapes

Let's build shapes with clay.

Sec B

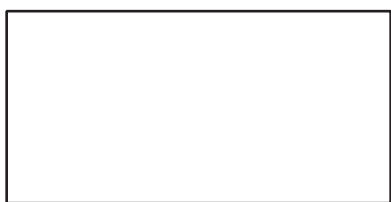
COPY

SAMPLE

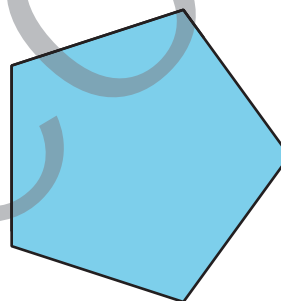
## Which Three Go Together: Flat Shapes

Which 3 go together?

**A**



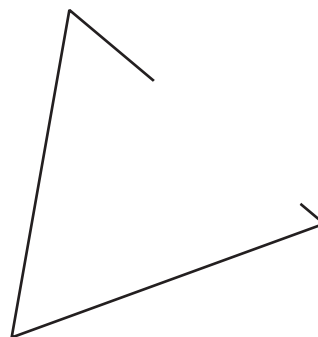
**B**



**C**



**D**



## Activity 2

# Card Sort: Flat and Solid Shapes

Sec B

COPY

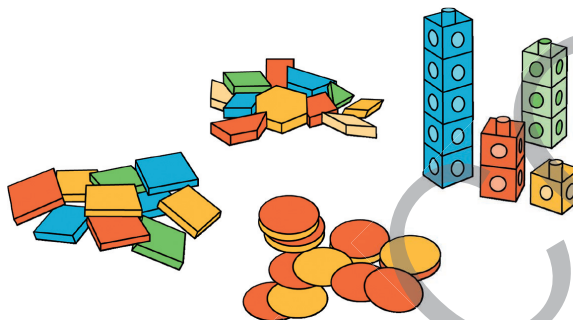
SAMPLE

### Activity 3

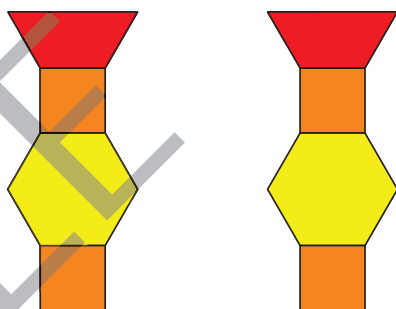
## Centers: Choice Time

Choose a center.

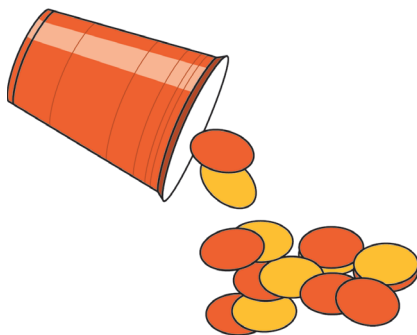
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 8



Addressing CA CCSSM K.MD.1-2; building towards K.MD.1-2; practicing MP6

# Compare Weights

Let's see what is heavier and what is lighter.

Sec B

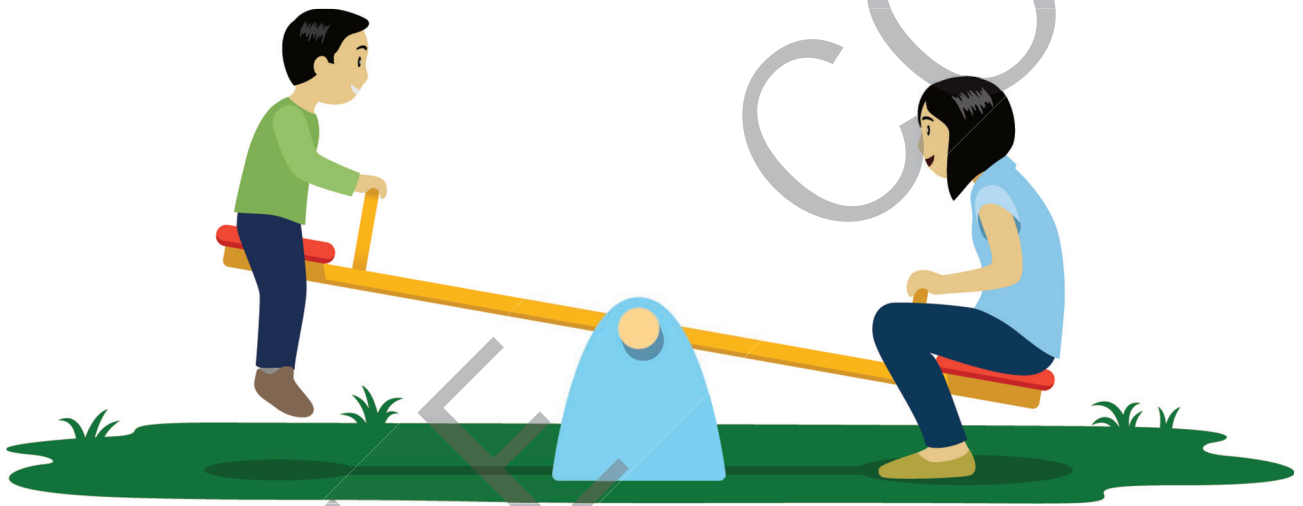
COPY

SAMPLE

## Notice and Wonder: Seesaw

What do you notice?

What do you wonder?



## Activity 2

### Compare Weights

Use 2 objects.

What is heavier and what is lighter?

Draw a picture.

Circle what is heavier.

Sec B

COPY

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



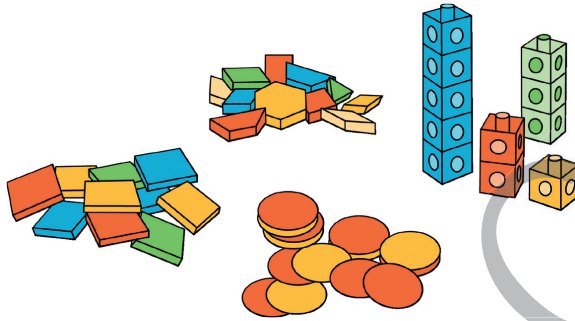


### Activity 3

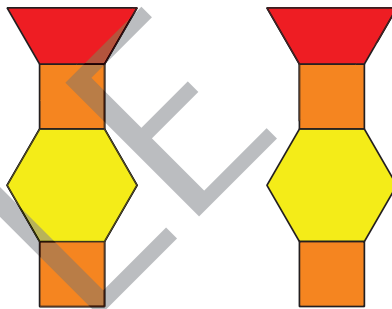
## Centers: Choice Time

Choose a center.

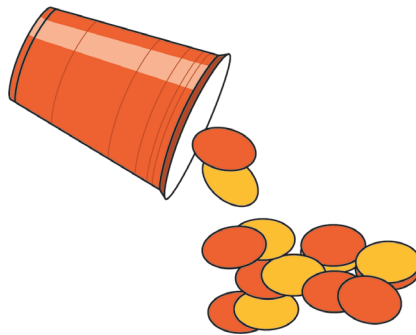
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 9

Addressing CA CCSSM K.CC.1, K.MD.1-2;  
practicing MP3 and MP7



# Compare Capacities

Let's see what holds more.

