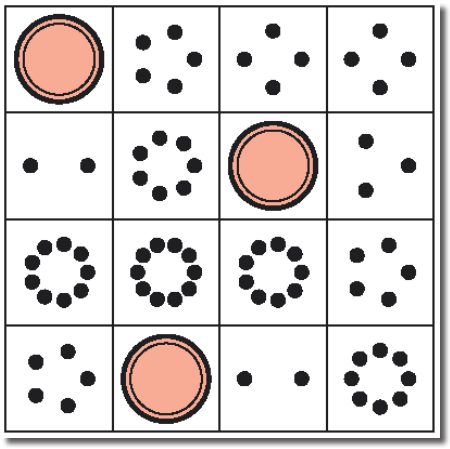
Core Knowledge® MATHEMATICS

# Numbers 0–20



Student Workbook

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# Numbers 0–20

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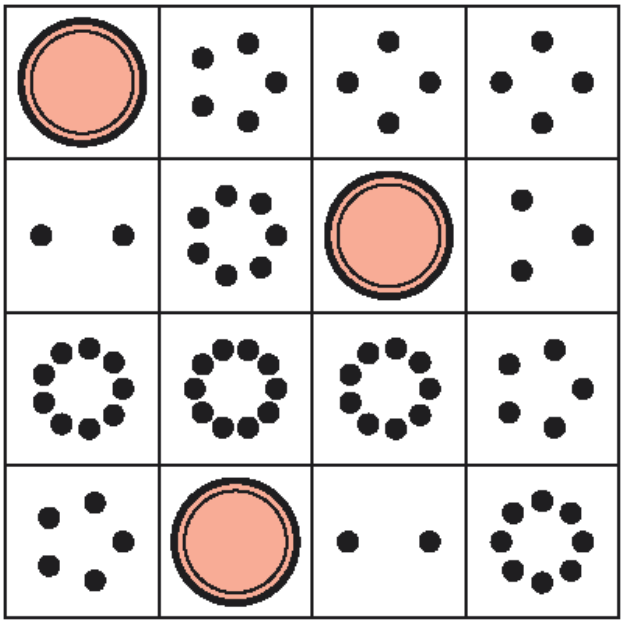


# Numbers 0–20

## Student Workbook

Core Knowledge Mathematics™

# Lesson 1: Count Larger Collections of Objects

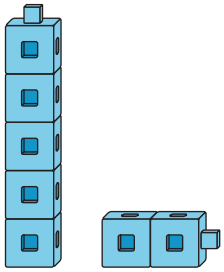
- Let’s figure out how many objects are in our collections.

## 1.3: Introduce Number Race, 11–20

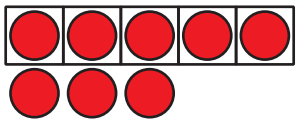
Choose a center.

Number Race

Subtraction Towers



5-frames



# Lesson 2: Keep Track of Objects

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

## Warm-up: Number Talk: Add and Subtract 0 and 1

Find the value of each expression.

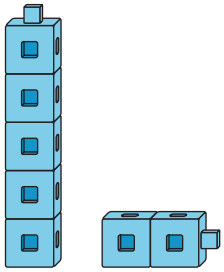
- $3 + 0$
- $3 + 1$
- $3 - 1$
- $2 - 0$

## 2.3: Centers: Choice Time

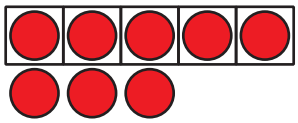
Choose a center.

Number Race

Subtraction Towers



5-frames



# Lesson 3: Count Carefully

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

## Warm-up: Notice and Wonder: Pile of Connecting Cubes

What do you notice?
What do you wonder?

## 3.2: Count Carefully with Friends

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?

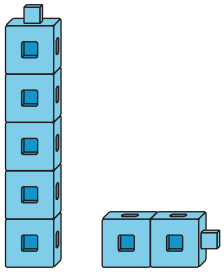
## 3.3: Introduce Find the Pair, Make 5

Choose a center.

