Numbers within 20

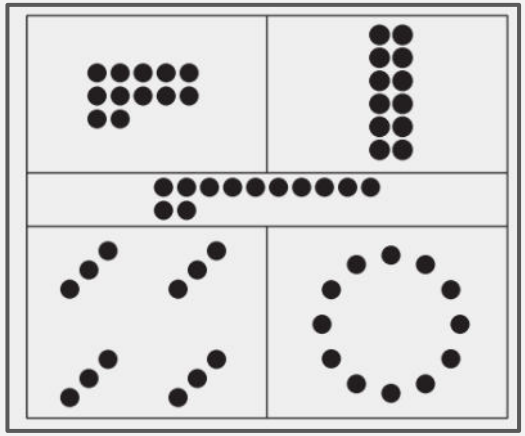
Kindergarten : Unit 6

Standards addressed: K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.OA.A.1, K.OA.A.2, K.OA.A.3, K.OA.A.4, K.NBT.A.1

Unit 6 Progression Overview
Numbers within 20

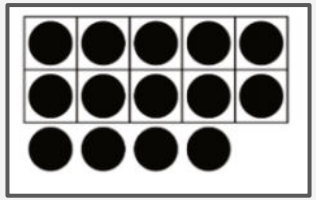
Section A
Lessons 1-4
K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.5, K.OA.A.1, K.OA.A.2, K.OA.A.3, K.OA.A.4

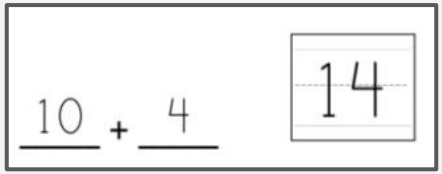
- ➔ Count groups of up to 20 objects.



Section B
Lessons 5-10
K.CC.A.1, K.CC.A.3, K.CC.B.5, K.NBT.A.1, K.OA.A.1

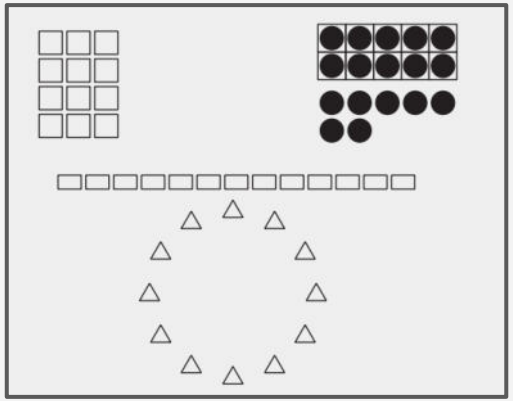
- ➔ Understand numbers 11-19 as 10 ones and some more ones.





Section C
Lessons 11-13
K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B.4, K.CC.B.4.b, K.CC.B.5, K.NBT.A.1, K.OA.A.1, K.OA.A.4

- ➔ Count groups of images up to 20.
- ➔ Represent quantities up to 20 with a written number.



Unit 6 Quick Links

L1 L2 L3 L4 L5 L6

L7 L8 L9 L10 L11 L12

L13

1

Count Larger Collections of Objects

Let’s figure out how many objects are in our collections.

K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B, K.CC.B.4, K.CC.B.5, K.OA.A.1, K.OA.A.3, K.OA.A.4

Warm up

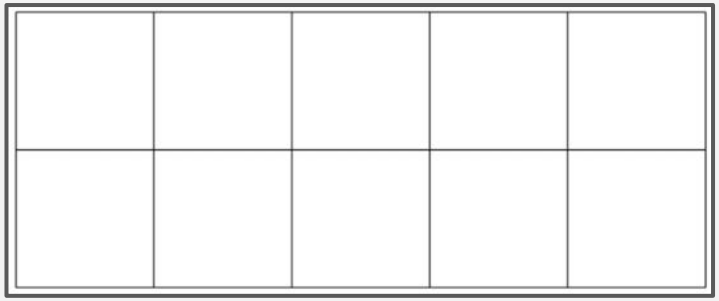
Choral Count:
Count to 80 and Count On

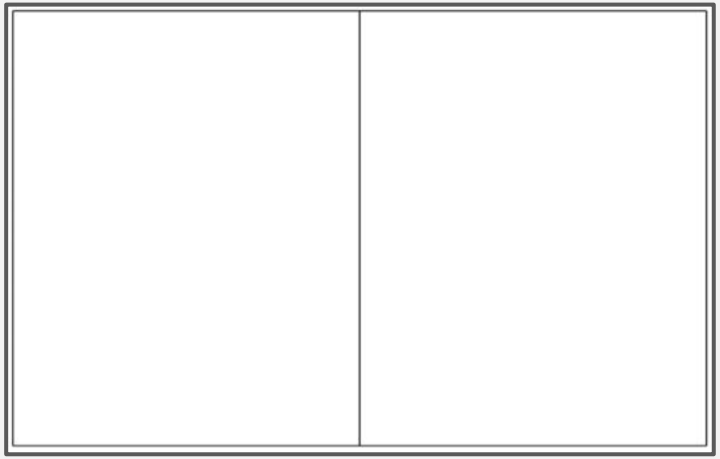
Let's count to 80

Activity #1

Counting Collections

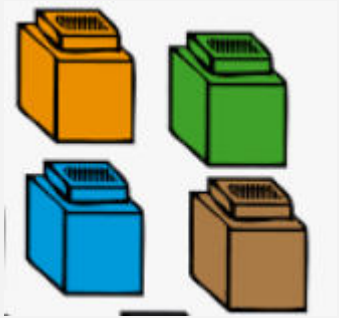
How many objects are in your collection?





Activity #2

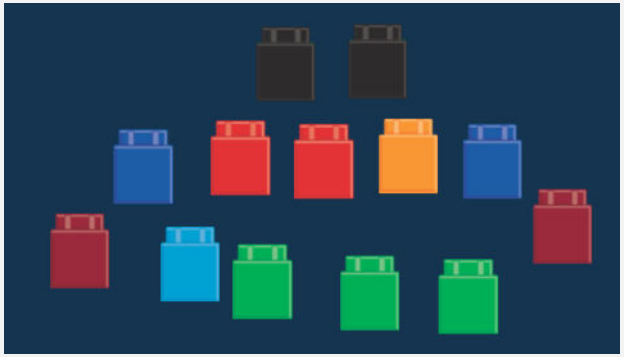
How We Count



How many cubes are there? How do you know?

Activity #2

How We Count



How many cubes are there?

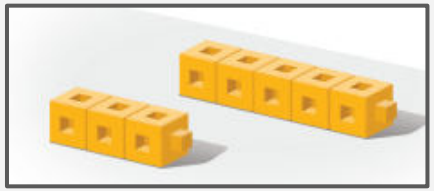
What can we do to figure out how many cubes there are?

Activity #3

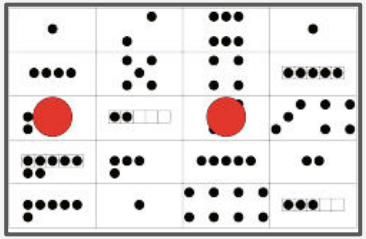
Centers: Choice Time

Number Race, Trace 11–20

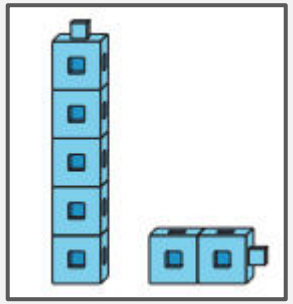
Snap the Cubes, How Many Are Missing?



Make or Break Apart Numbers, Dots



Subtraction Towers, Objects



Lesson Synthesis

Today we talked about lots of different ways to count larger collections of objects.

How is counting larger groups of objects like counting smaller groups of objects? How is it different?

2

Keep Track of Objects

Let’s figure out how many objects are in our collections.

K.CC.A.3, K.CC.B, K.CC.B.4, K.CC.B.4.a, K.CC.B.5, K.OA.A.1, K.OA.A.2, K.OA.A.3, K.OA.A.4

Warm up

Number Talk:
Add and Subtract 0 and 1

Add or subtract.

$$3 + 0$$

Warm up

Number Talk:
Add and Subtract 0 and 1

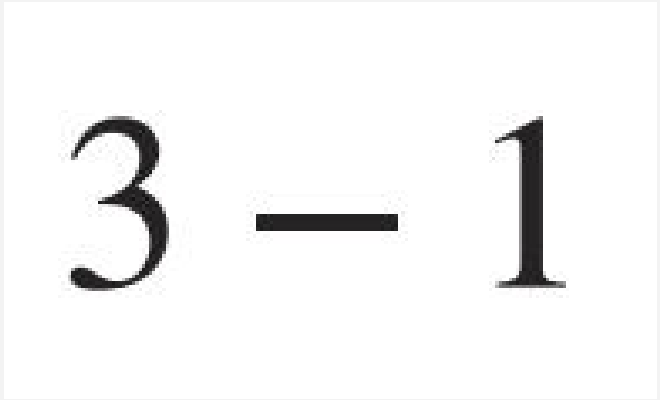
Add or subtract.

$$3 + 1$$

Warm up

Number Talk:
Add and Subtract 0 and 1

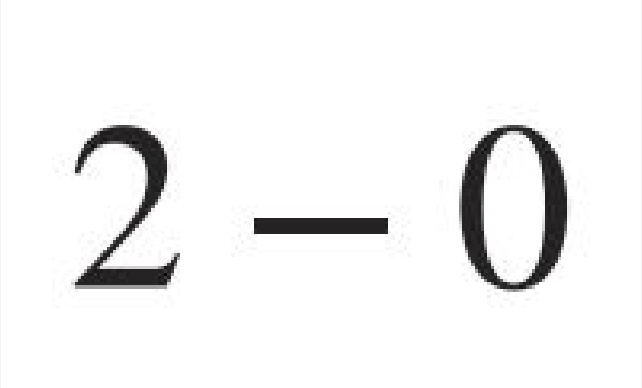
Add or subtract.



Warm up

Number Talk:
Add and Subtract 0 and 1

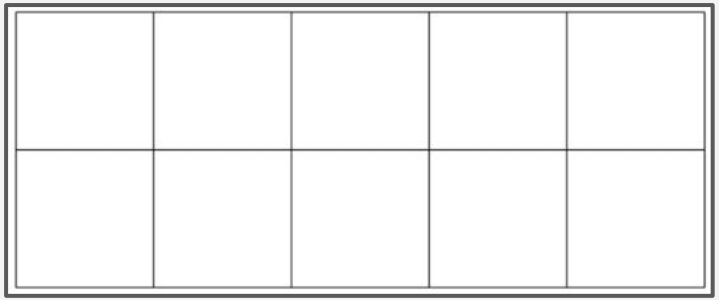
Add or subtract.

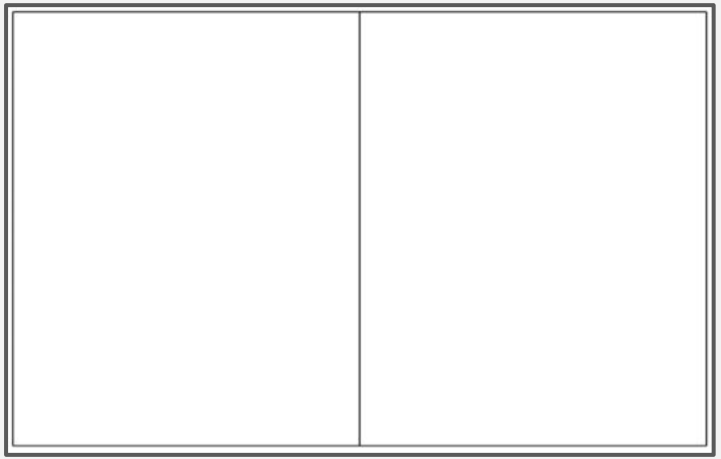


Activity #1

Counting Collections

How many objects are in your collection?

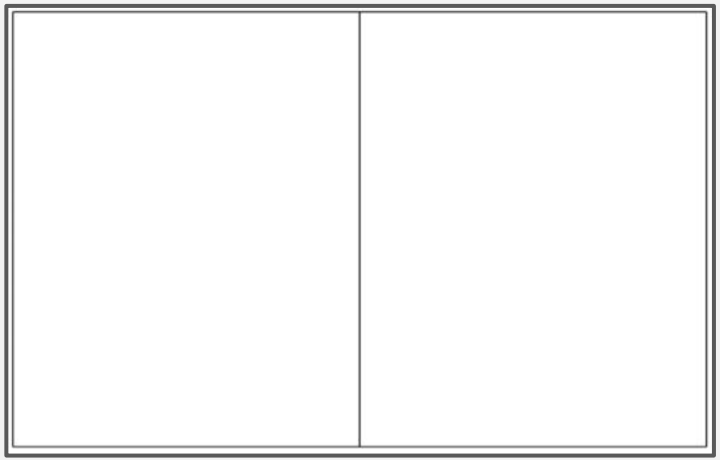




Tell your partner how many objects are in your collection.