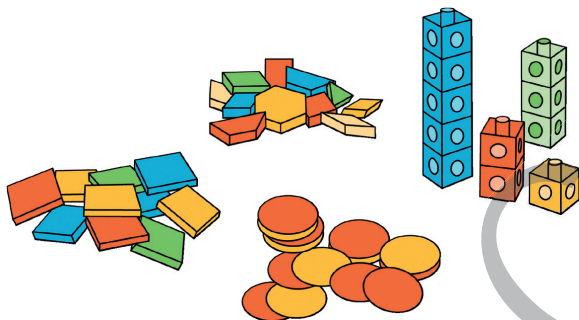
Sec B

## Activity 3

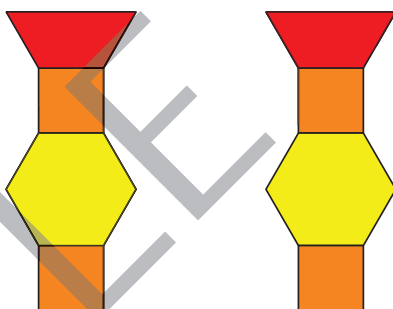
### Centers: Choice Time

Choose a center.

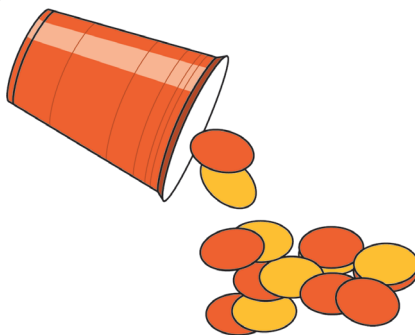
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 10



Addressing CA CCSSM K.G.2, K.G.4-5, K.OA.5;  
practicing MP6

# Identify and Describe Solid Shapes

Let's make and talk about solid shapes.

Sec B

## Number Talk: Add within 5

Find the value of each expression.

- $2 + 3$

- $3 + 2$

- $4 + 1$

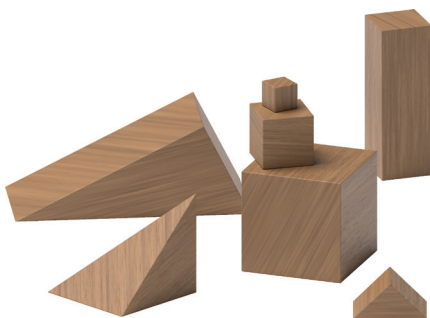
- $5 + 0$

### Activity 3

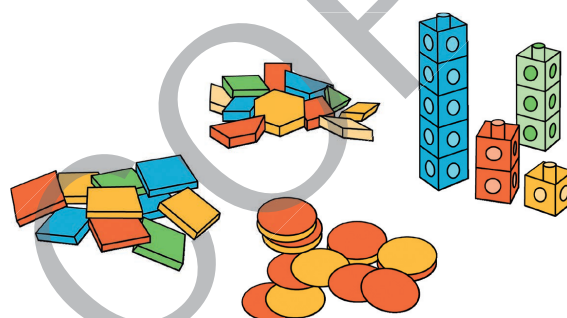
## Centers: Choice Time

Choose a center.

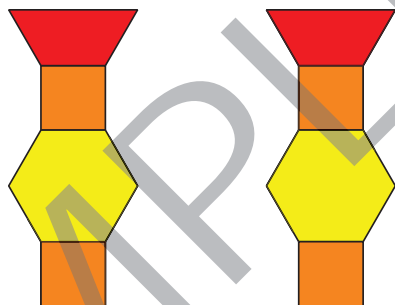
Geoblocks



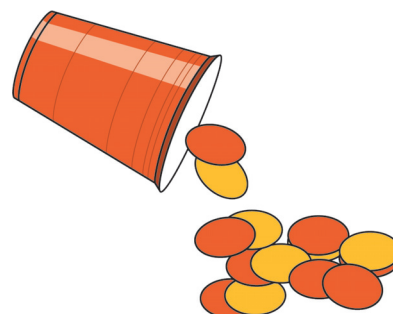
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 11

Addressing CA CCSSM K.G.1-2, K.G.4, K.MD.3;  
practicing MP6



# Compare and Sort Solid Shapes

Sec B

Let's see how solid shapes are the same and different.

COPY

SAMPLE



## Activity 1

### Compare Solid Shapes

alike	different
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

## Activity 2

# Sort Solid Shapes

Sec B

COPY

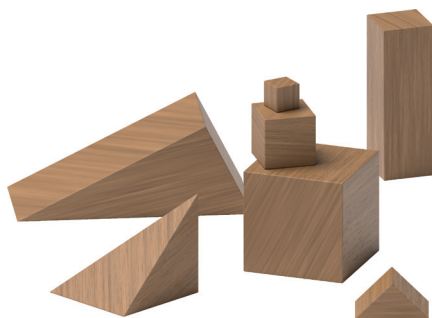
SAMPLE

### Activity 3

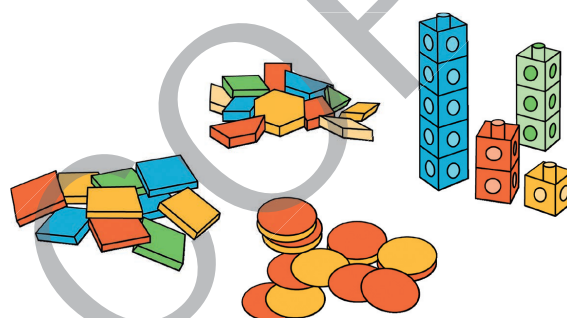
## Introduce Geoblocks—Feel and Guess

Choose a center.

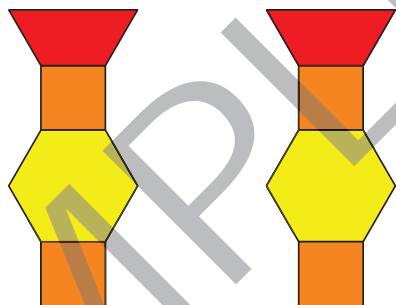
Geoblocks



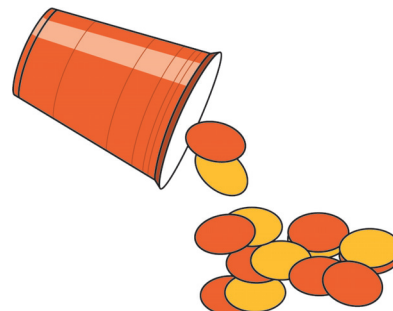
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 12

Addressing CA CCSSM K.G.4-5; practicing MP5



# Build Solid Shapes

Let's create solid shapes.

Sec B

COPY

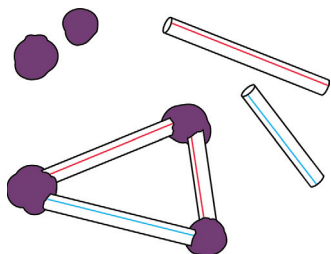
SAMPLE

## Activity 3

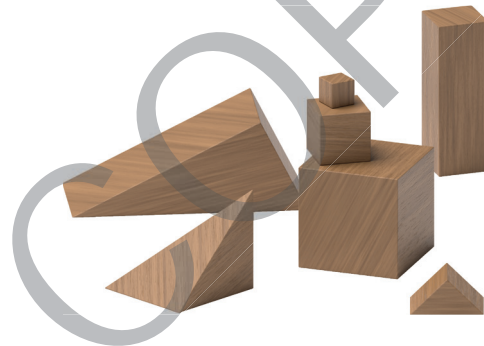
### Centers: Choice Time

Choose a center.