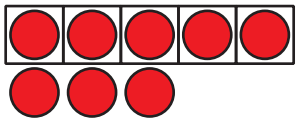
Find the Pair

Number Race

Subtraction Towers



5-frames

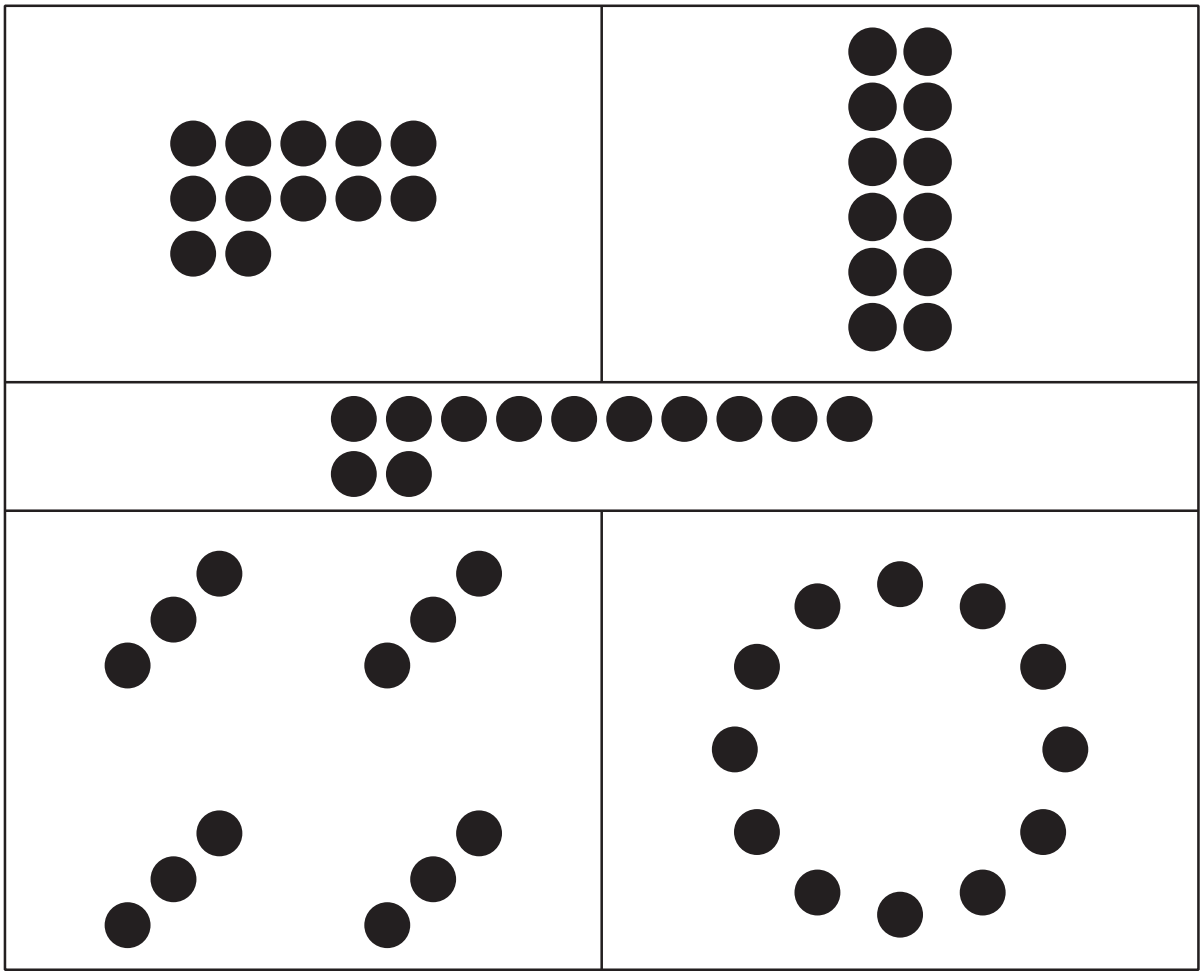


# Lesson 4: Does the Number Change?

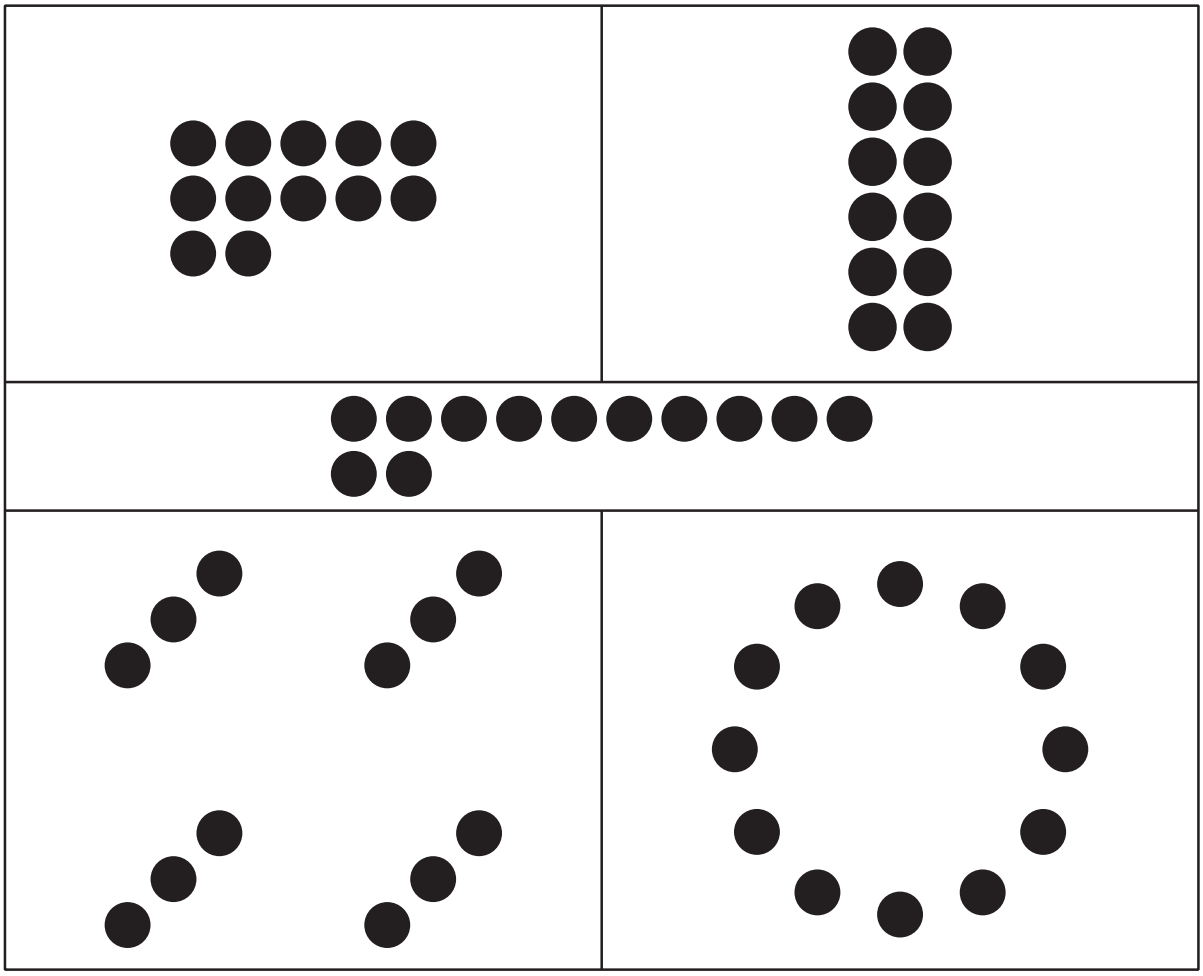
- Let's figure out how many objects there are when the objects are moved around.

## Warm-up: Notice and Wonder: Lots of Dots

What do you notice?
What do you wonder?



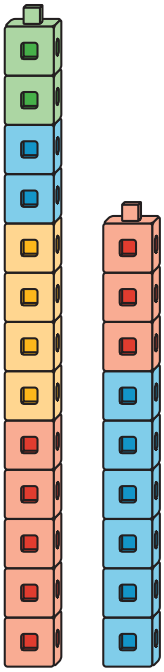
# 4.2: Count, Rearrange, Recount



## 4.3: Introduce Tower Build, Count and Build to 20

Choose a center.