Activity #2

Different Ways to Keep Track



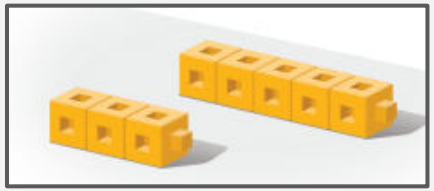
- How can you use the counting mat to help you figure out how many objects are in your collection?
- How can you use the 10-frame to help you figure out how many objects there are in your collection?
- Choose either the 10-frame or the counting mat to help you figure out how many objects are in your collection.

Activity #3

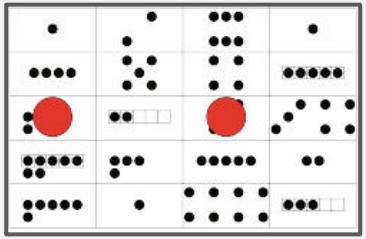
Centers: Choice Time

Number Race, Trace 11–20

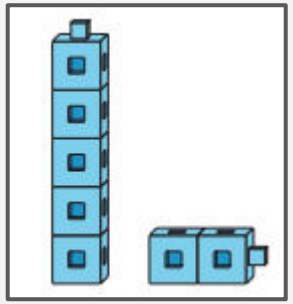
Snap the Cubes, How Many Are Missing?



Make or Break Apart Numbers, Dots



Subtraction Towers, Objects



Lesson Synthesis

We have seen different ways to count our collections and make sure that we count each object one time.

Tell your partner how you keep track of the objects when you count.

3

Count Carefully

Let’s see if we get the same number as our partner when we count the same group of objects.

K.CC.A.3, K.CC.B, K.CC.B.4, K.CC.B.4.b, K.CC.B.5, K.OA.A.1, K.OA.A.3, K.OA.A.4

Warm up

Notice and Wonder: 18 Connecting Cubes

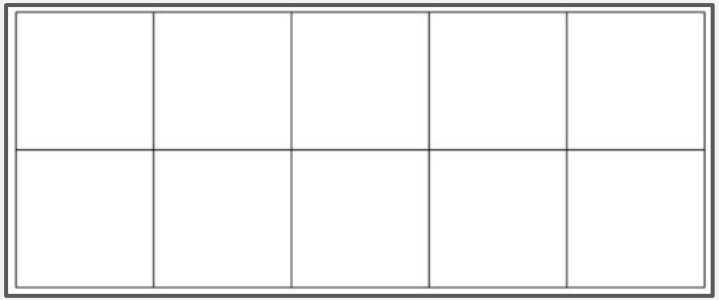
What do you notice?

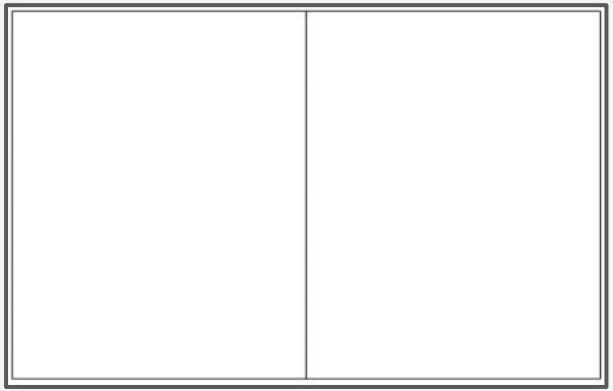
What do you wonder?

Activity #1

Counting Collections

How many objects are in your collection?





- Tell your partner how many objects are in your collection.
- Switch collections with your partner.
- Do you agree with your partner about how many objects are in the collection?

Count Carefully with Friends

Activity #2

Clare, Andre, and Noah all counted these cubes.

Clare says there are 15 cubes.

Andre says there are 16 cubes.

Noah says there are 17 cubes.

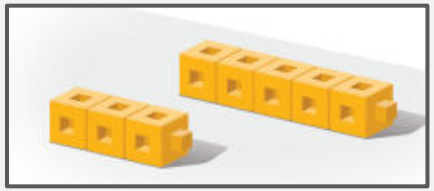
Can they all be right?

Activity #3

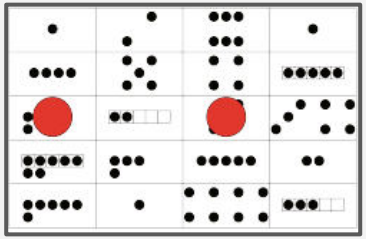
Centers: Choice Time

Number Race, Trace 11–20

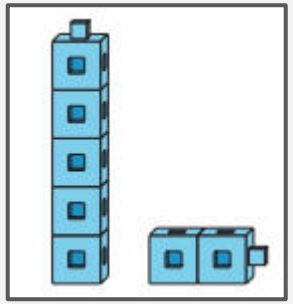
Snap the Cubes, How Many Are Missing?



Make or Break Apart Numbers, Dots



Subtraction Towers, Objects



Lesson Synthesis

There are 18 cubes.

Elena counted this pile of cubes and said that there are 19 cubes. What should she do next?

4

Does the Number Change?

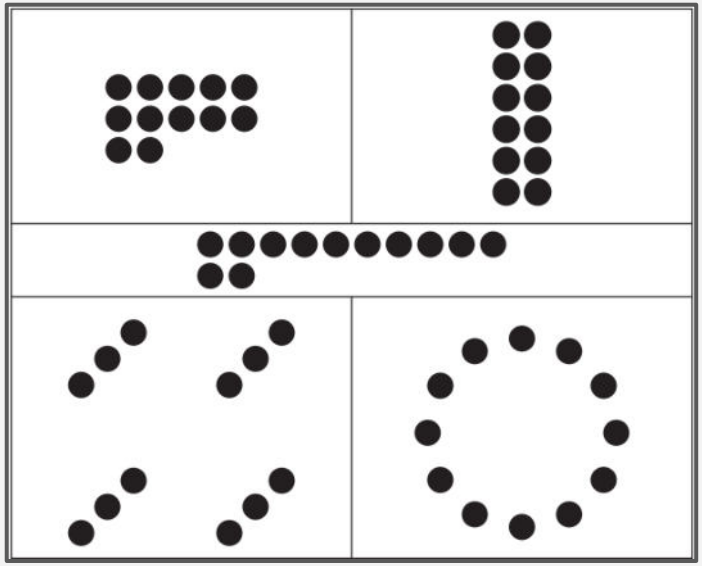
Let’s figure out how many objects there are when the objects are moved around.

K.CC.A.3, K.CC.B, K.CC.B.4, K.CC.B.4.b, K.CC.B.5, K.OA.A.1, K.OA.A.3, K.OA.A.4

Warm up

Notice and Wonder: Lots of Dots

What do you notice?

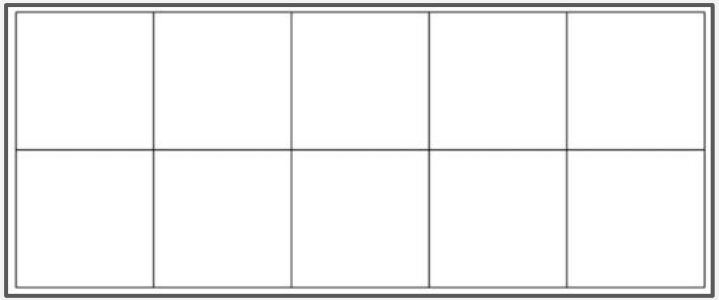


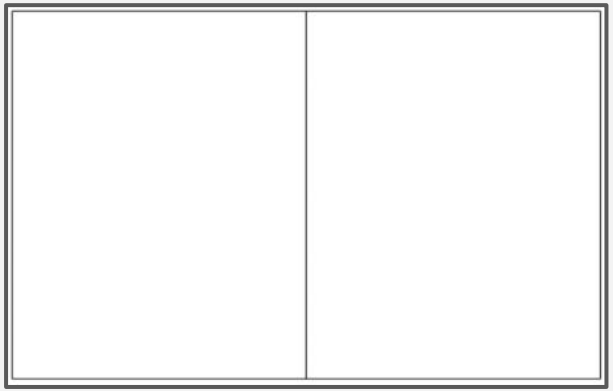
What do you wonder?

Activity #1

Counting Collections

How many objects are in your collection?



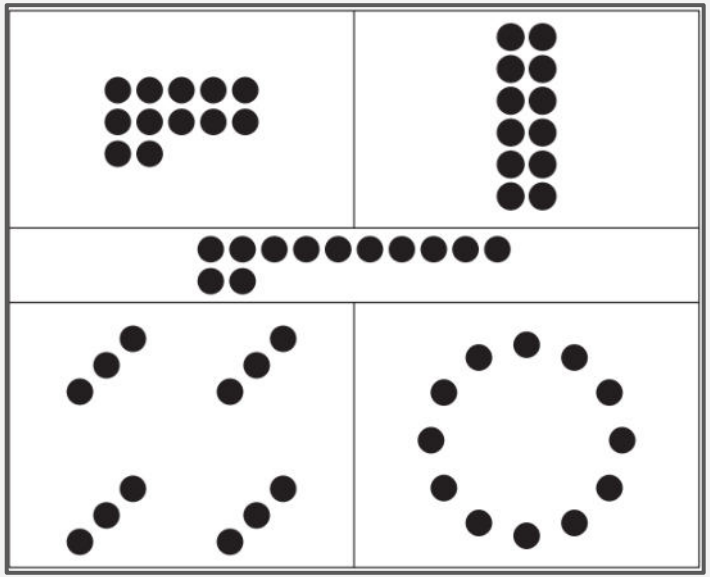


- Tell your partner how many objects are in your collection.
- Switch collections with your partner.
- Do you agree with your partner about how many objects are in the collection?

Count, Rearrange, Recount

Activity #2

We just saw different ways that we can arrange, or organize, dots. You can use this picture for ideas about how to rearrange the objects in your collection.



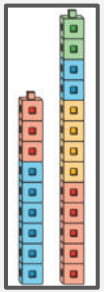
- Choose who will count first. Figure out how many objects are in the collection. If your partner is counting, watch your partner to make sure that they count each object one time.
- Once your partner has counted, rearrange the objects. You can use the picture for ideas.
- Figure out how many objects are in your collection now.
- Trade collections with another group. Then take turns figuring out how many objects there are and rearranging them.

Activity #3

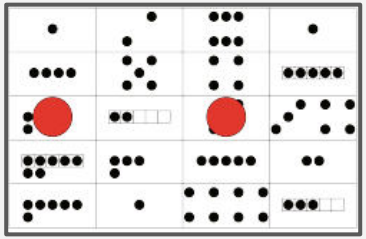
Centers: Choice Time

Number Race, Trace 11–20

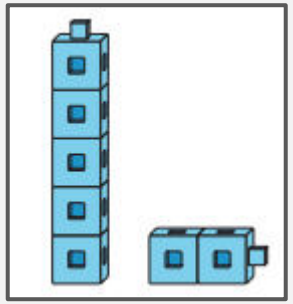
Tower Build, Count and Build to 20



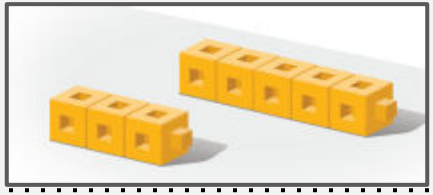
Make or Break Apart Numbers, Dots



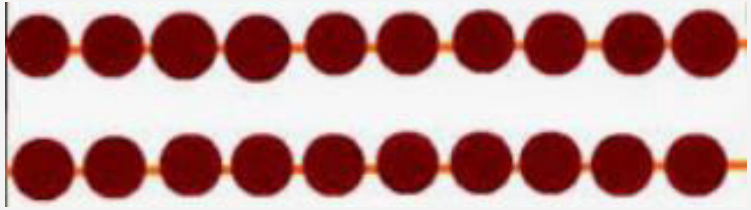
Subtraction Towers, Objects



Snap the Cubes, How Many Are Missing?



Lesson Synthesis



There are 20 objects in a line. If I move all of the objects into a circle, how many objects will I have?

5

How Many Fingers? How Many Dots?