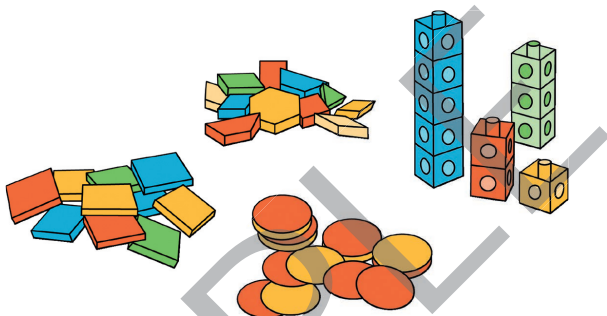
Build Shapes



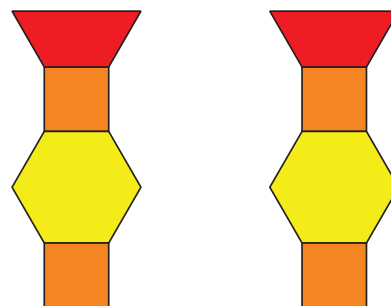
Geoblocks



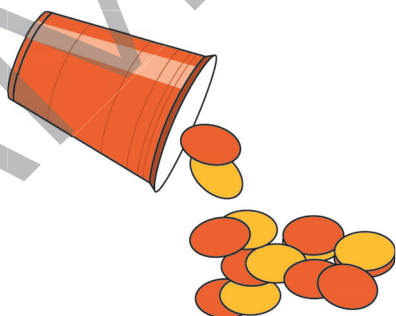
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 13

Addressing CA CCSSM K.G.1, K.G.5; practicing MP4 and MP6



# Describe Solid Shapes around Us

Let's find solid shapes.

Warm-up

## Notice and Wonder: At the Market

What do you notice?

What do you wonder?



## Activity 1

# Solid Shape Walk

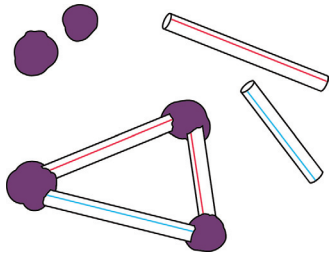


## Activity 3

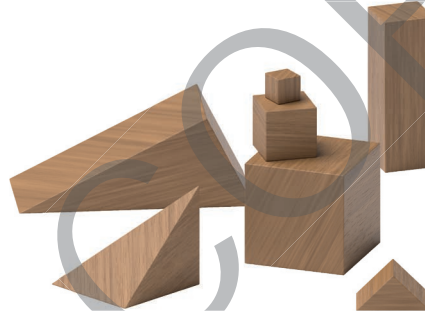
### Centers: Choice Time

Choose a center.

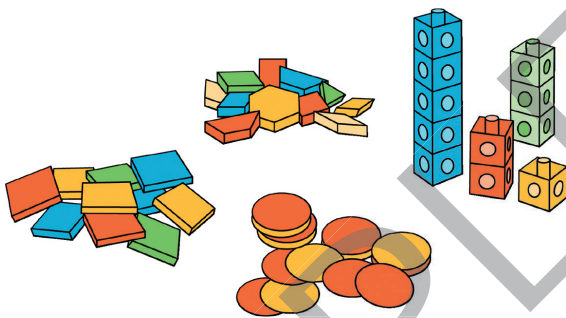
Build Shapes



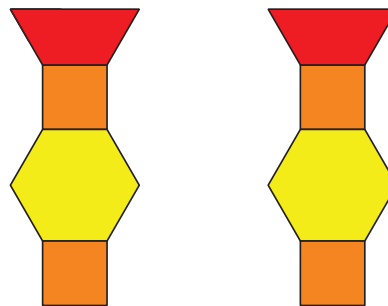
Geoblocks



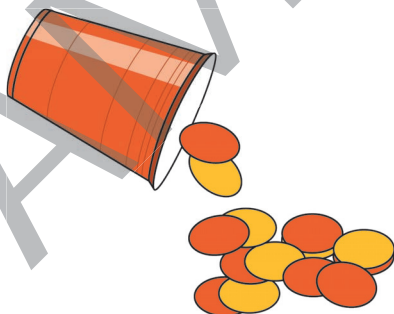
Counting Collections



Match Mine



Shake and Spill





## Unit 7, Lesson 14



Addressing CA CCSSM K.G.1-3, K.G.6; building towards K.OA.5; practicing MP6

# Build with Solid Shapes

Let's build with solid shapes.

Sec B

## Number Talk: Subtract 1 and 2

Find the value of each expression.

- $3 - 1$

- $3 - 2$

- $4 - 2$

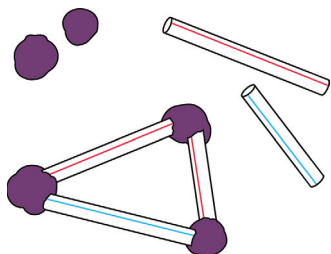
- $5 - 1$

## Activity 3

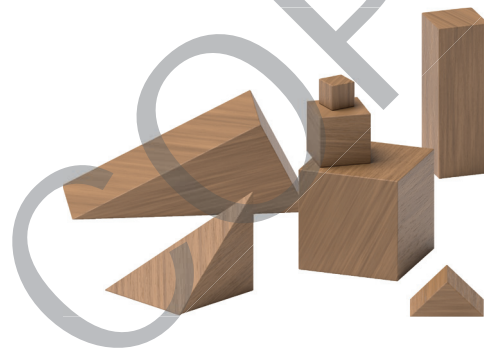
# Introduce Match Mine—Solid Shapes

Choose a center.

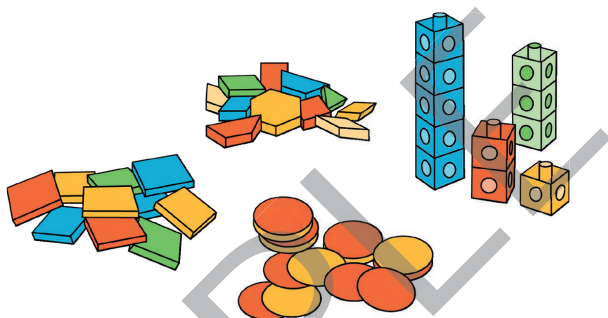
Build Shapes



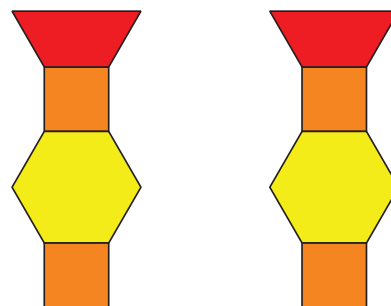
Geoblocks



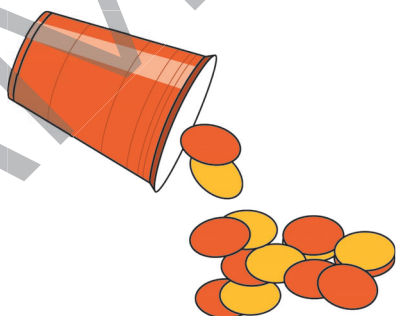
Counting Collections



Match Mine



Shake and Spill



## Unit 7, Lesson 15



Addressing CA CCSSM K.CC.5, K.G.4-6; building towards K.NBT.1; practicing MP5

# Build and Count with Solid Shapes

Let's build with and count solid shapes.