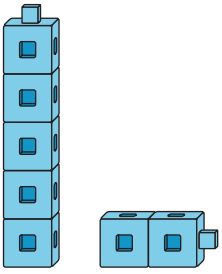
Tower Build



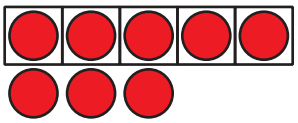
Find the Pair

Number Race

Subtraction Towers



5-frames



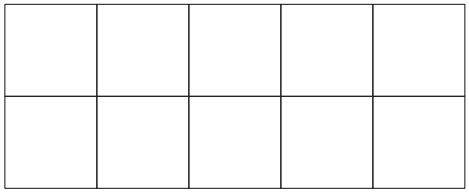
## Section Summary

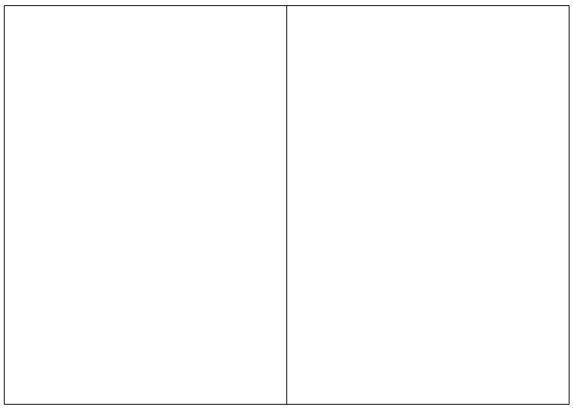
Section Summary

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

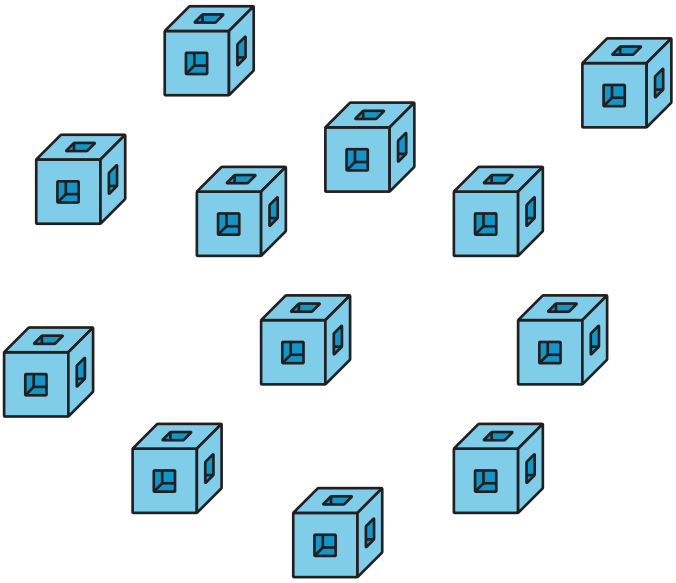
We kept track of the objects that we counted.

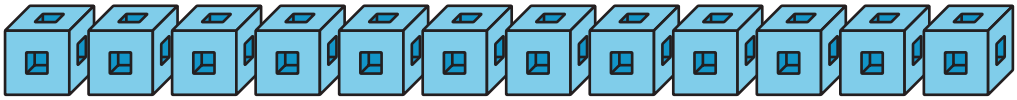
We used a 10-frame or a counting mat to help us.

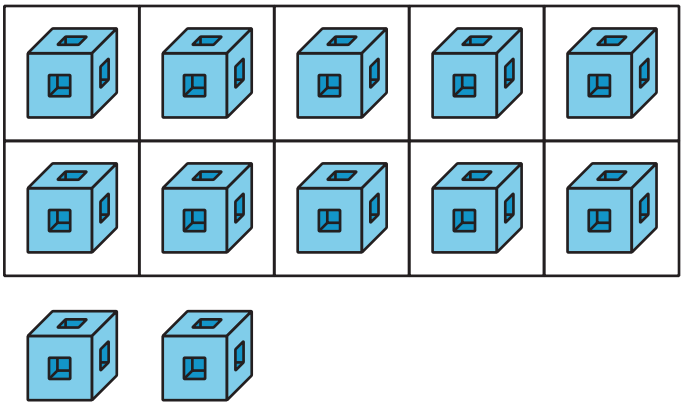




We realized that the number of objects stayed the same even when we rearranged them.





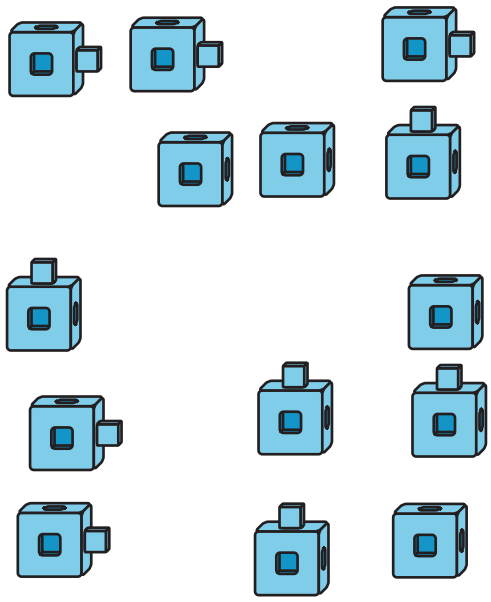


# Lesson 5: How Many Fingers? How Many Dots?

- Let's figure out how many things there are.

## Warm-up: Estimation Exploration: Connecting Cubes

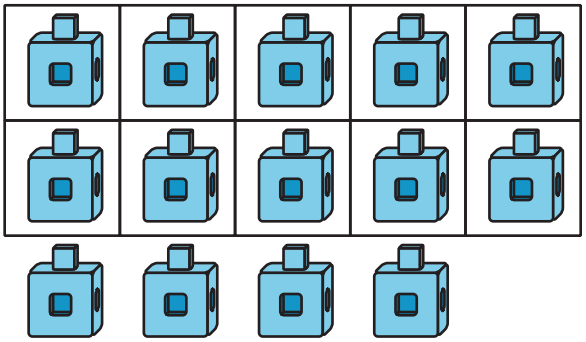
How many cubes are there?