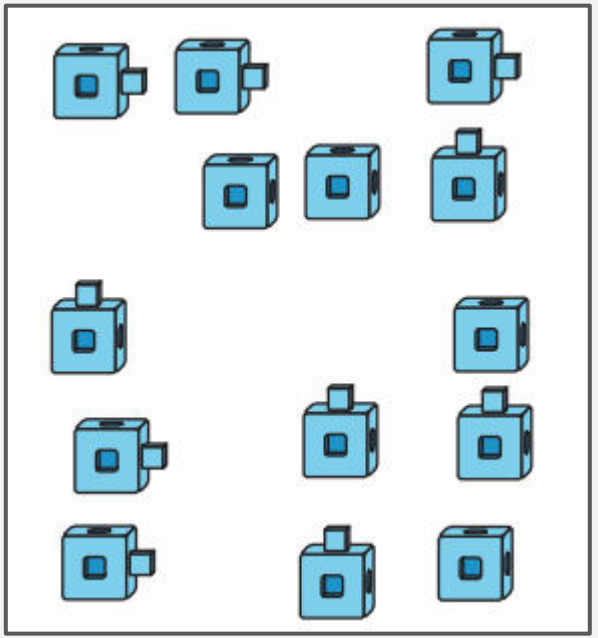
Let’s count pictures.

K.CC.A.3, K.CC.B.5

Warm up

Estimation Exploration: Connecting Cubes

How many cubes are there?



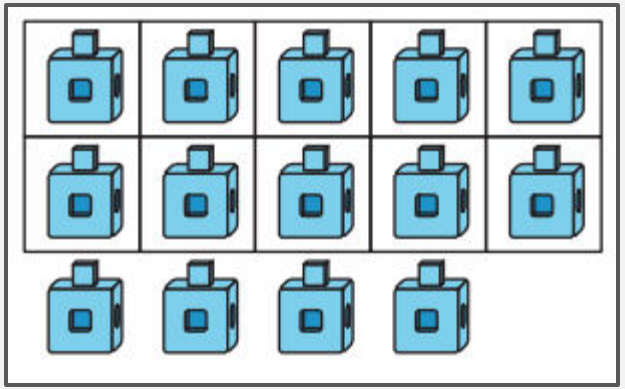
Record an estimate that is:

Too low	About right	Too high

Warm up

Estimation Exploration: Connecting Cubes

How many cubes are there?



Record an estimate that is:

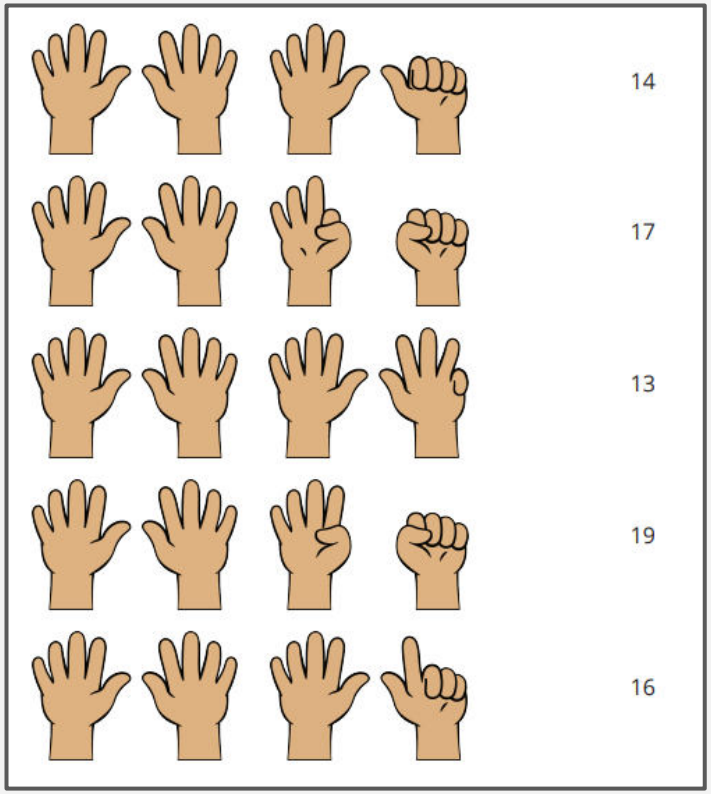
Too low	About right	Too high

How Many Fingers?

Activity #1

Let's practice reading numbers

- Now, figure out how many fingers there are in each image.
- Draw a line from the fingers to the number that shows how many there are.

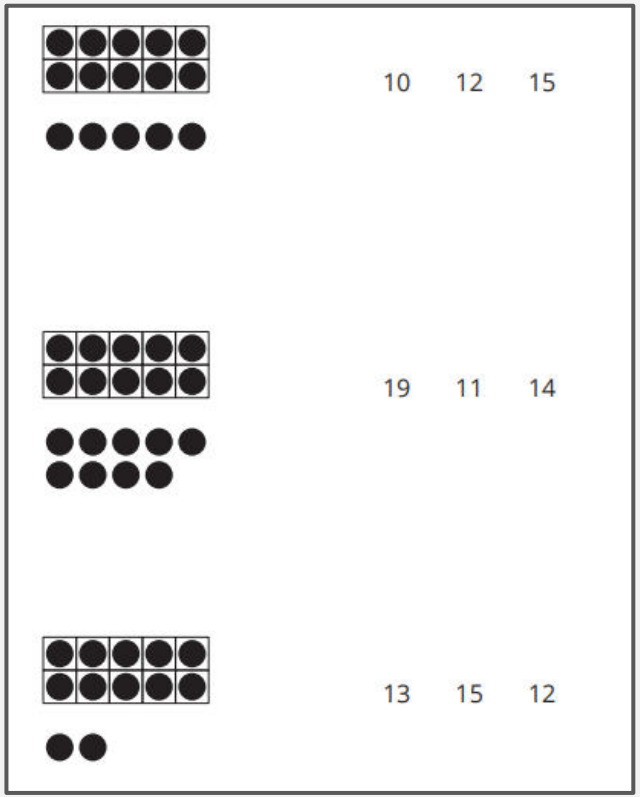


How Many Dots in 10-frames?

Activity #2

Let's practice reading numbers again.

- Now, figure out how many dots there are in each image.
- Circle the number that shows how many dots there are.



How Many Dots in 10-frames?

Activity #2

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- Now, figure out how many dots there are in each image.
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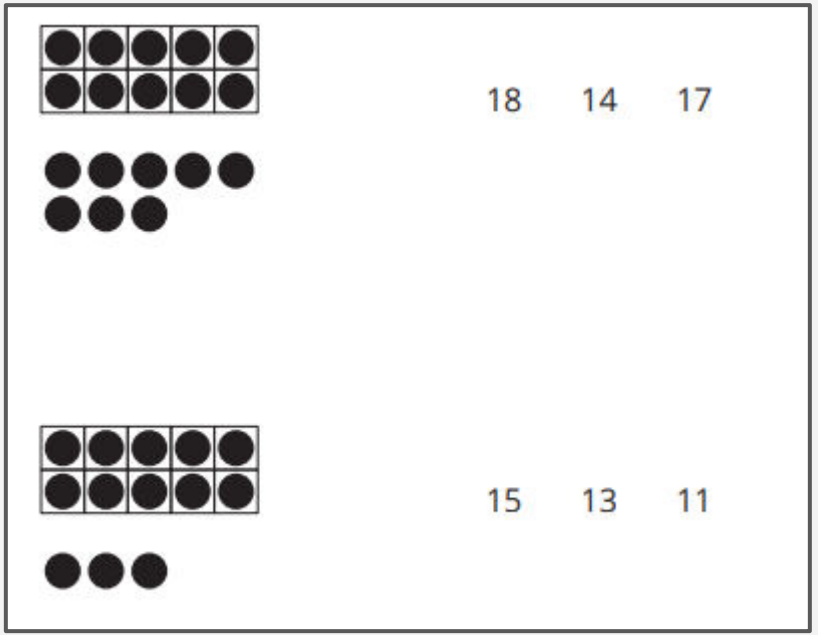


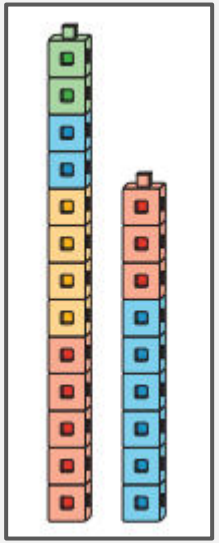
Activity #3

Centers: Choice Time

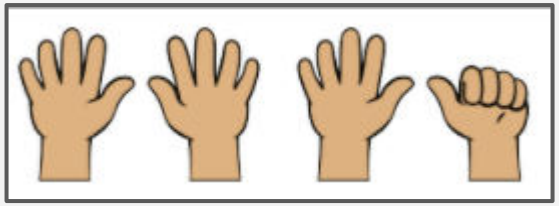
Grab and Count, Guess then Count

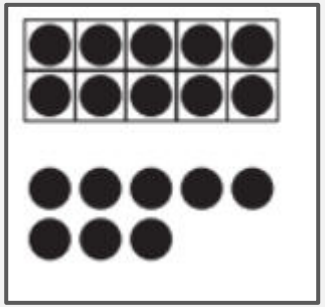
Number Race, Trace 11–20

Tower Build, Count and Build to 20



Lesson Synthesis





How are the images the same?

How are the images different?

6

Fingers and 10-Frames

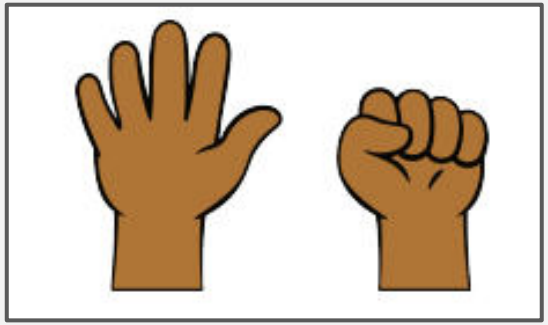
Let’s show numbers on our fingers and 10-frames.

K.CC, K.CC.A.3, K.CC.B.5, K.NBT.A.1

Warm up

How Many Do You See: 5 Fingers and Some More Fingers

How many do you see?

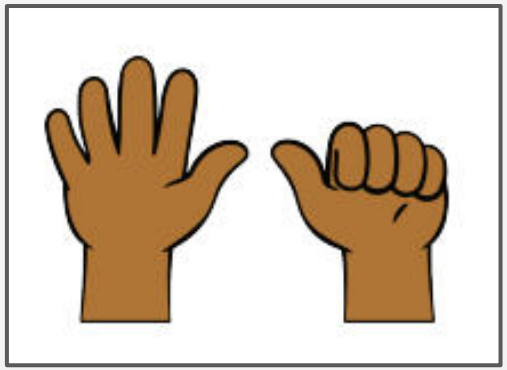


How do you see them?

Warm up

How Many Do You See: 5 Fingers and Some More Fingers

How many do you see?

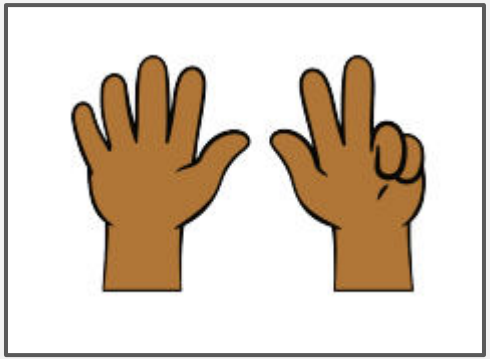


How do you see them?

Warm up

How Many Do You See: 5 Fingers and Some More Fingers

How many do you see?

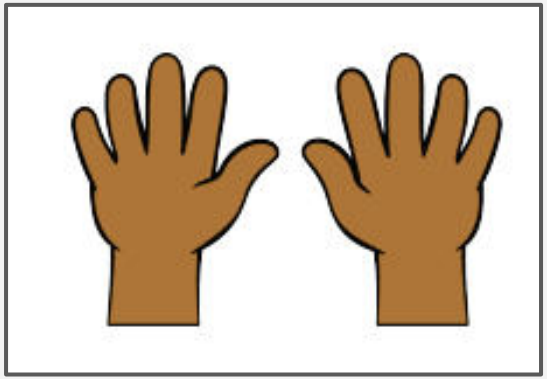


How do you see them?

Warm up

How Many Do You See: 5 Fingers and Some More Fingers

How many do you see?



How do you see them?