Sec B

## Estimation Exploration: How Many Cubes?

1. Record estimates that are:

too low	about right	too high

2. Record estimates that are:

too low	about right	too high

## Activity 1

# A Tall Tower

How many?

Sec B

\_\_\_\_\_

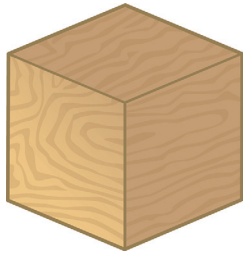
COPY

SAMPLE

## Activity 2

### What Can You Make with These Shapes?

1. 5 cubes



4 cylinders



6 cones



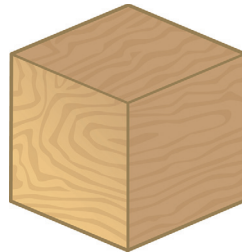
How many shapes did you use?

\_\_\_\_\_

2. 3 cones



4 cubes



5 cylinders



How many?

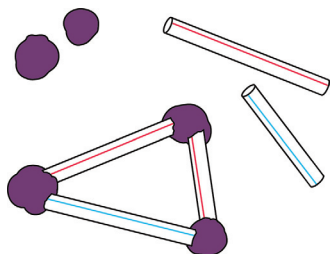
\_\_\_\_\_

## Activity 3

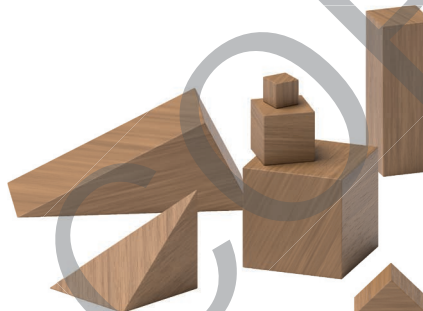
### Centers: Choice Time

Choose a center.

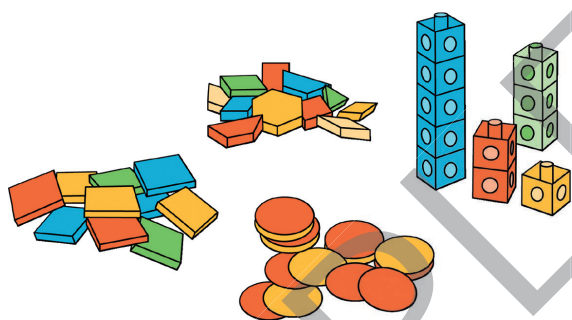
Build Shapes



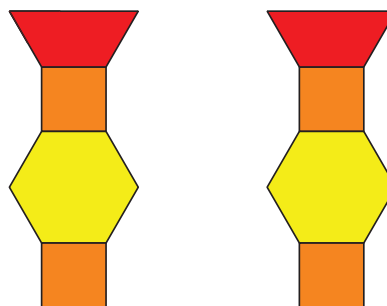
Geoblocks



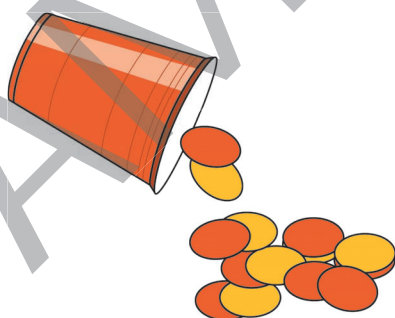
Counting Collections



Match Mine



Shake and Spill



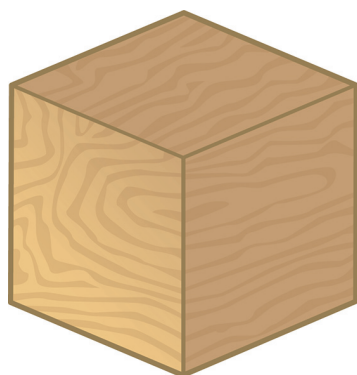


SAMPLE COPY

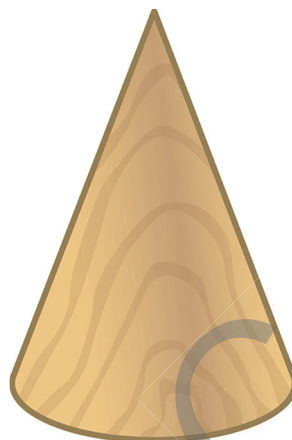
## Section B Summary

We can talk about and make solid shapes.

cube



cone



cylinder



sphere

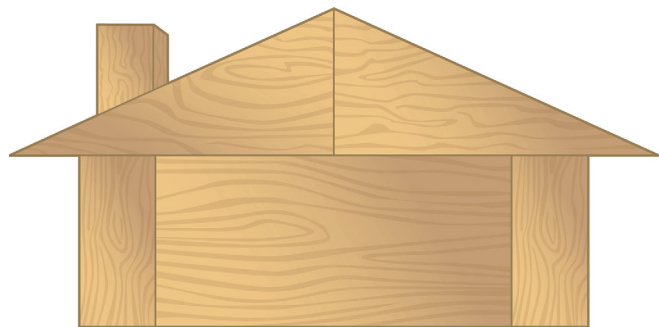
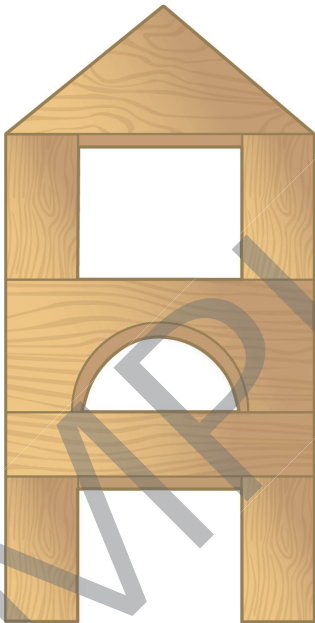


We see solid shapes.



Sec B

We use solid shapes.