Record an estimate that is:

| too low | about right | too high |
|---|---|---|
| | | |

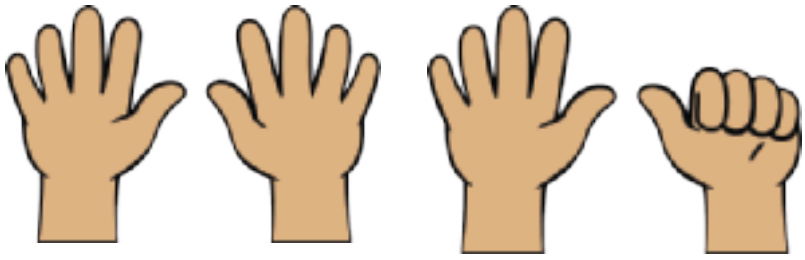
How many cubes are there?



Record an estimate that is:

| too low | about right | too high |
|---|---|---|
| | | |

## 5.1: How Many Fingers?

1. 

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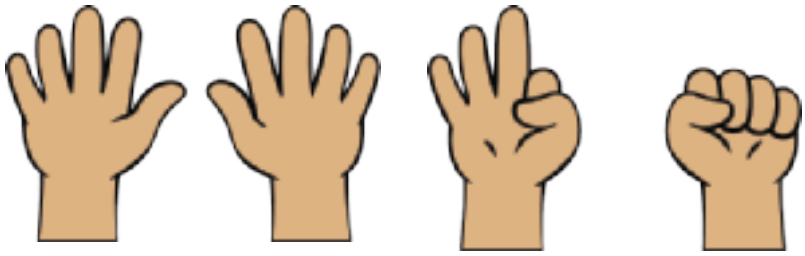
2. 

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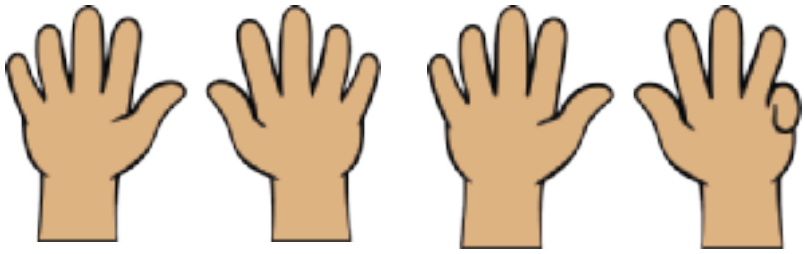
3. 

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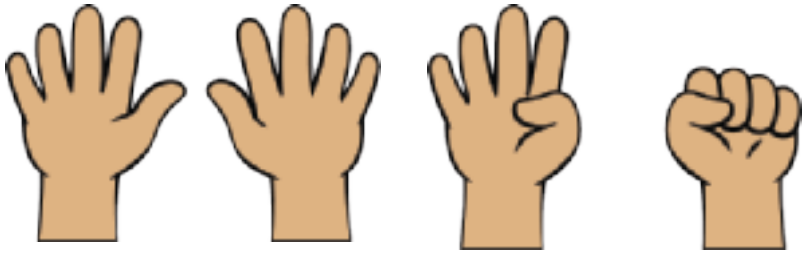
4. 

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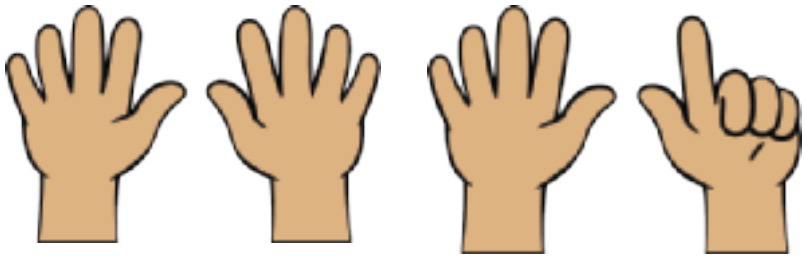
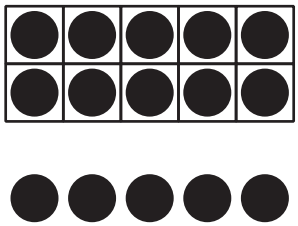
5. 

16

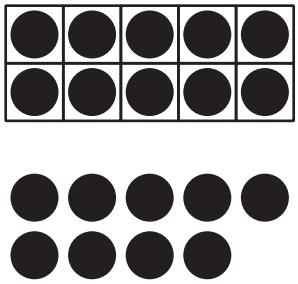
## 5.2: How Many Dots in 10-frames?

1.



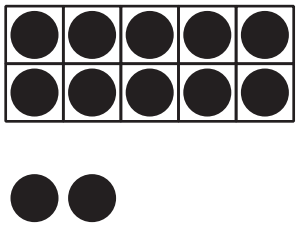
10 12 15

2.



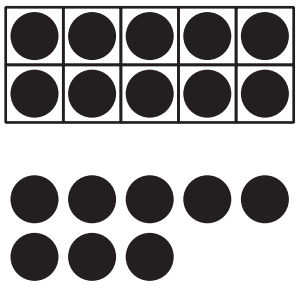
19 11 14

3.



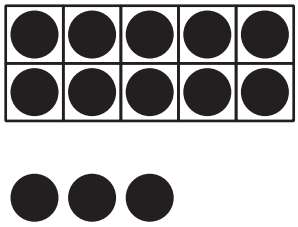
13 15 12

4.



18 14 17

5.



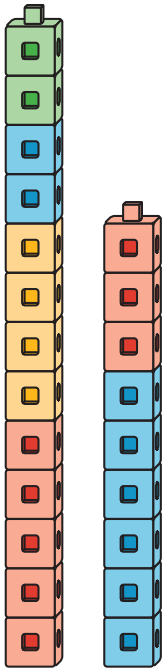
15 13 11

## 5.3: Introduce Grab and Count, Pattern Blocks

Choose a center.