Activity #1

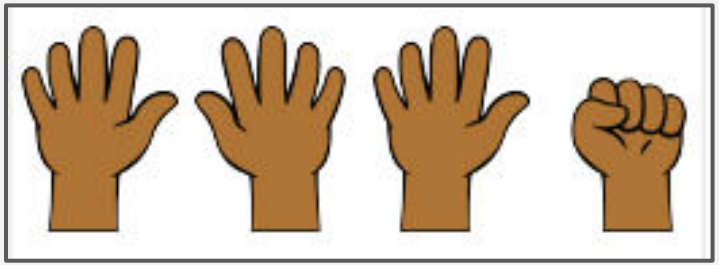
Lots of Fingers

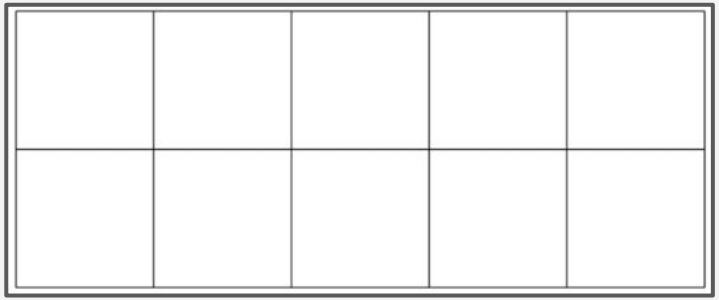
- Show 5 with your fingers
- How do you know that you are holding up 5 fingers?
- Show 6 with your fingers. Did you and your partner show 6 the same way?
- Show 10 with your fingers.
- How do you know that you're holding up 10 fingers?
- Show 13 with your fingers.
- Work with a partner to show 13 with your fingers.
- Repeat with numbers 15, 18, and 20.

Activity #2

Fingers to 10-Frames

One partner figures out how many fingers are displayed in the image. The other partner displays the same number of counters on a 10-frame. Switch roles for each problem.





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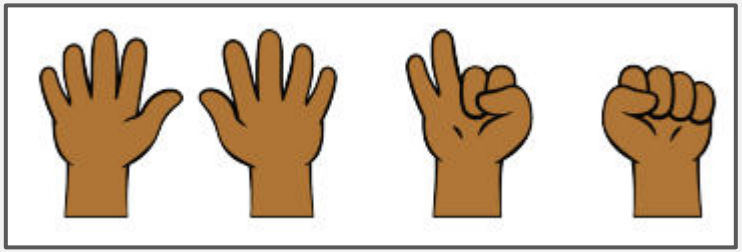
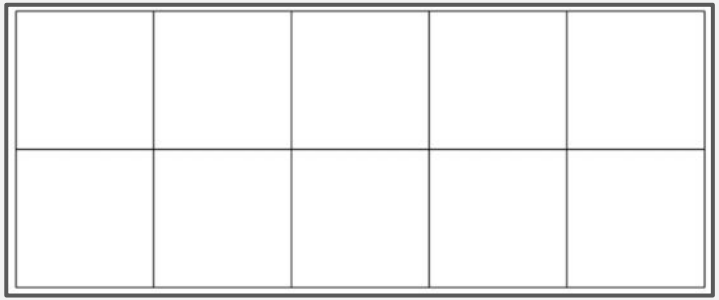
Fingers to 10-Frames

One partner figures out how many fingers are displayed in the image. The other partner displays the same number of counters on a 10-frame. Switch roles for each problem.





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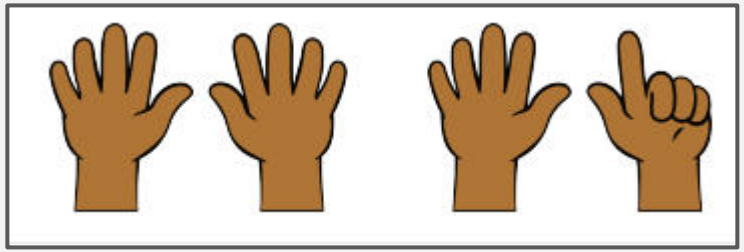

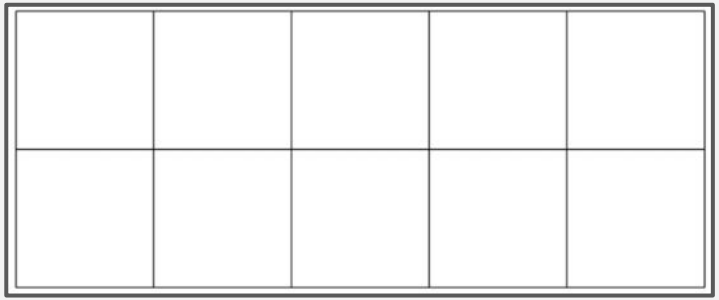

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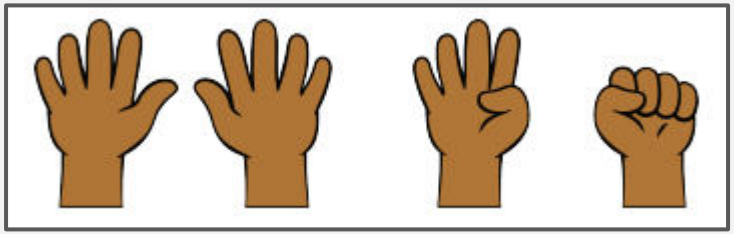
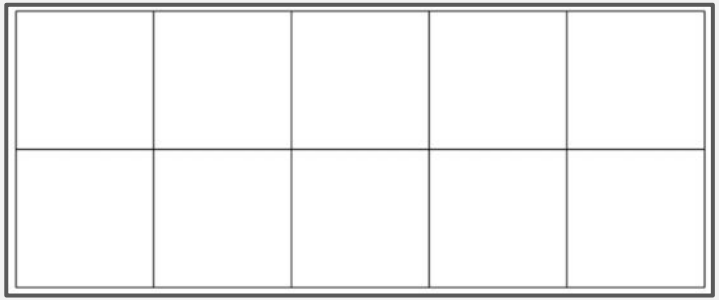




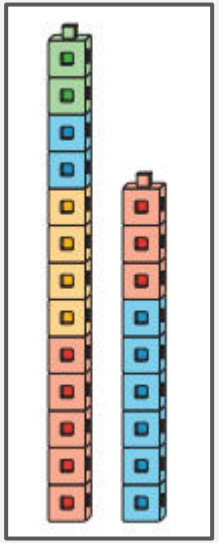
Activity #3

Centers: Choice Time

Grab and Count, Guess then Count

Number Race, Trace 11–20

Tower Build, Count and Build to 20



Lesson Synthesis

Today we showed numbers on fingers and 10-frames.

If you were working alone and had to show the number 15, would you use fingers or a 10-frame to show the number?

Why would you choose to show 15 this way?

7

Make Numbers with 10 and Some More: Part 1

Let’s make numbers with full 10-frames and some more dots.

K.CC.A.3, K.CC.B.4.a, K.CC.B.5, K.NBT.A.1

Choral Count: Two Groups

Warm up

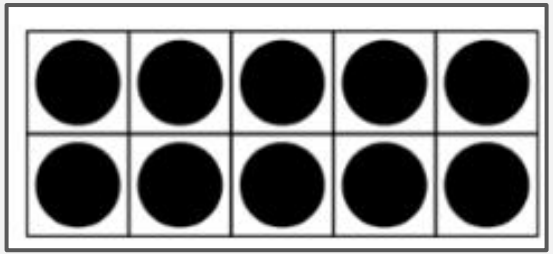
- Group 1- Count as a group from 1 until I tell you to stop.
  - Group 2- Count on from where the group 1 stops.

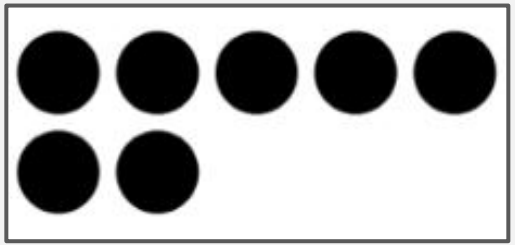
What number always comes after 10?

Activity #1

Put Together Numbers 11–19

- Walk around and find a partner.
- If you have a 10-frame on your card, find a partner who does not have a 10-frame on their card.
- If you do not have a 10-frame on your card, find a partner who does have a 10-frame

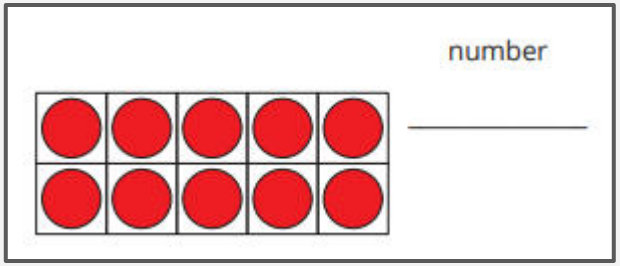




Tell your partner how many dots you have on your card. Then work together to figure out how many dots you both have altogether.

Add More Counters

Activity #2



Flip over one card.

Add that many dots to your 10-frame.

Write a number to show how many dots there are now.

Work with your partner to finish the rest of the problems.

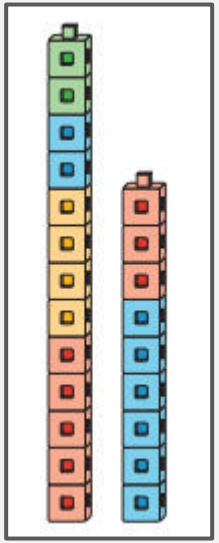
Activity #3

Centers: Choice Time

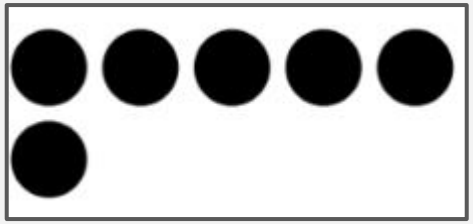
Grab and Count, Guess then Count

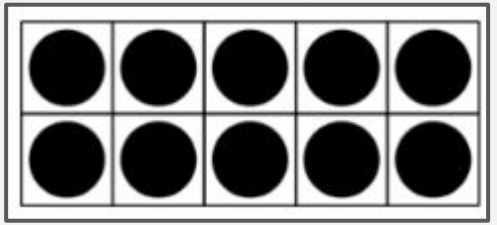
Number Race, Trace 11–20

Tower Build, Count and Build to 20



Lesson Synthesis





Today we put groups together to make numbers from 11 to 19. Which two images can we put together to make 12? How do you know?

12 dots is 10 dots plus 2 dots. Another way we could write that is 12 is 10 + 2

8

Make Numbers with 10 and Some More: Part 2

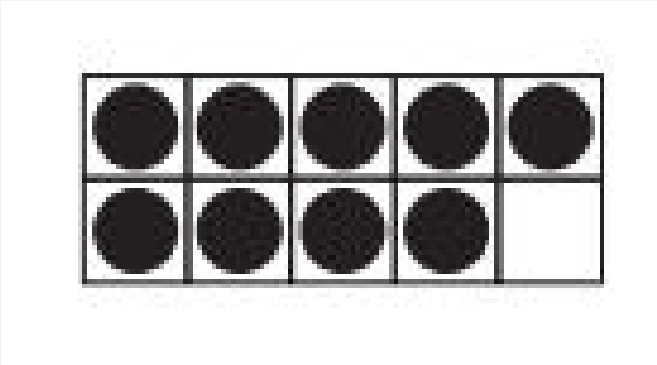
Let’s show numbers with 10-frames and dots or counters.

K.CC.B.5, K.NBT.A.1

Warm up

How Many Do You See: Teen Numbers on a 10-Frame

How many do you see?

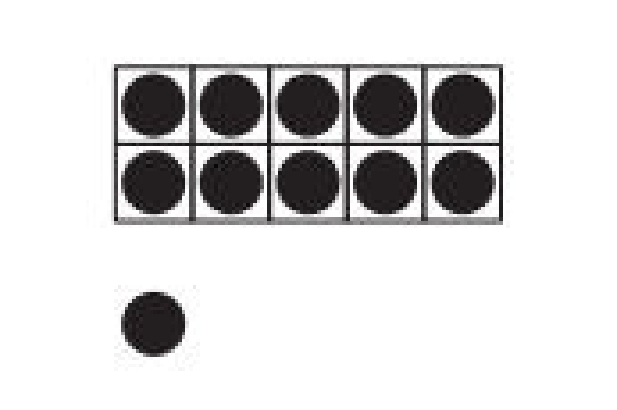


How do you see them?

Warm up

How Many Do You See: Teen Numbers on a 10-Frame

How many do you see?

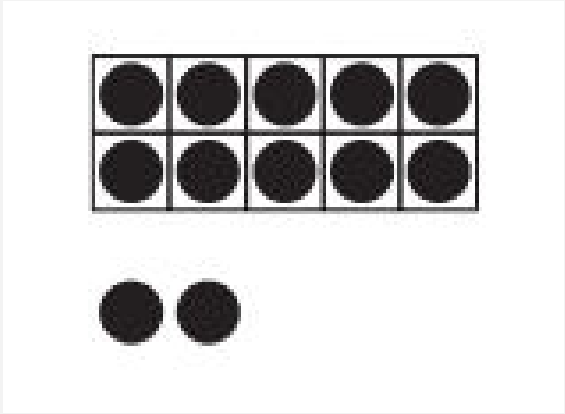


How do you see them?

Warm up

How Many Do You See: Teen Numbers on a 10-Frame

How many do you see?