## Unit 7, Lesson 16

Addressing CA CCSSM K.G.5; building towards K.G.5; practicing MP4



# Represent the Classroom with Shapes

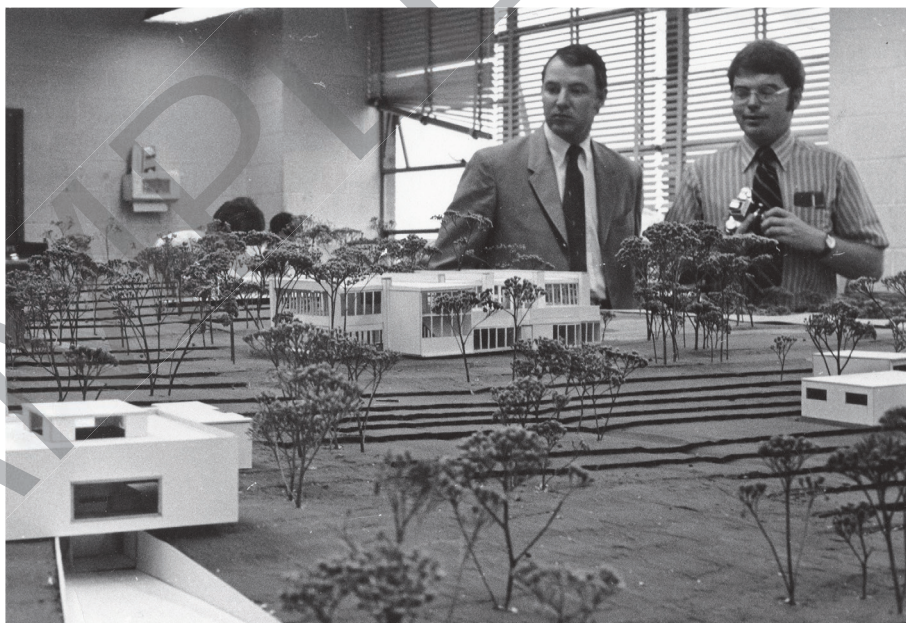
Let's use shapes to make our classroom.

Warm-up

## Notice and Wonder: Architects

What do you notice?

What do you wonder?



# Practice Problems

5 Problems

## 1 Exploration

Show 4 objects.

Describe 1 object.

Your partner guesses the object.

Take turns.

## 2 Exploration

- a. Build with solid shapes.
- b. Can you use 10 shapes?
- c. Can you use 20 shapes?
- d. What strategies did you use?

3

### Exploration

Pick an object.

Do not tell your partner.

Describe it.

Your partner guesses.

Sec B

4

### Exploration

a. Can you find this object?

- I am not flat.
- I am heavy.
- I have rectangles.

Can you find more than 1 object?

b. Can you find this object?

- I am flat.
- I have a lot of colors and shapes.
- I have rectangles.

Can you find more than 1 object?

5

Exploration

a. Count 18 connecting cubes.

Can you make a box?

b. Count 20.

Can you make a box?

COPY

SAMPLE





KINDERGARTEN

UNIT

8

## Putting It All Together

### Content Connections

In this unit you will practice counting and comparing, look at math in the community, and practice composing and decomposing within 10. You will make connections by:

- **Exploring Changing Quantities** while becoming fluent in counting and comparing numbers and using different representations to show numbers.
- **Taking Wholes Apart, Putting Parts Together** while composing and decomposing within 10.

- **Reasoning with Data** while comparing, identifying, and describing numbers and shapes.
- **Discovering Shape and Space** while describing the physical world using shapes.

## Addressing the Standards

As you work your way through **Unit 8 Putting It All Together**, you will use some mathematical practices that you may have started using in kindergarten and have continued strengthening over your school career. These practices describe types of thinking or behaviors that you might use to solve specific math problems.

Mathematical Practices	Where You Use these MPs
<b>MP1</b> Make sense of problems and persevere in solving them.	Lesson 21
<b>MP2</b> Reason abstractly and quantitatively.	Lesson 2, 10, 11, 13, 14, and 18
<b>MP3</b> Construct viable arguments and critique the reasoning of others.	Lesson 7 and 20
<b>MP4</b> Model with mathematics.	Lesson 6, 8, 9, and 10
<b>MP5</b> Use appropriate tools strategically.	Lesson 17, 18, and 19
<b>MP6</b> Attend to precision.	Lesson 12 and 16

<b>Mathematical Practices</b>	<b>Where You Use these MPs</b>
<b>MP7</b> Look for and make use of structure.	Lesson 12, 13, 14, 15, 16, and 18
<b>MP8</b> Look for and express regularity in repeated reasoning.	Lesson 1, 3, 4, and 5

The California Common Core State Standards for Mathematics (CA CCSSM) describe the topics you will learn in this unit. Many of these topics build upon knowledge you already have and challenge you to expand upon that knowledge. The table below shows what standards are being addressed in this unit.

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
● How Many?	<b>K.CC.1</b> Count to 100 by ones and by tens.	Lesson 3, 4, 5, 6, 8, and 10
● How Many?	<b>K.CC.2</b> Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	Lesson 1, 3, 4, 5, 6, 10, and 14

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
<ul style="list-style-type: none"> <li>● How Many?</li> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.CC.3</b></p> <p>Write numbers from 0 to 20. Represent a number of objects with a written numeral 0–20 (with 0 representing a count of no objects).</p>	<p>Lesson 1, 2, 4, 5, 6, 7, and 10</p>
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> </ul>	<p><b>K.CC.4</b></p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.</p>	<p>Lesson 1, 2, 4, 6, 7, 8, 10, and 20</p>

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
	<p>b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.</p> <p>c. Understand that each successive number name refers to a quantity that is one larger.</p>	
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> </ul>	<p><b>K.CC.4c</b></p> <p>Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p>c. Understand that each successive number name refers to a quantity that is one larger.</p>	Lesson 3 and 18

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.CC.5</b> Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.</p>	<p>Lesson 1, 2, 4, 6, 7, 8, 9, and 10</p>
<ul style="list-style-type: none"> <li>● How Many?</li> <li>● Bigger or Equal?</li> <li>● Being Flexible within 10</li> </ul>	<p><b>K.CC.6</b> Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.</p>	<p>Lesson 1, 2, 8, 9, 13, and 15</p>
<ul style="list-style-type: none"> <li>● How Many?</li> </ul>	<p><b>K.CC.7</b> Compare two numbers between 1 and 10 presented as written numerals.</p>	<p>Lesson 1 and 2</p>

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.1</b> Represent addition and subtraction with objects, fingers, mental images, drawings, 2 sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.</p>	Lesson 11 and 18
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> <li>● Model with Numbers</li> </ul>	<p><b>K.OA.2</b> Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.</p>	Lesson 3, 8, 11, 15, and 18
<ul style="list-style-type: none"> <li>● Being Flexible within 10</li> </ul>	<p><b>K.OA.3</b> Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</p>	Lesson 8, 12, 13, 14, 17, 18, and 19

<b>Big Ideas You Are Studying</b>	<b>California Content Standards</b>	<b>Lessons Where You Learn This</b>
<ul style="list-style-type: none"> <li>Being Flexible within 10</li> </ul>	<p><b>K.OA.4</b> For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</p>	<p>Lesson 18 and 19</p>
<ul style="list-style-type: none"> <li>Being Flexible within 10</li> <li>Model with Numbers</li> </ul>	<p><b>K.OA.5</b> Fluently add and subtract within 5.</p>	<p>Lesson 7, 11, 12, 13, 14, 15, and 16</p>
<ul style="list-style-type: none"> <li>Shapes in the World</li> </ul>	<p><b>K.G.2</b> Correctly name shapes regardless of their orientations or overall size.</p>	<p>Lesson 8</p>
<ul style="list-style-type: none"> <li>Shapes in the World</li> <li>Making Shapes from Parts</li> </ul>	<p><b>K.G.5</b> Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</p>	<p>Lesson 8</p>



Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● Bigger or Equal?</li> <li>● Model with Numbers</li> <li>● Shapes in the World</li> <li>● Making Shapes from Parts</li> </ul>	<p><b>K.MD.2</b></p> <p>Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></p>	Lesson 8
<ul style="list-style-type: none"> <li>● Sort and Describe Data</li> <li>● How Many?</li> <li>● Shapes in the World</li> </ul>	<p><b>K.MD.3</b></p> <p>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</p>	Lesson 1, 13, and 14

Big Ideas You Are Studying	California Content Standards	Lessons Where You Learn This
<ul style="list-style-type: none"> <li>● Place and Position of Numbers</li> </ul>	<p><b>K.NBT.1</b></p> <p>Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., <math>18 = 10 + 8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>	<p>Lesson 2 and 21</p>

## Unit 8, Lesson 1



Addressing CA CCSSM K.CC.2-3, K.CC.4-5, K.CC.6-7, K.MD.3; practicing MP8

# Sort, Count, and Compare Groups of Objects

Let's find out which group has more or fewer.