Grab and Count

Tower Build



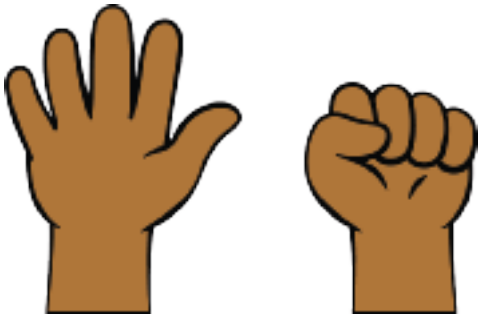
Find the Pair

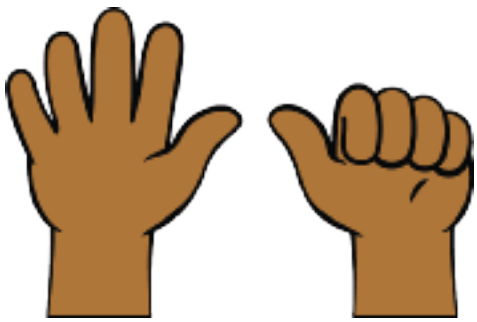
# Lesson 6: Fingers and 10-frames

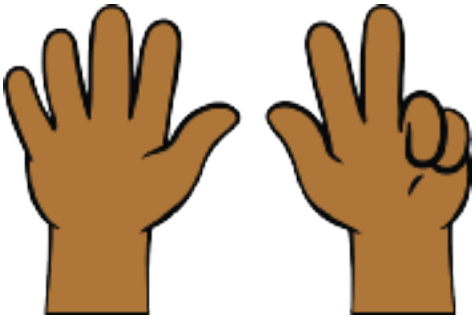
- Let’s show numbers on our fingers and 10-frames.

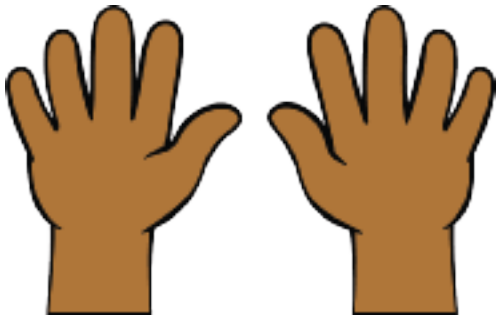
## Warm-up: How Many Do You See: 5 and Some More

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









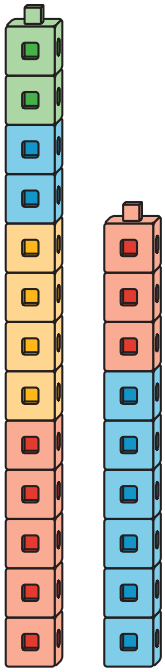
# 6.2: Fingers to 10-frames

## 6.3: Revisit Number Race, Numbers 11–20

Choose a center.

Number Race

Tower Build



Grab and Count

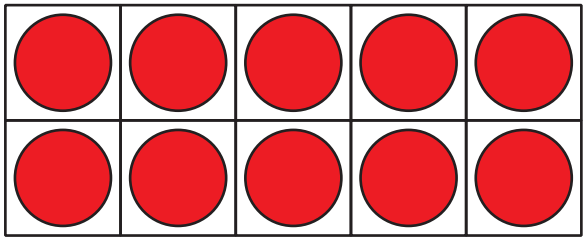
Find the Pair

# Lesson 7: Make Numbers with 10 and Some More (Part 1)

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

# 7.2: Add More Counters

number



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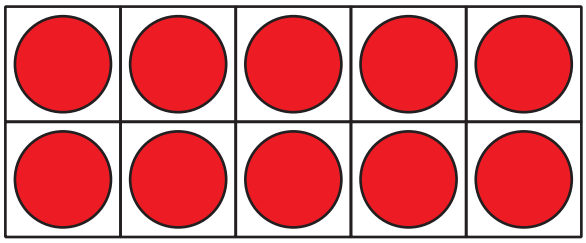

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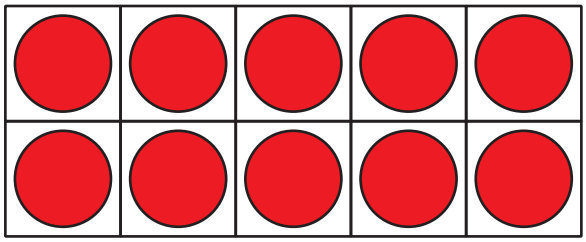

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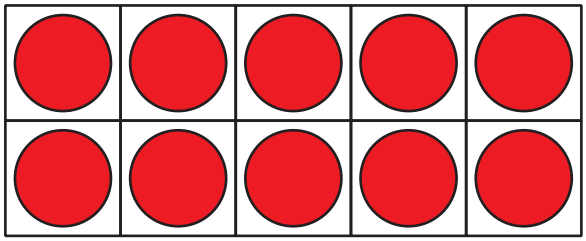

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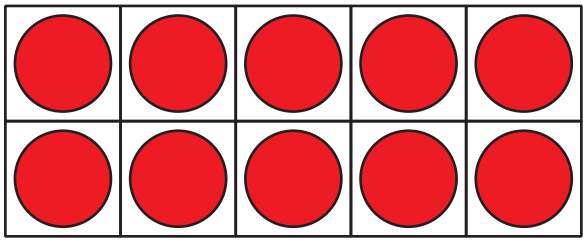

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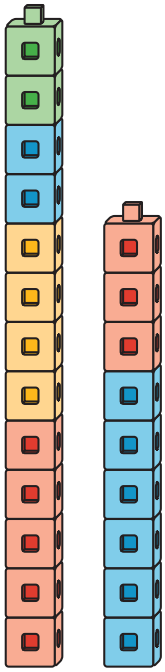
## 7.3: Centers: Choice Time

Choose a center.

Number Race

Tower Build



Grab and Count

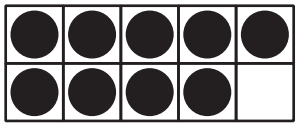
Find the Pair

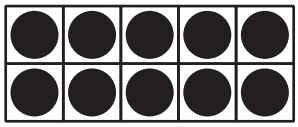
# Lesson 8: Make Numbers with 10 and Some More (Part 2)

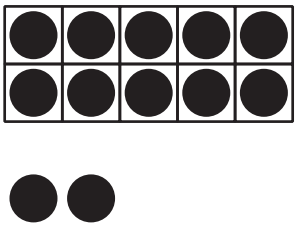
- Let's show numbers with 10-frames and dots or counters.