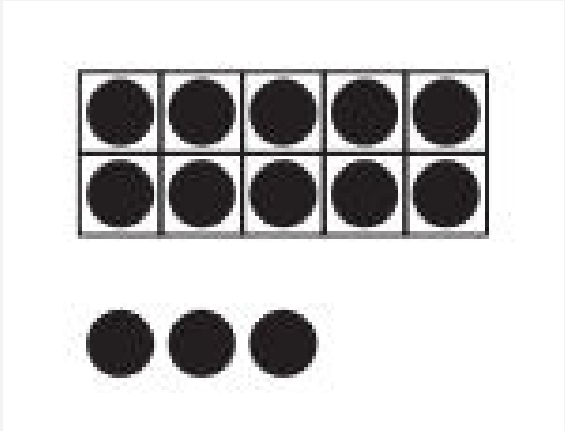


How do you see them?

Warm up

How Many Do You See: Teen Numbers on a 10-Frame

How many do you see?



How do you see them?

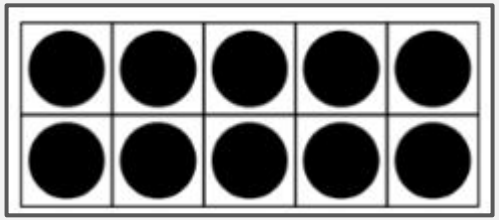
Make Number Cards

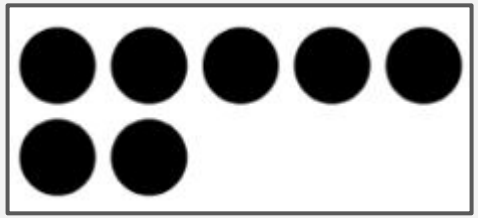
Activity #1

Make each number.

You can cut out the 10-frames and the dots to help you make each number.

When you're finished, trace each number.





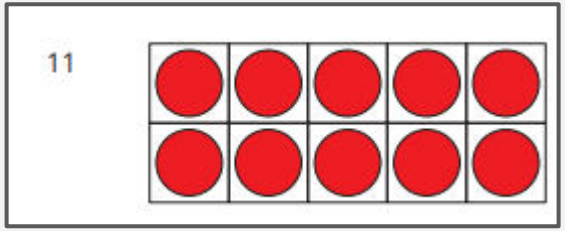
1	2	3
4	5	6
7	8	9

Activity #2

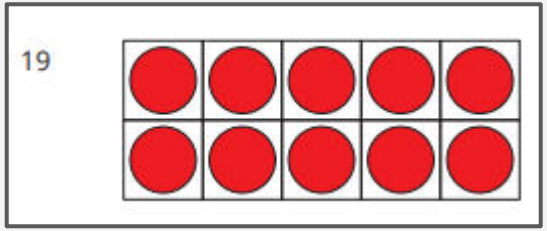
Make Each Number

Draw more dots to finish the representation of each number.

11



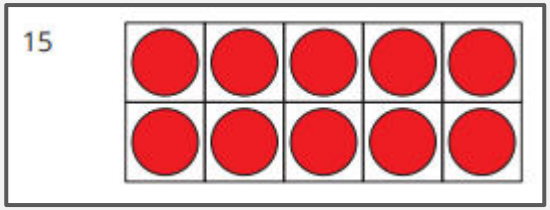
19

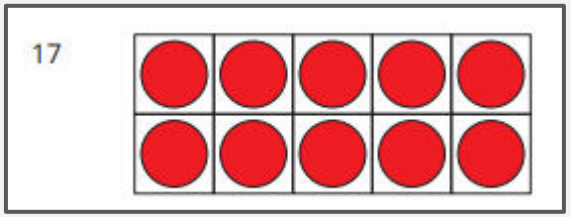


Activity #2

Make Each Number

Draw more dots to finish the representation of each number.



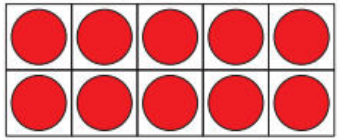


Activity #2

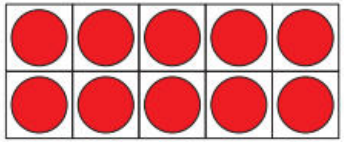
Make Each Number

Draw more dots to finish the representation of each number.

14



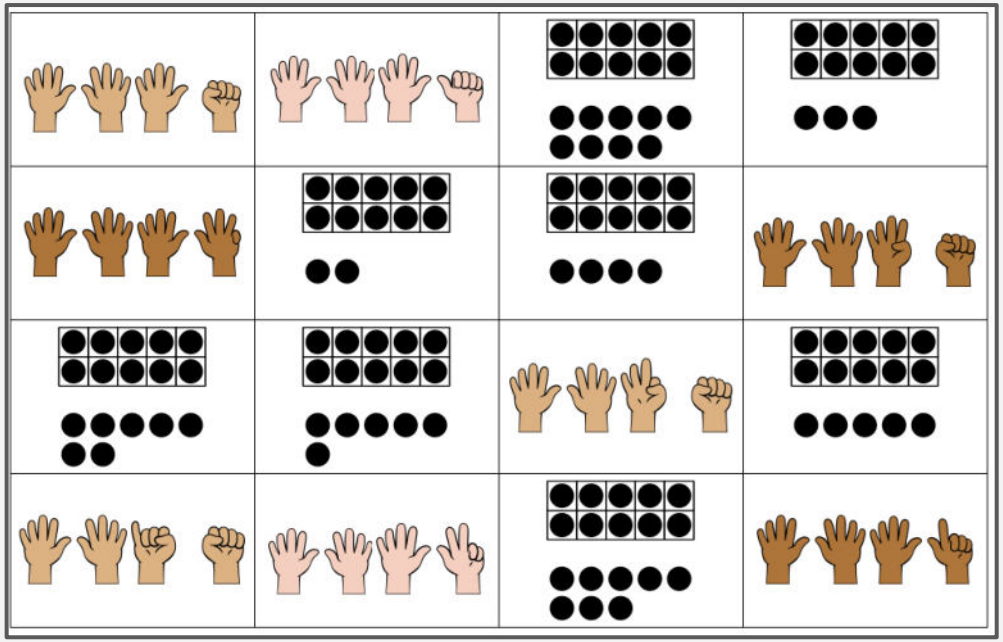
12



Activity #3

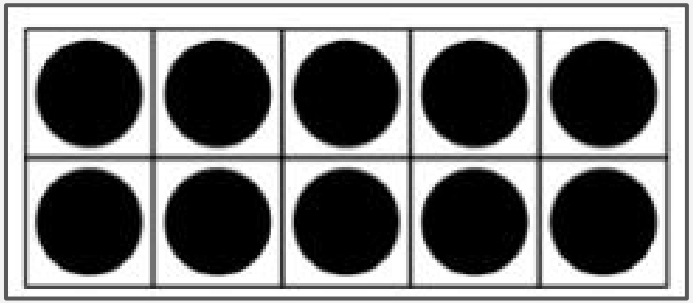
Centers: Introduce Cover Up, Numbers 11–19

- One student chooses a card with a number from 11–19 and all students in the group can place a counter on their gameboard over a group that has that number of images.
- Students play until someone has 4 counters in a row.



Lesson Synthesis

Today we made numbers 11–19.



How many counters do we need to add to make 16? How do you know?

9

Expressions and Equations

Let’s show numbers 11–19 in different ways.

K.CC.A.1, K.CC.A.3, K.CC.B.4.a, K.CC.B.5, K.NBT.A.1

Choral Count: Recording to 19

Warm up

- Count by ones, starting at 0.
- Stop counting and recording at 19.

What patterns do you see?

Organize Expressions and Numbers

Activity #1

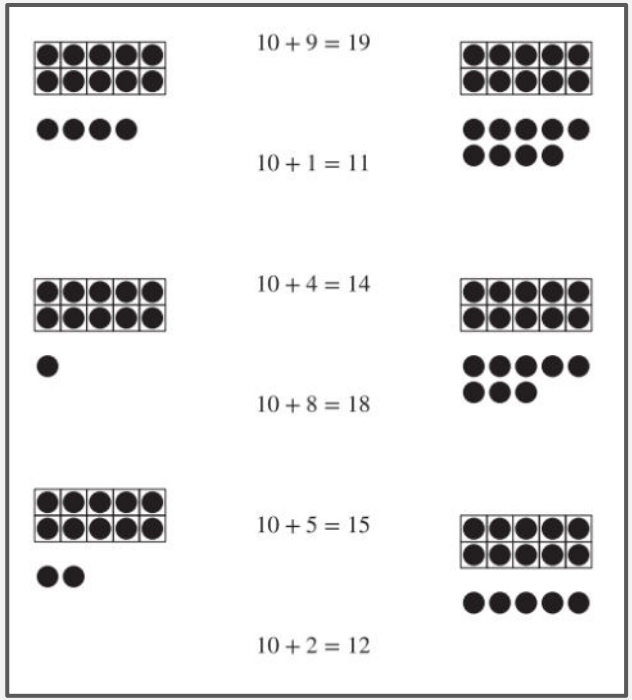
Work with your group to organize the cards in a way that makes sense to you

11	12
13	14
15	10 + 1
10 + 2	10 + 3
10 + 4	10 + 5

Equations and 10-frames

Activity #2

Draw a line from each equation to the image it matches.



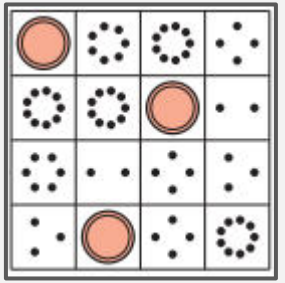
Activity #3

Centers: Choice Time

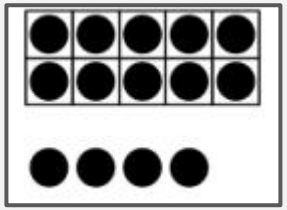
Grab and Count, Guess then Count

Number Race, Trace 11–20

Cover Up, Numbers 11–19



Lesson Synthesis



14

10 and 4

$10 + 4$

$10 + 4 = 14$

Which of these matches the image? How do you know?

10

Fill It In

Let’s work with numbers 11–19 and write their equations

K.CC.A.3, K.CC.B.5, K.NBT.A.1, K.OA.A.1

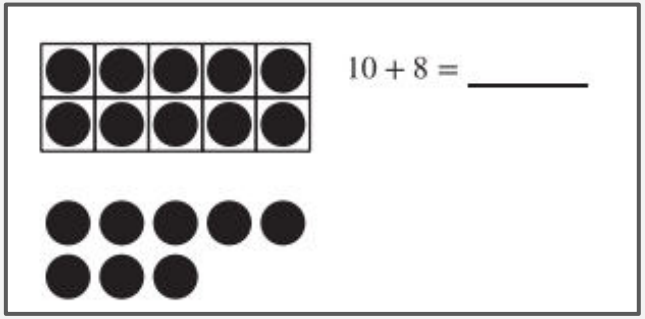
Warm up

What do you know about 15?

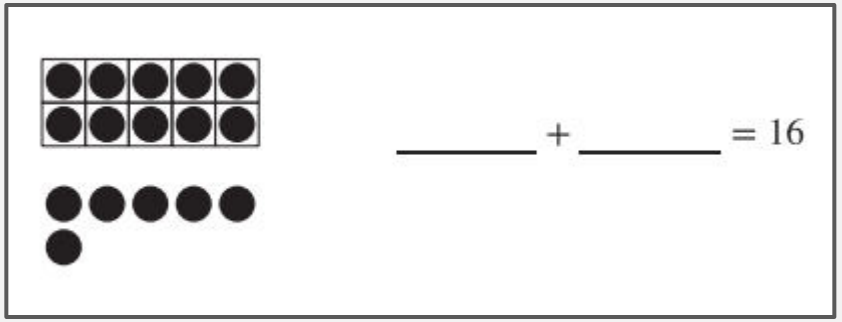
What Is Missing?

Activity #1

How did you figure out what was missing?



How did you figure out what was missing?



What Is Missing?