Sec A

## Activity 1

### Sort, Count, and Compare

Sec A

How many beads?

Show your thinking, using objects, drawings, numbers, or words.

Circle the group with fewer.

## Activity 2

### Who Has More?

1. How many beads each?

Show your thinking, using objects, drawings, numbers, or words.

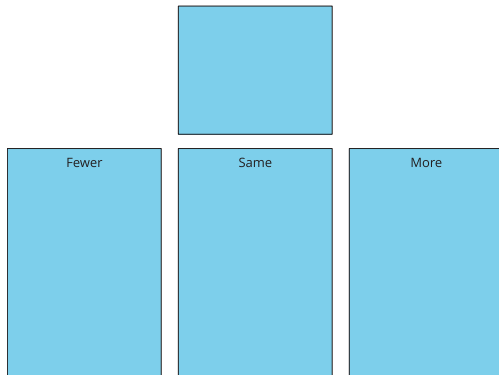
2. How many beads in all?

## Activity 3

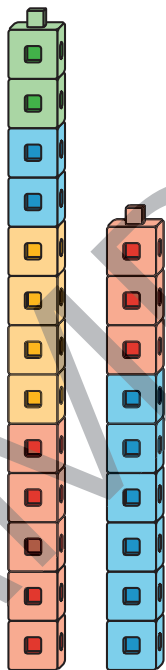
### Centers: Choice Time

Choose a center.

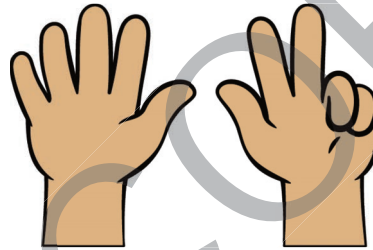
Fewer, Same, More



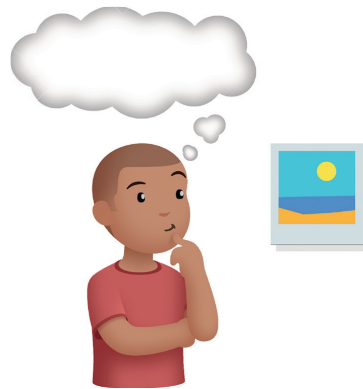
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 2

Addressing CA CCSSM K.CC.3, K.CC.4-5, K.CC.6-7,  
K.NBT.1; practicing MP2



# Count and Compare Collections

Let's count and compare.

Sec A

COPY

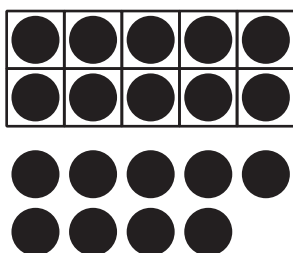
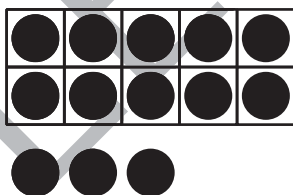
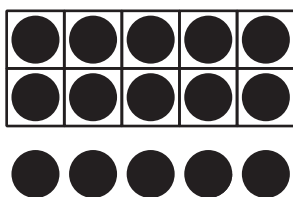
SAMPLE

## Warm-up

# How Many Do You See: 10 and Some More

Sec A

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





## Activity 1

# Counting Collections

How many?

Show your thinking, using objects, drawings, numbers, or words.

## Activity 2

# Comparing Collections

Sec A

How many?

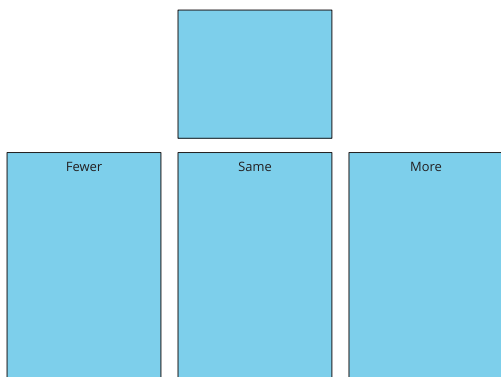
Show your thinking, using objects, drawings, numbers, or words.

## Activity 3

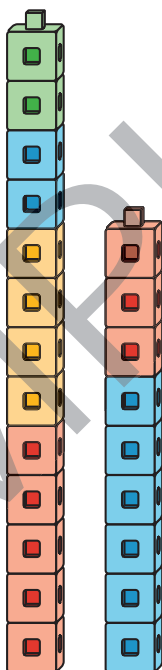
### Centers: Choice Time

Choose a center.

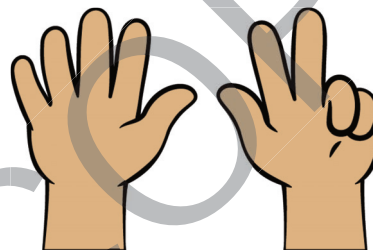
Fewer, Same, More



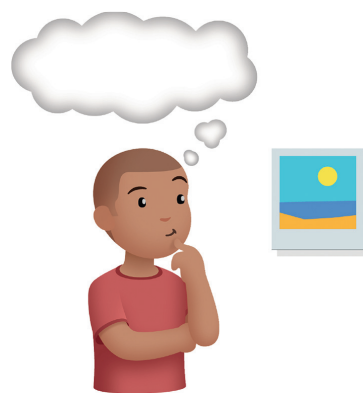
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 3



Addressing CA CCSSM K.CC.1-2, K.CC.4c, K.OA.2;  
building towards 1.OA.5; practicing MP8

Sec A

# Count to Add and Subtract

Let's do story problems.

### Activity 1

## Ride the Bus

1. There are 7 kids on the bus.  
1 more kid gets on the bus.  
How many kids are on the bus?

Show your thinking, using objects, drawings, numbers, or words.

---

2. There are 10 kids on the bus.

1 kid gets off the bus.

How many kids are on the bus?

Show your thinking, using objects, drawings, numbers, or words.

## Activity 2

### Singing Students

Sec A

1. \_\_\_\_\_ kids sing.  
1 more kid sings.  
How many kids sing?

Show your thinking, using objects, drawings, numbers, or words.

\_\_\_\_\_

2. \_\_\_\_\_ kids sing.

1 kid stops.

How many kids sing?

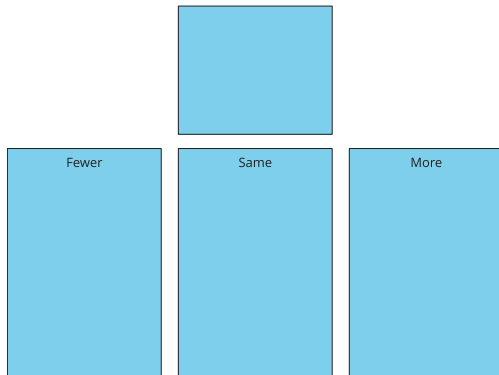
Show your thinking, using objects, drawings, numbers, or words.