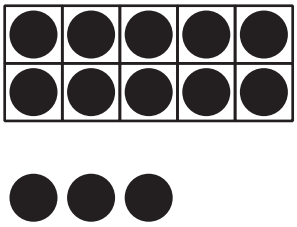
## Warm-up: How Many Do You See: Numbers on a 10-frame

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



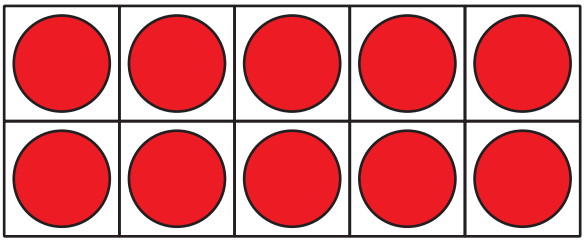




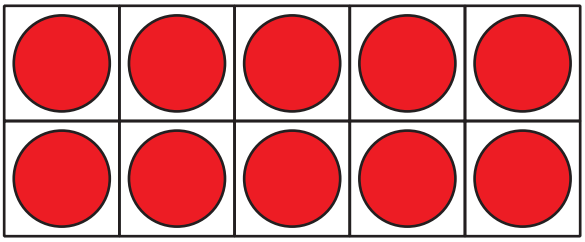


# 8.2: Make Each Number

11



19



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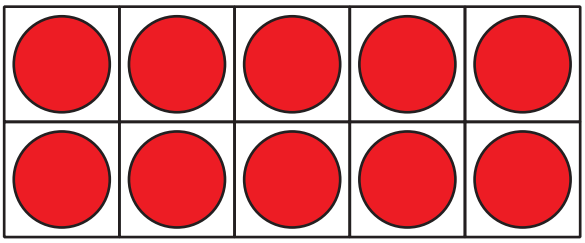
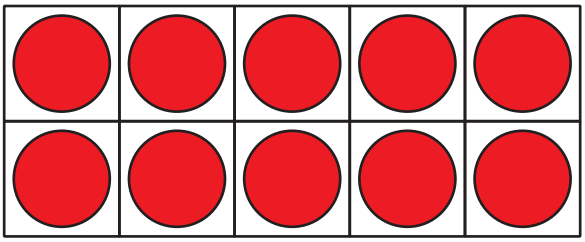
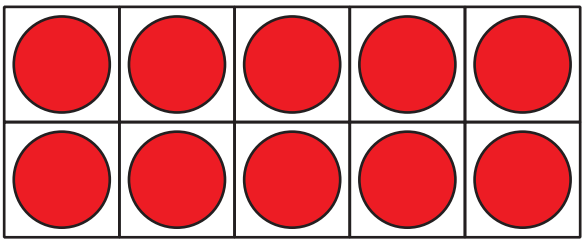


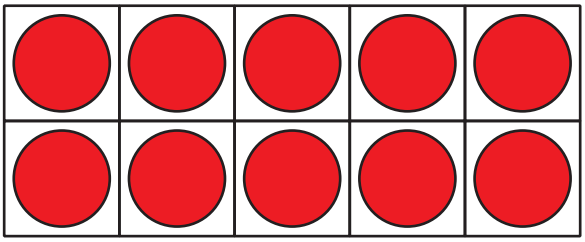
17



14



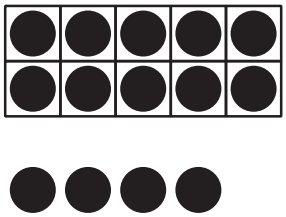
12



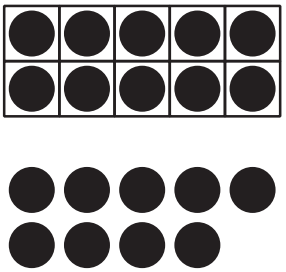
# Lesson 9: Expressions and Equations

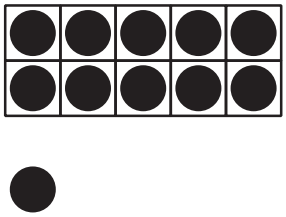
- Let’s show numbers 11–19 in different ways.

## 9.2: Equations and 10-frames

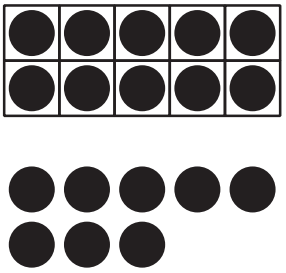


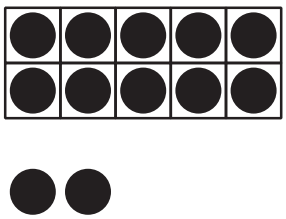
$10 + 9 = 19$





$10 + 1 = 11$



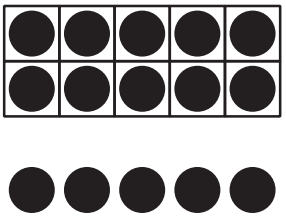


$10 + 4 = 14$





$10 + 8 = 18$





$10 + 5 = 15$



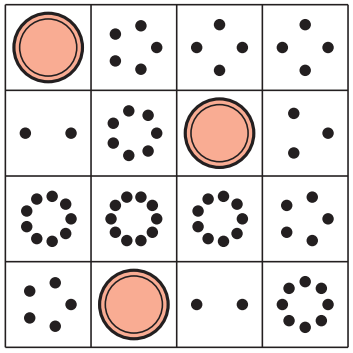


$10 + 2 = 12$

# 9.3: Introduce Make or Break Apart Numbers, Numbers 11–19

Choose a center.

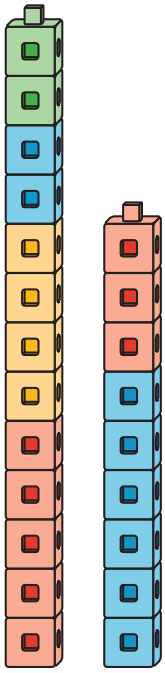
Bingo



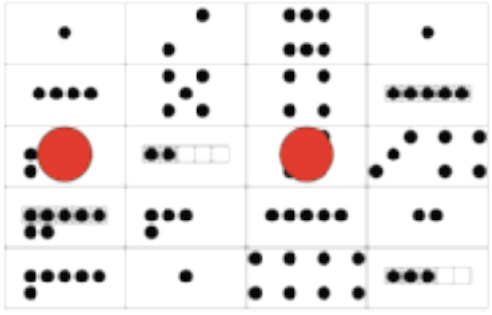
Number Race

Grab and Count

Tower Build



Make or Break Apart Numbers



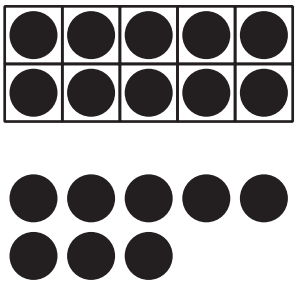
# Lesson 10: Complete Equations

- Let's write equations to show numbers 11–19.