Activity #1

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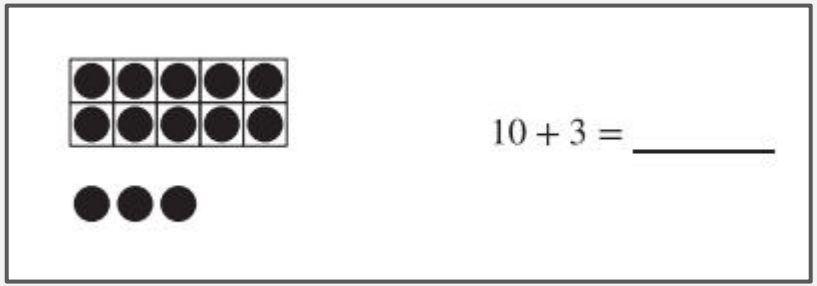
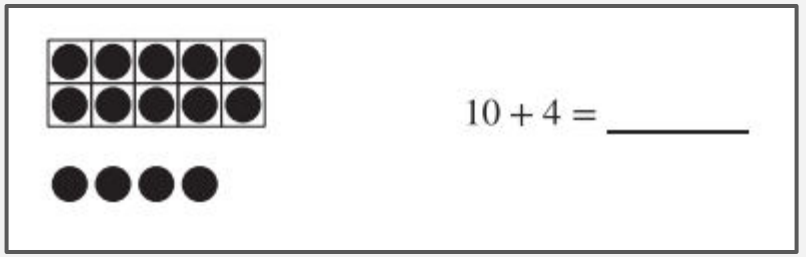


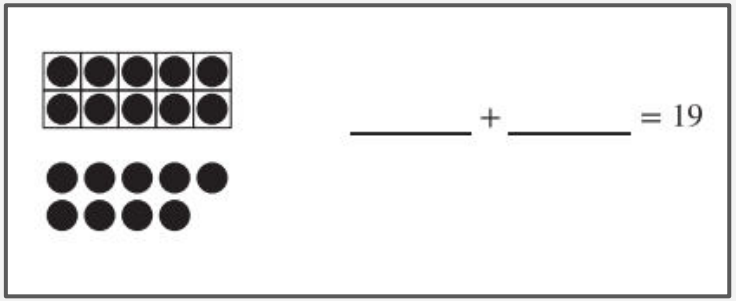
How did you figure out what was missing?



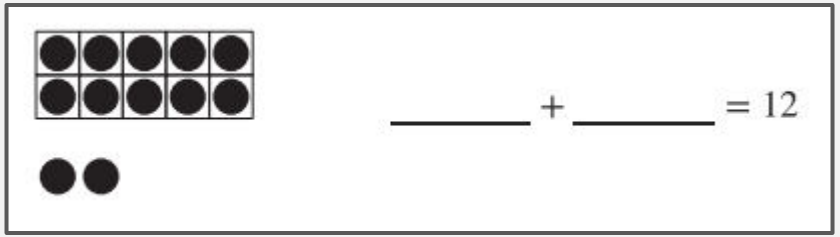
What Is Missing?

Activity #1

How did you figure out what was missing?



How did you figure out what was missing?



Fill In Equations

Activity #2

Fill in the missing numbers. You can use objects, drawings, or 10-frames to help you.

1. $10 + 5 = \_\_\_\_\_$

2. $\_\_\_\_\_ + \_\_\_\_\_ = 16$

3. $\_\_\_\_\_ + \_\_\_\_\_ = 19$

4. $\_\_\_\_\_ + \_\_\_\_\_ = 13$

5. $\_\_\_\_\_ + \_\_\_\_\_ = 17$

6. $10 + 1 = \_\_\_\_\_$

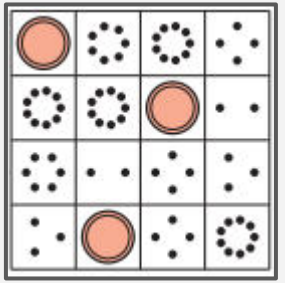
Activity #3

Centers: Choice Time

Grab and Count, Guess then Count

Number Race, Trace 11–20

Cover Up, Numbers 11–19



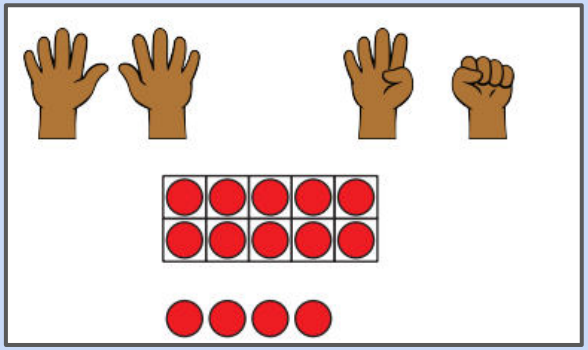
Lesson Synthesis

$$10 + 9 = 19.$$

Find a way to show that 10 + 9 is 19

Section Summary

We saw and made numbers 11–19 on fingers and 10-frames.



We saw these numbers written as 10 and some more in different ways.

14 is 10 and 4	14 is $10 + 4$	$10 + 4 = 14$

We practiced writing numbers 11–20.

11	12	13	14	15	16	17	18	19	20

Count Images (Part 1)

Let’s find 10 shapes and figure out how many shapes there are.

Warm up

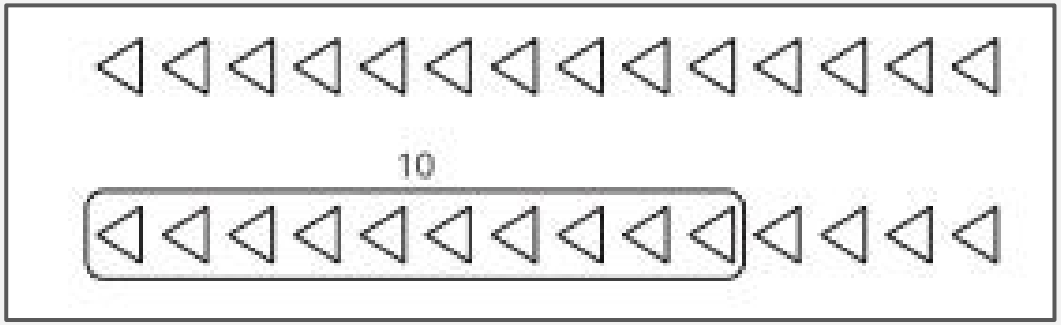
Choral Count:
Count to 90 and Count On

Let's count to 90.

Now, start at the number 12 and count to 20.

Find 10 Ones to Count

Activity #1

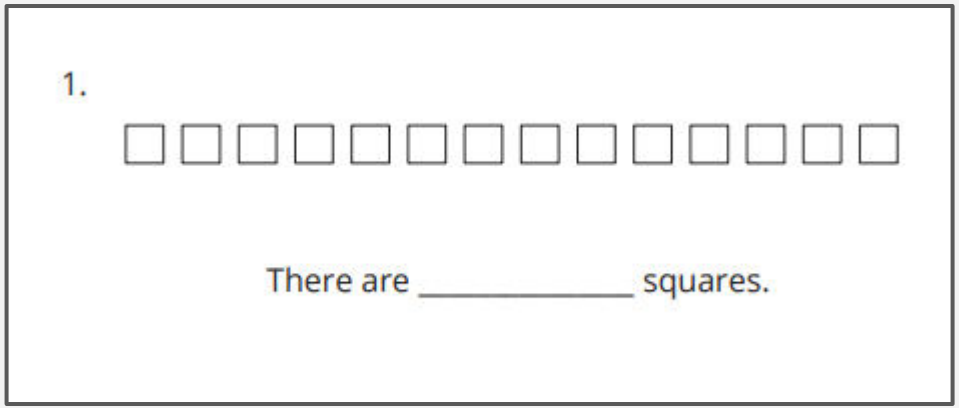


What do you notice?

What do you wonder?

Find 10 Ones to Count

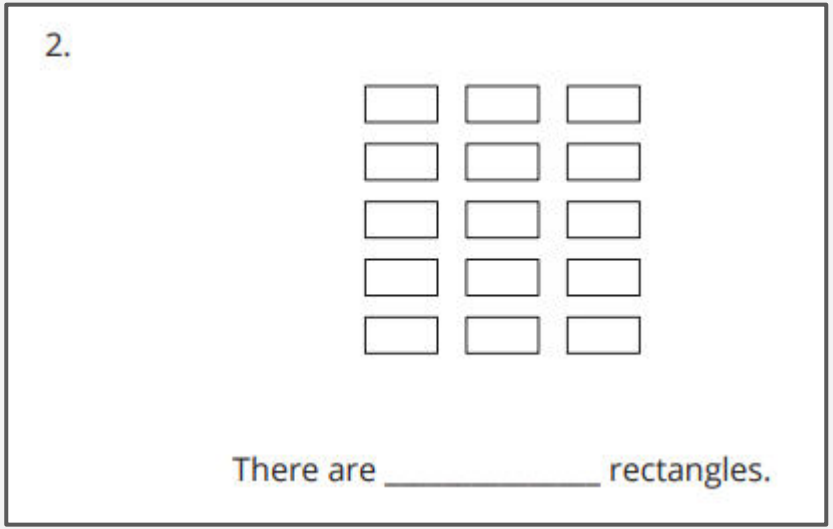
Activity #1



- Circle a group of 10 squares in the first problem.
- Share with your partner. Did you both circle the same 10 squares?
- How many squares are there? How do you know?
- Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are.

Find 10 Ones to Count

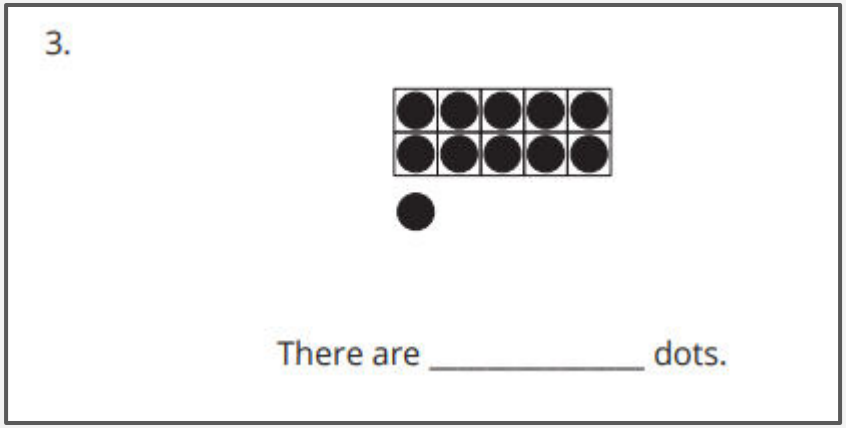
Activity #1



- Circle a group of 10 rectangles in the first problem.
- Share with your partner. Did you both circle the same 10 squares?
- How many squares are there? How do you know?
- Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are.

Find 10 Ones to Count

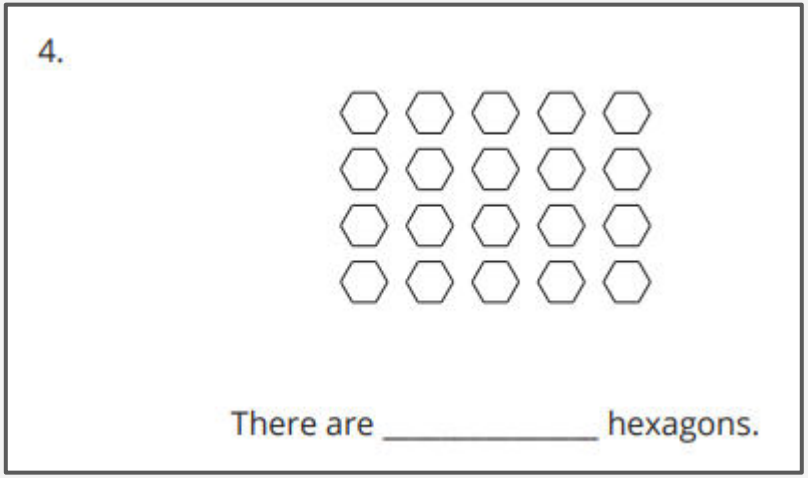
Activity #1



- How many dots are there? How do you know?
- Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are.

Find 10 Ones to Count

Activity #1

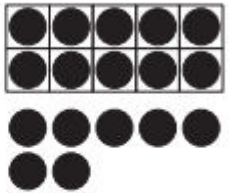


- How many hexagons are there? How do you know?
- Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are.

Find 10 Ones to Count

Activity #1

5.

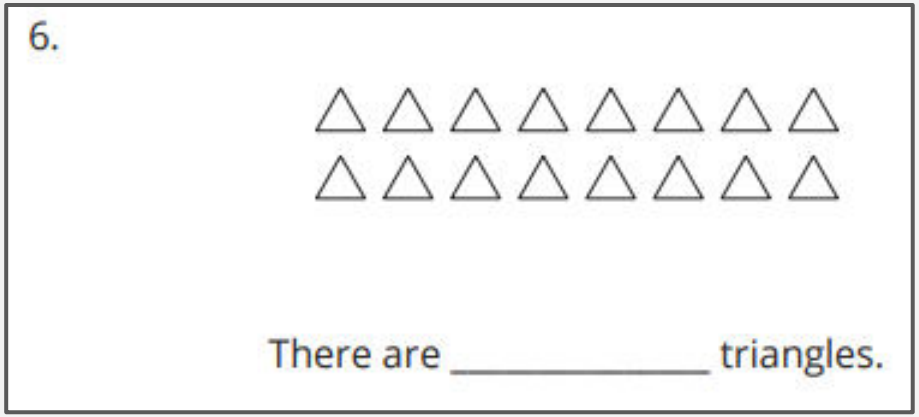


There are _____ dots.