## Activity 3

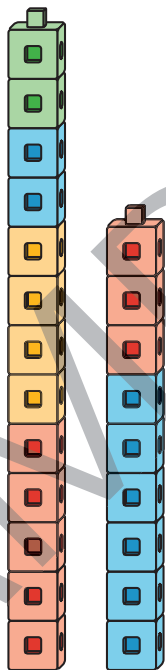
### Centers: Choice Time

Choose a center.

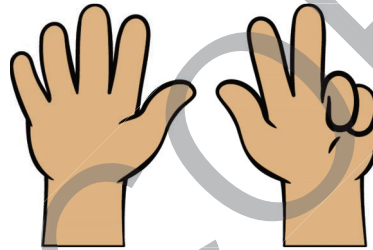
Fewer, Same, More



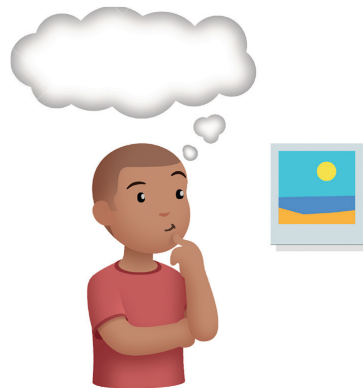
Tower Build



Math Fingers



Math Stories



Which One?





SAMPLE

COPY

## Unit 8, Lesson 4

Addressing CA CCSSM K.CC.1-3, K.CC.4-5;  
practicing MP8



Sec A

# 1 More and 1 Less

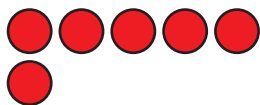
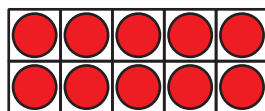
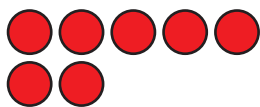
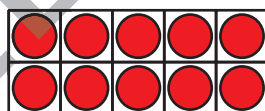
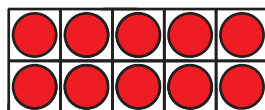
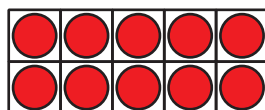
Let's find 1 more or 1 less.

COPY

SAMPLE

## How Many Do You See: 1 Less

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



## Activity 1

### Count Out and Show 1 More or 1 Less

Sec A

Show your number.

1.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

2.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

3.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

4.

Starting Number:

\_\_\_\_\_

Is the new number more  
or less?

\_\_\_\_\_

## Activity 2

## Color 1 More or 1 Less

- Roll to choose a number and 1 more or 1 less.
- Color the number that is 1 more or 1 less than your number.
- Record the starting number and the new number.

10	17	2	9
19	5	13	16
7	1	18	12
20	14	6	3
4	8	11	15

Starting Number:

New Number:

1.

\_\_\_\_\_

\_\_\_\_\_

2.

\_\_\_\_\_

\_\_\_\_\_

3.

\_\_\_\_\_

\_\_\_\_\_

4.

\_\_\_\_\_

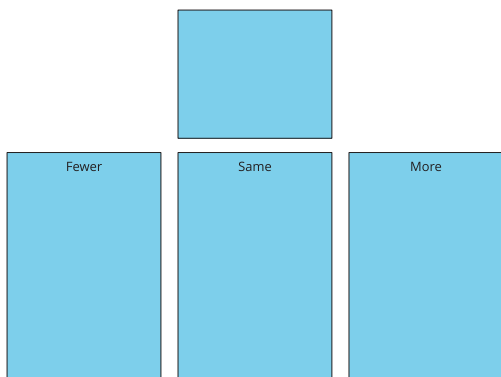
\_\_\_\_\_

## Activity 3

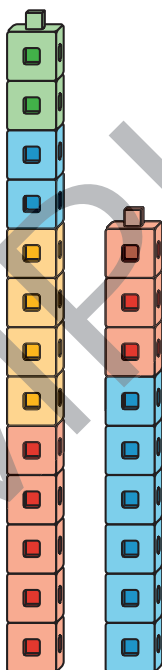
### Centers: Choice Time

Choose a center.

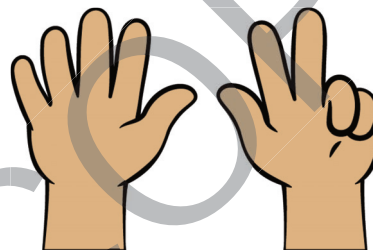
Fewer, Same, More



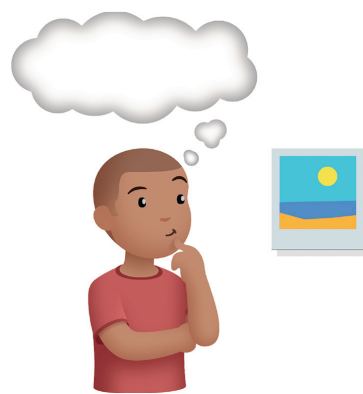
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 5

Addressing CA CCSSM K.CC.1-3; practicing MP8



Sec A

# Order Numbers 1–20

Let's put numbers in order.

### Activity 1

## Order Numbers

Write 1–20.

Four horizontal lines for writing the numbers 1–20.

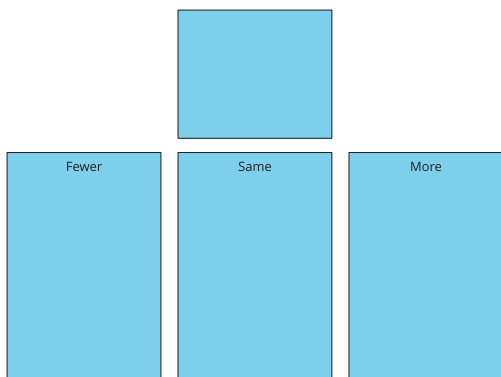


## Activity 3

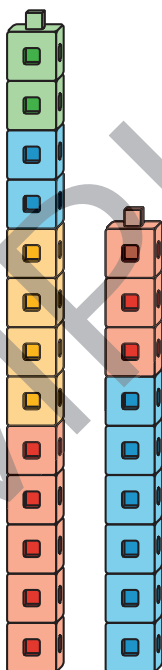
### Centers: Choice Time

Choose a center.

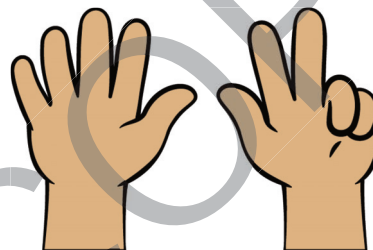
Fewer, Same, More



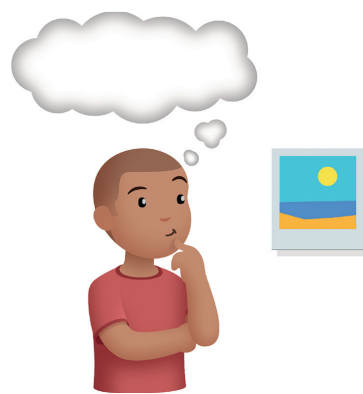
Tower Build



Math Fingers



Math Stories



Which One?