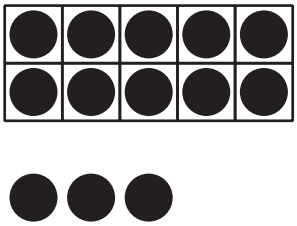
## Warm-up: What do you know about 15?

What do you know about 15?

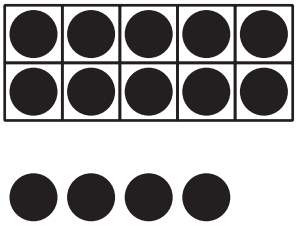
## 10.1: What Is Missing?



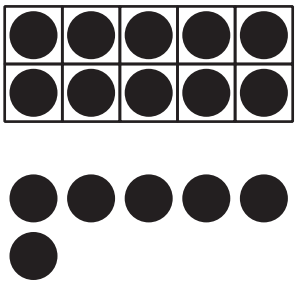
$10 + 8 = _____$



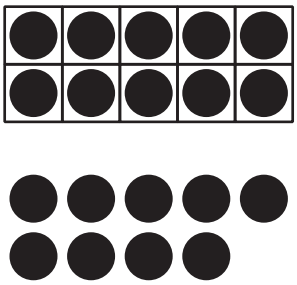
$10 + 3 = _____$



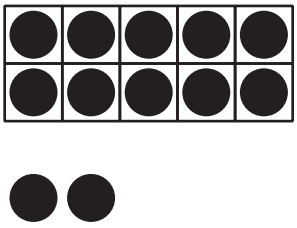
$10 + 4 = _____$



_____ + _____ = 16



_____ + _____ = 19



_____ + _____ = 12

## 10.2: Make the Equations True

1. $10 + 5 = _____$

2. $_____ + _____ = 16$

3. $_____ + _____ = 19$

4. $_____ + _____ = 13$

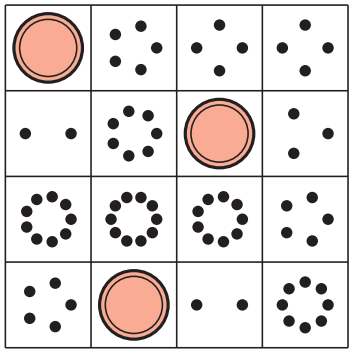
5. $_____ + _____ = 17$

6. $10 + 1 = _____$

## 10.3: Centers: Choice Time

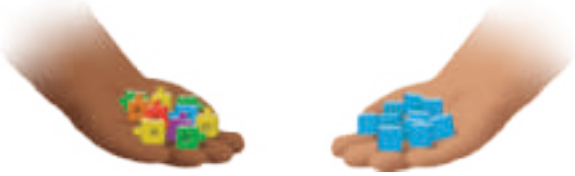
Choose a center.

Bingo

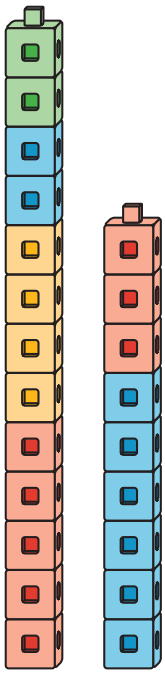


Number Race

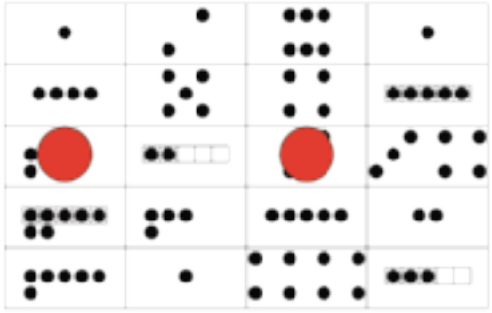
Grab and Count



Tower Build

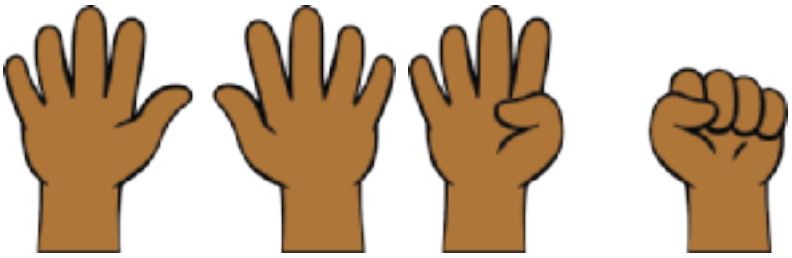


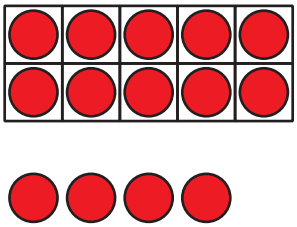
Make or Break Apart Numbers



## Section Summary

Section Summary
We saw and made numbers 11–19 with fingers and 10-frames.





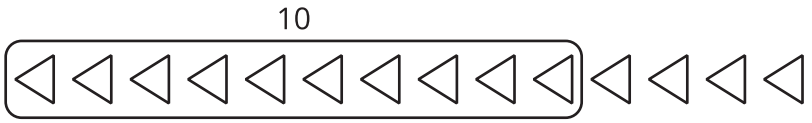
We saw these numbers written as 10 and some more in different ways.

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

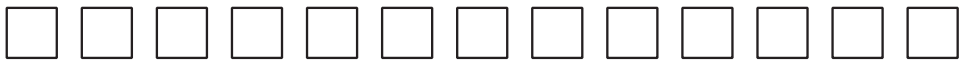
# Lesson 11: Count Images (Part 1)

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

## 11.1: Find 10 Ones to Count

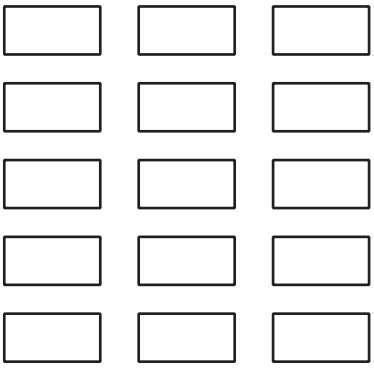



1.