- How many dots are there? How do you know?
- Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are.

Find 10 Ones to Count

Activity #1

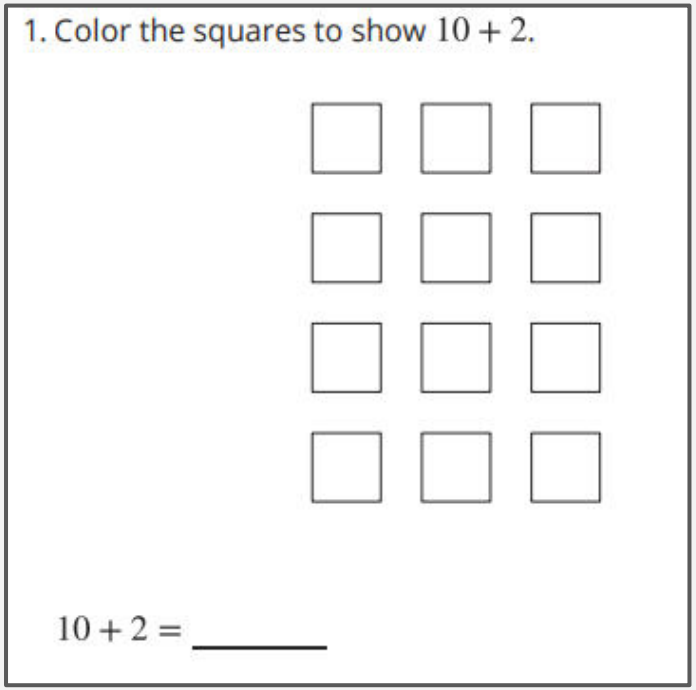


- How many dots are there? How do you know?
- Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are.

Color to Match Expressions

Activity #2

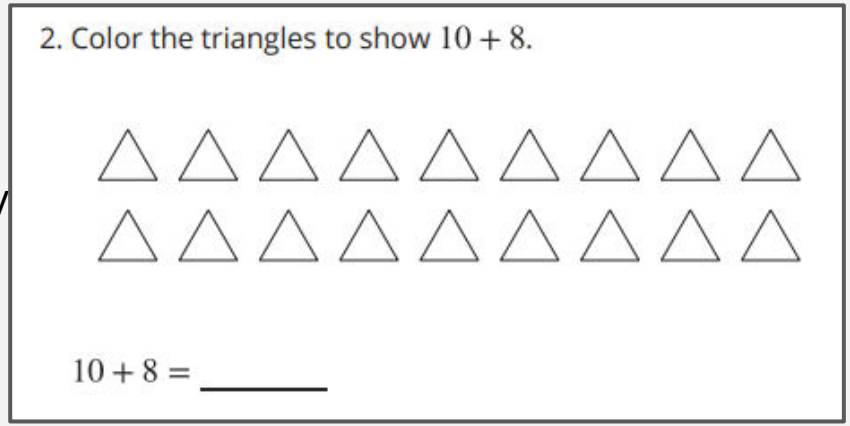
- Color the shapes to show each expression.
- Then fill in an equation to show how many shapes there are altogether.



Color to Match Expressions

Activity #2

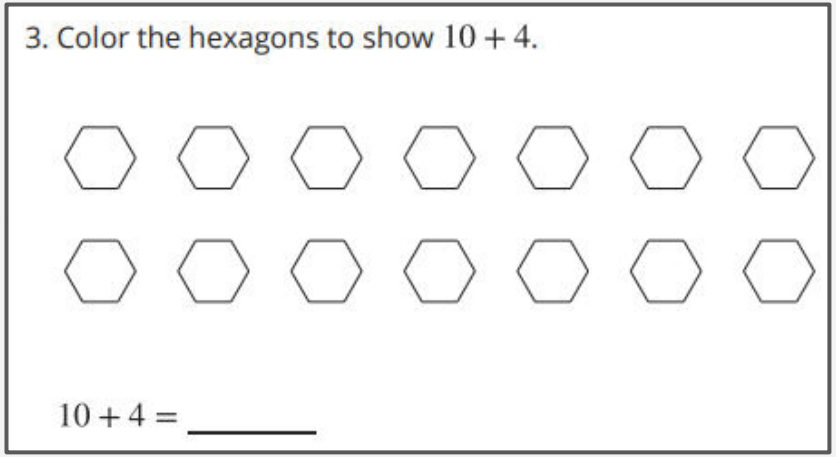
- Color the shapes to show each expression.
- Then fill in an equation to show how many shapes there are altogether.



Color to Match Expressions

Activity #2

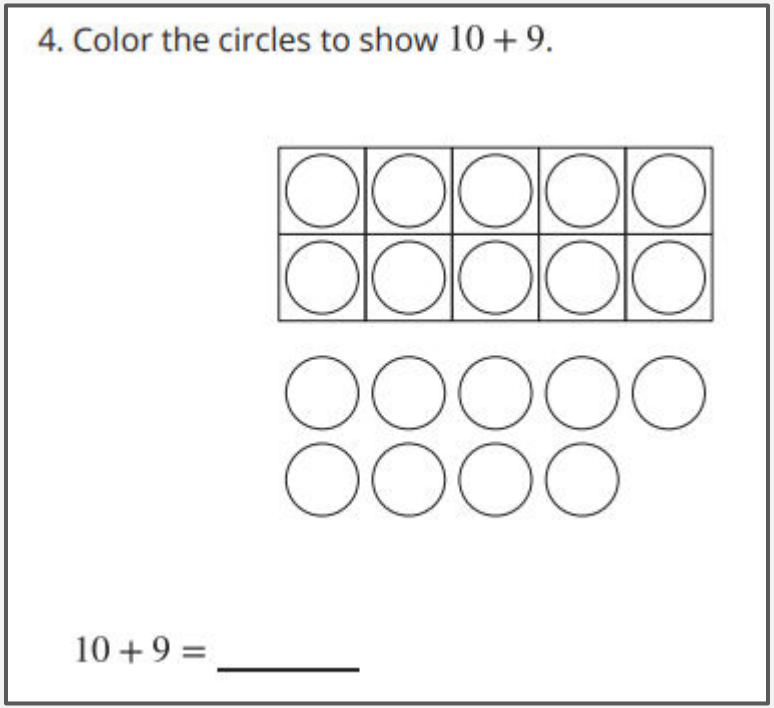
- Color the shapes to show each expression.
- Then fill in an equation to show how many shapes there are altogether.



Color to Match Expressions

Activity #2

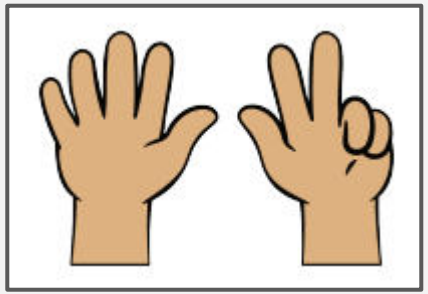
- Color the shapes to show each expression.
- Then fill in an equation to show how many shapes there are altogether.



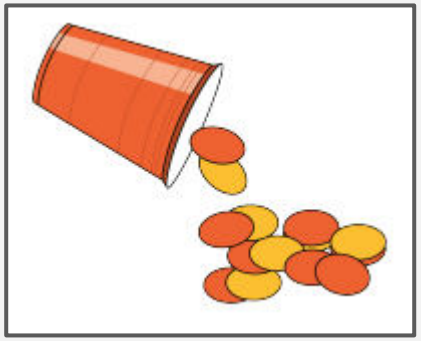
Activity #3

Centers: Choice Time

Math Fingers, Make 10



Shake and Spill, Cover



Lesson Synthesis

In this unit, we have been working with the numbers 11–20.

What is one thing you have learned about these numbers?

12

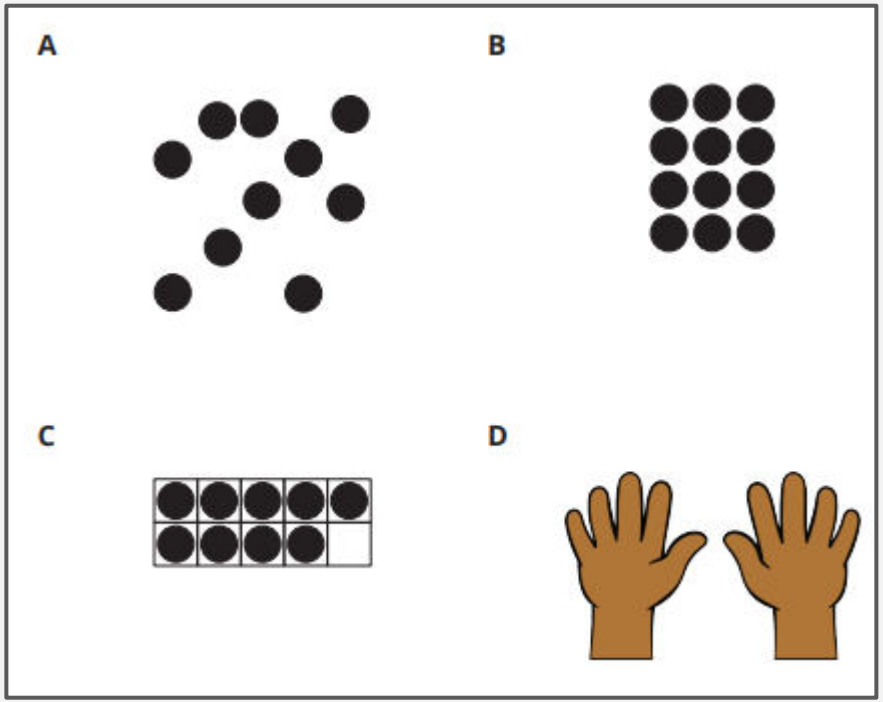
Count Images (Part 2)

Let’s figure out how many shapes there are

K.CC.B.4.a, K.CC.B.4.b, K.CC.B.5, K.OA.A.4

Warm up

Which One Doesn't Belong: Tons of Tens



Count Images in Organized Arrangements

Activity #1

- Figure out how many shapes there are.
- Write a number to show how many shapes there are.

1.

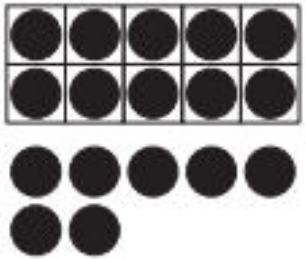
There are _____ rectangles.

Count Images in Organized Arrangements

Activity #1

- Figure out how many shapes there are.
- Write a number to show how many shapes there are.

2.



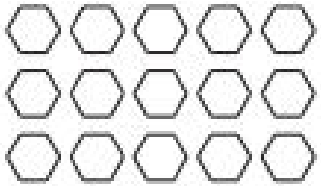
There are _____ dots.

Count Images in Organized Arrangements

Activity #1

- Figure out how many shapes there are.
- Write a number to show how many shapes there are.

3.



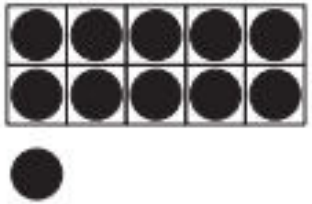
There are _____ hexagons.

Count Images in Organized Arrangements

Activity #1

- Figure out how many shapes there are.
- Write a number to show how many shapes there are.

4.



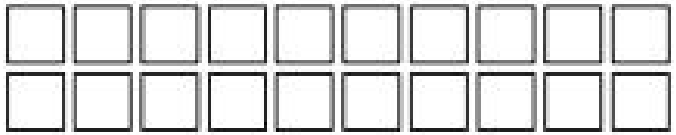
There are _____ dots.

Count Images in Organized Arrangements

Activity #1

- Figure out how many shapes there are.
- Write a number to show how many shapes there are.

5.



There are _____ squares.

Count Images in Organized Arrangements

Activity #1

- Figure out how many shapes there are.
- Write a number to show how many shapes there are.

6.

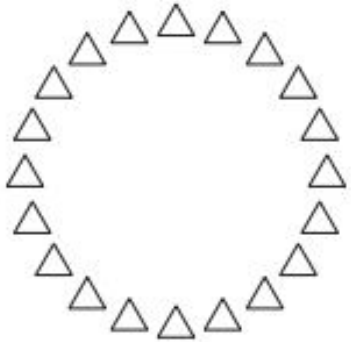
There are _____ triangles.

Count in Circles

Activity #2

- Work with your partner to figure out how many triangles there are in the first problem.
- Write a number to show how many triangles there are.
- Pair up with another group. Did you count the triangles the same way?
- Figure out how many shapes there are. Write a number to show how many shapes there are.