## Unit 8, Lesson 6

Addressing CA CCSSM K.CC.1-3, K.CC.4-5;  
practicing MP4



# Create Number Books (Part 1)

Sec B

Let's count objects.

Warm-up

## Notice and Wonder: All Hands On

What do you notice?  
What do you wonder?



## Activity 3

### Centers: Choice Time

Choose a center.

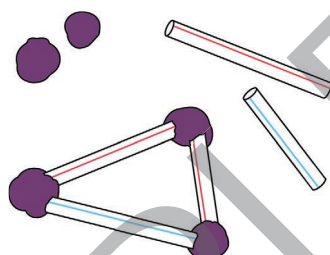
Find the Pair



Math Stories



Build Shapes



Make or Break Apart Numbers

•	•	••••	•
••••	••••	••••	••••••
••••	••••	••••	••••••
••••	••••	••••	••••
••••	••••	••••	••••

Picture Books



## Unit 8, Lesson 7

Addressing CA CCSSM K.CC.3, K.CC.4-5, K.OA.5;  
practicing MP3



# Create Number Books (Part 2)

Sec B

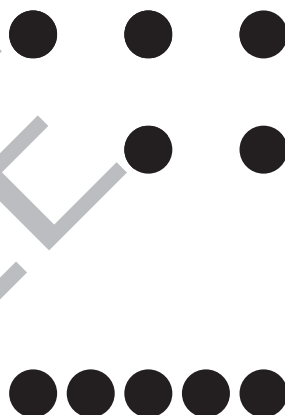
Let's make a number book.

COPY

SAMPLE

## How Many Do You See: Different Dots

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



## Unit 8, Lesson 8

Addressing CA CCSSM K.CC.1, K.CC.4-5, K.CC.6, K.G.2, K.G.5, K.MD.2, K.OA.2-3; practicing MP4

# Find Someone Who, Find Something That

Let's compare kids and objects.

Sec B



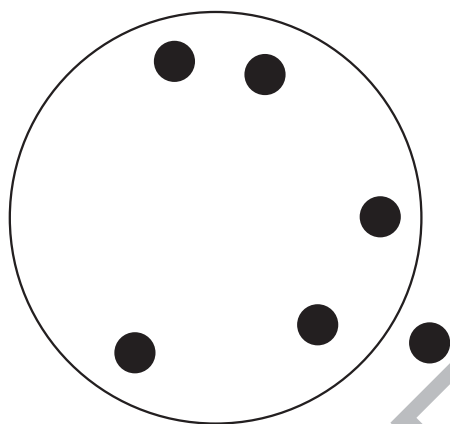
COPY

SAMPLE

# Which Three Go Together: Representations of Numbers

Which 3 go together?

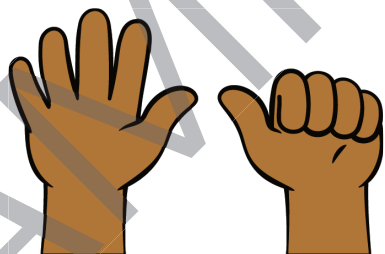
A



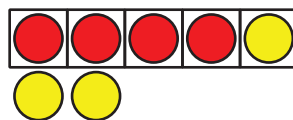
B



C



D



## Activity 2

### Find Something That

1. Find things to count.
2. Find 1 thing that is heavier and 1 thing that is lighter.
3. Find a thing where you know how many without counting.
4. Find 5 of the same thing.
5. Find 2 groups that make 10.



6. Find things to fill in a 10-frame.

7. Find 2 groups to compare.

8. Find 2 groups whose numbers of objects you can compare.

9. Find a thing with a number on it.

10. Find 1 longer thing and 1 shorter thing.

## Unit 8, Lesson 9



Addressing CA CCSSM K.CC.5, K.CC.6; building on K.CC.5, K.CC.6; building towards, K.CC.4-5; practicing MP4

# Where's the Math?

Let's ask about math at school.

Warm-up

## What Do You Know about Our School?

What do you know about our school?

## Activity 1

### Another School Walk

What math questions do you have about our school?

## Activity 2

# Answer Our Mathematical Questions

Question:

Sec B

## Unit 8, Lesson 10



Addressing CA CCSSM K.CC.1-3, K.CC.4-5;  
building on K.OA.2; practicing MP2 and MP4

# Tell Stories about Our School

Let's tell math stories about our school.

Warm-up

## Notice and Wonder: Bubbles in the Park

What do you notice?  
What do you wonder?



## Activity 2

# Write Story Problems about Our School

Sec B

COPY

SAMPLE

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## Activity 3

### Centers: Choice Time

Choose a center.

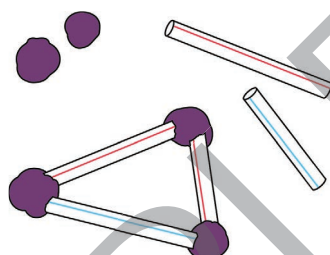
Find the Pair



Math Stories



Build Shapes



Make or Break Apart Numbers

•	•	••••	•
••••	••••	••••	••••••
••••	••••	••••	••••••
••••	••••	••••	••••
••••	••••	••••	••••

Picture Books



## Unit 8, Lesson 11

Addressing CA CCSSM K.OA.1-2, K.OA.5;  
practicing MP2



# Share Story Problems

Let's solve story problems.

Sec B

Warm-up

## Number Talk: Add and Subtract 2 and 3

Find the value of each expression.

- $3 - 2$

- $3 + 2$

- $4 - 2$

- $4 - 3$



## Unit 8, Lesson 12



Addressing CA CCSSM K.OA.3, K.OA.5; building towards K.OA.5; practicing MP6 and MP7

# Make Dot Images

Let's make groups of dots.

COPY

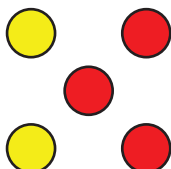
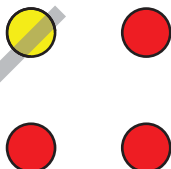
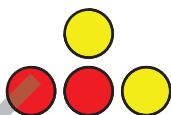
Sec C

SAMPLE

## How Many Do You See: Dots in Different Colors

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

Sec C

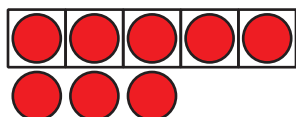


## Activity 3

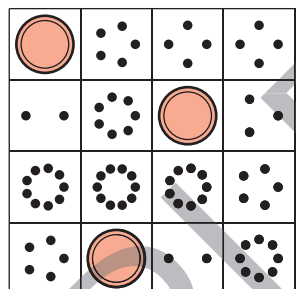
### Centers: Choice Time

Choose a center.

5-Frames



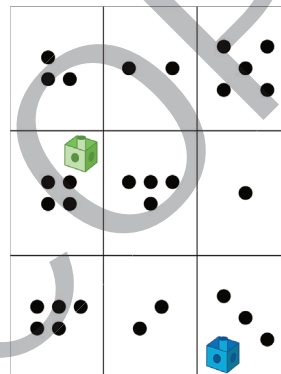
Bingo



Find the Value of Expressions

$$3 + 5 \quad 7 - 5$$

Roll and Add



Geoblocks