1.



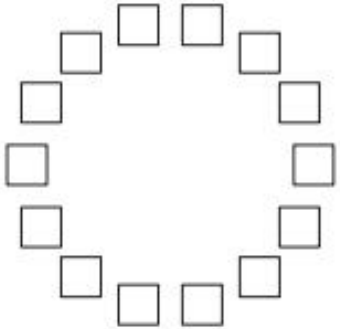
There are _____ triangles.

Count in Circles

Activity #2

- Work with your partner to figure out how many triangles there are in the first problem.
- Write a number to show how many triangles there are.
- Pair up with another group. Did you count the triangles the same way?
- Figure out how many shapes there are. Write a number to show how many shapes there are.

2.



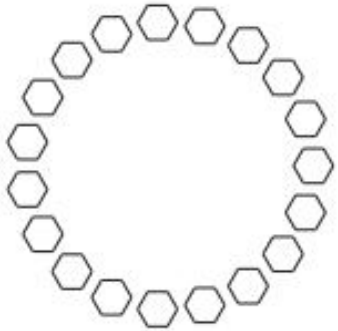
There are _____ squares.

Count in Circles

Activity #2

- Work with your partner to figure out how many triangles there are in the first problem.
- Write a number to show how many triangles there are.
- Pair up with another group. Did you count the triangles the same way?
- Figure out how many shapes there are. Write a number to show how many shapes there are.

3.



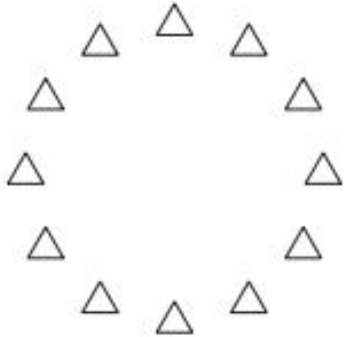
There are _____ hexagons.

Count in Circles

Activity #2

- Work with your partner to figure out how many triangles there are in the first problem.
- Write a number to show how many triangles there are.
- Pair up with another group. Did you count the triangles the same way?
- Figure out how many shapes there are. Write a number to show how many shapes there are.

4.



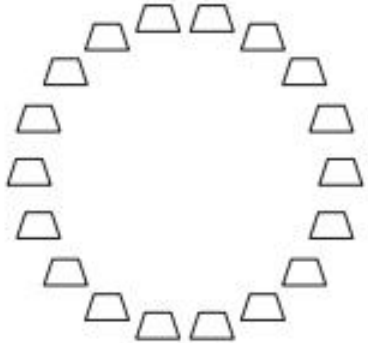
There are _____ triangles.

Count in Circles

Activity #2

- Work with your partner to figure out how many triangles there are in the first problem.
- Write a number to show how many triangles there are.
- Pair up with another group. Did you count the triangles the same way?
- Figure out how many shapes there are. Write a number to show how many shapes there are.

5.

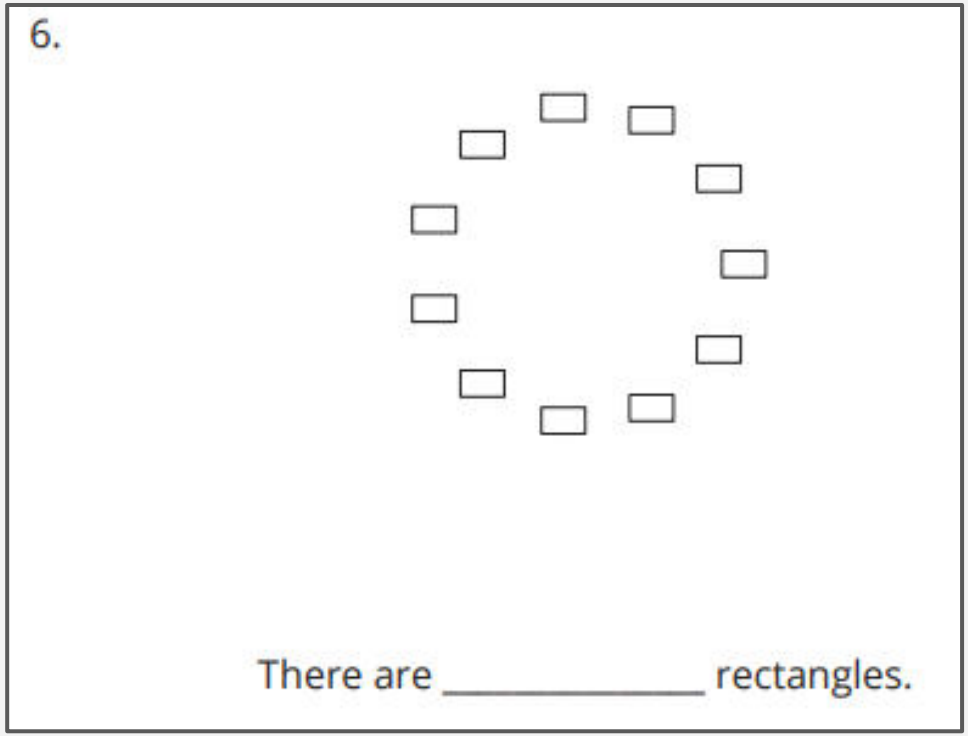


There are _____ trapezoids.

Count in Circles

Activity #2

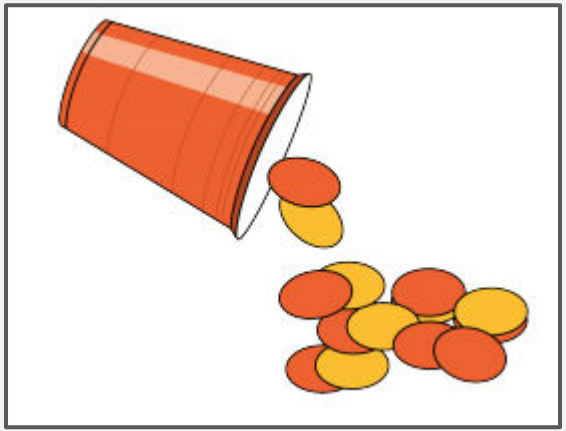
- Work with your partner to figure out how many triangles there are in the first problem.
- Write a number to show how many triangles there are.
- Pair up with another group. Did you count the triangles the same way?
- Figure out how many shapes there are. Write a number to show how many shapes there are.



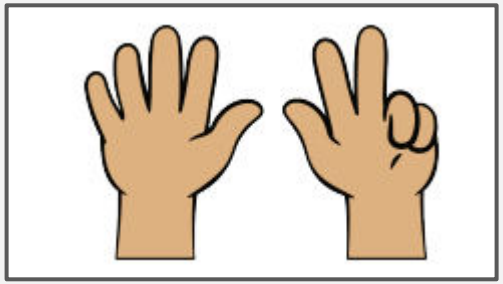
Activity #3

Centers: Choice Time

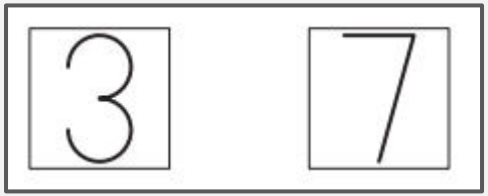
Shake and Spill



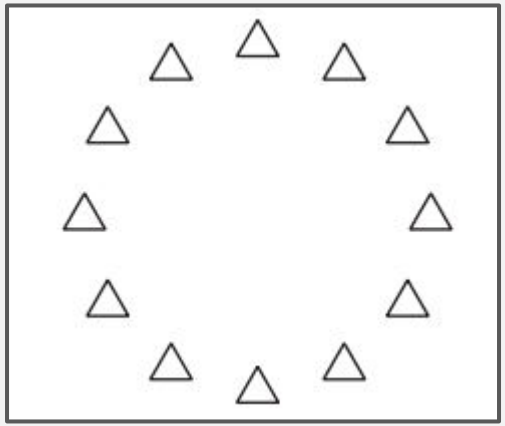
Math Fingers, Make 10



Find the Pair, Make 10



Lesson Synthesis



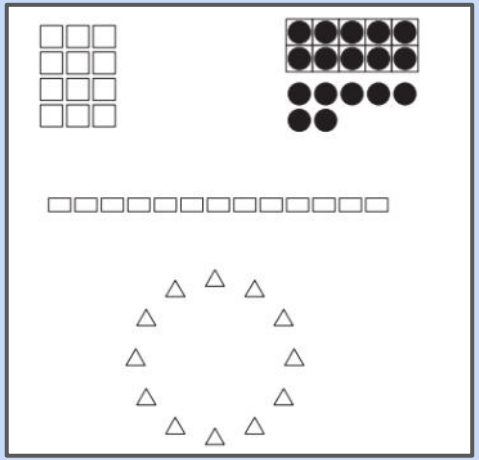
Did I count correctly? Why or why not?

What can I do to make sure that I count each triangle one time and that I don't forget to count any triangles?

Section Summary

In this section, we counted groups of up to 20 things.

We counted things in lines, arrays, circles, and on 10-frames.



We wrote numbers to show how many images there are.

13

Fingerprint Animals

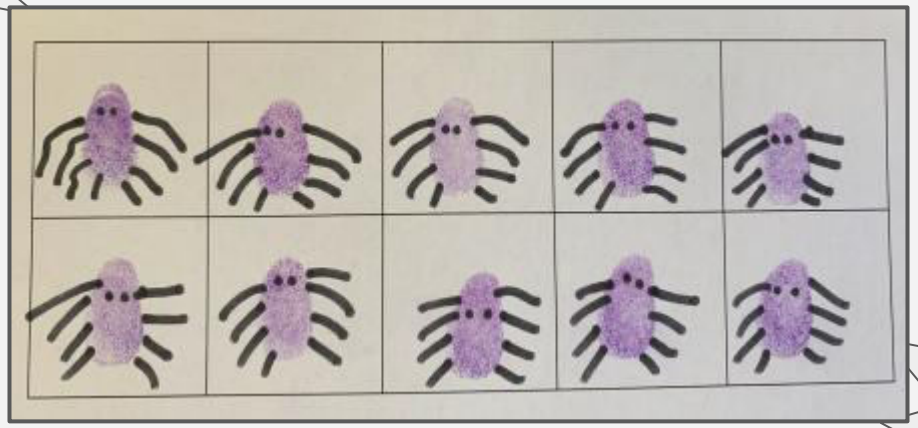
Let’s make a fingerprint animal book.

K.CC.A.2, K.CC.A.3, K.CC.B.4, K.NBT.A.1, K.OA.A.1

Warm up

How Many Do You See: Fingerprints or Animals?

How many do you see?



How do you see them?

Fingerprint Zoo Book Pages

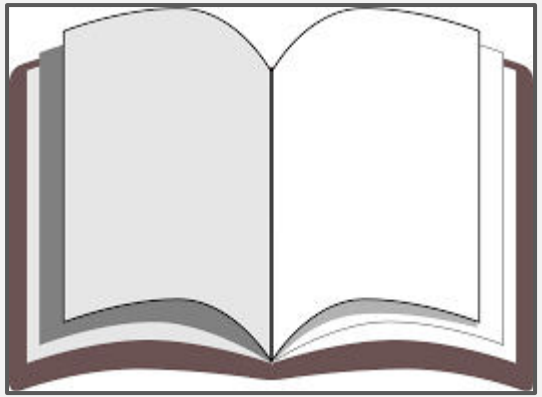
Activity #1

Let's make pages for our book.

Partner A: 11, 13, 18

Partner B: 14, 16, 17

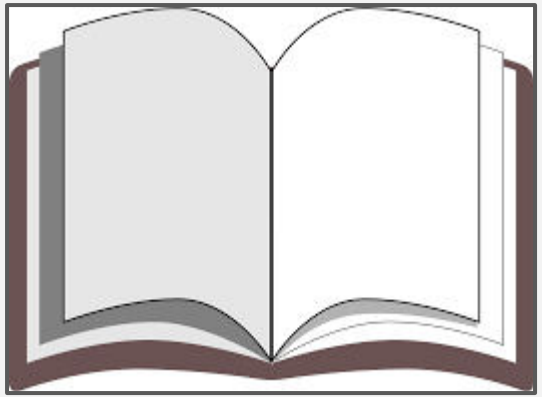
Partner C: 12, 15, 19



Activity #2

Order Our Pages

- Now we will play a game to help us put our numbers in order. The person with 11 starts the game. Say ‘I have 11.’ and put your fingerprint page upside down in the middle of your group.
- The person with 12 goes next. Say, ‘I have 12.’ and put your fingerprint page upside down on top of the other page.
- Continue the game until all the pages are put in the middle.
- At the end, check the stack to make sure the pages are in order. Then read your book together



Lesson Synthesis

Today, we all made counting books for numbers 11–19.

Where do you see the equation _____ in the 10-frames?