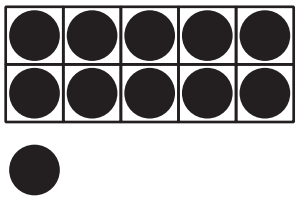
There are _____ squares.

2.



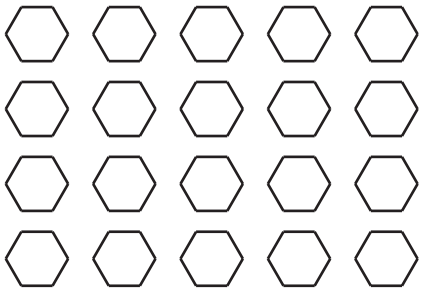
There are _____ rectangles.

3.



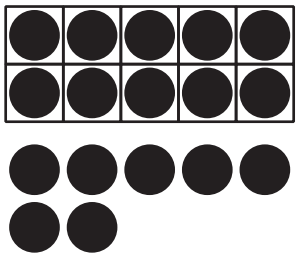
There are _____ dots.

4.



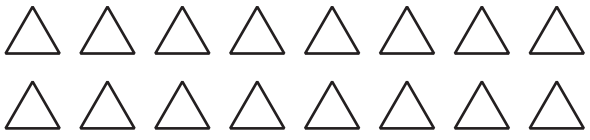
There are _____ hexagons.

5.



There are _____ dots.

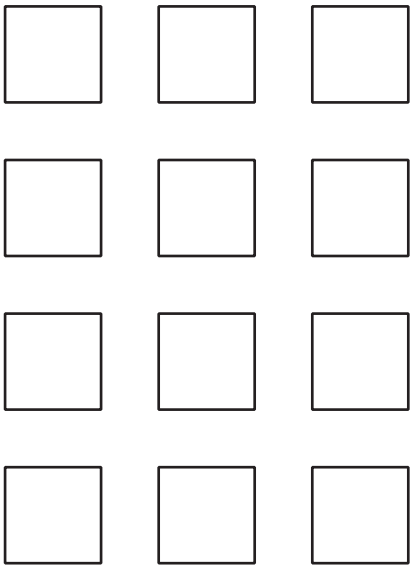
6.



There are _____ triangles.

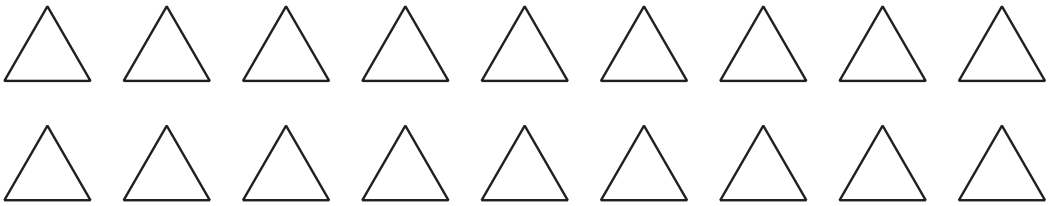
## 11.2: Color to Match Expressions

1. Color the squares to show $10 + 2$.



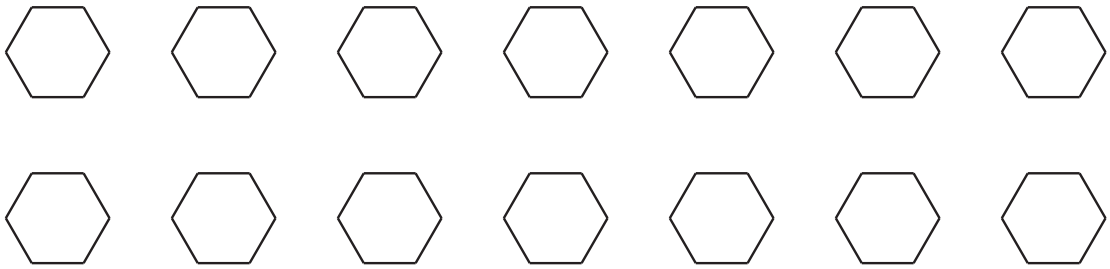
$10 + 2 =$ _____

2. Color the triangles to show $10 + 8$.



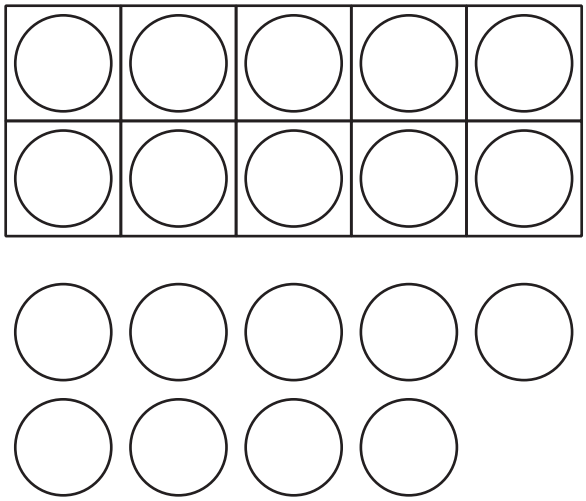
$10 + 8 =$ _____

3. Color the hexagons to show $10 + 4$.



$10 + 4 =$ _____

4. Color the circles to show $10 + 9$.



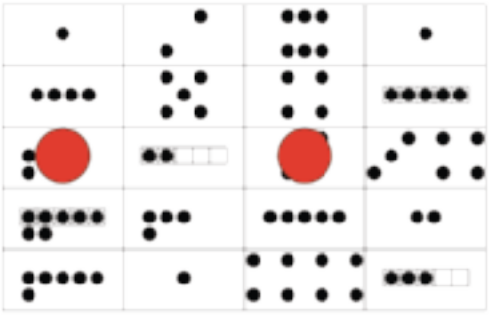
$10 + 9 =$ _____

## 11.3: Centers: Choice Time

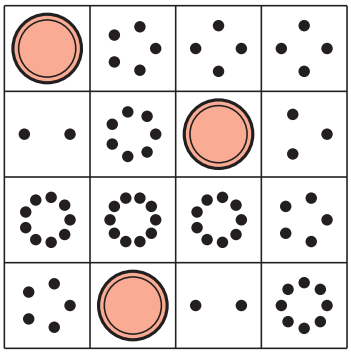
Choose a center.

Find the Value of the Expressions

Make or Break Apart Numbers



Bingo



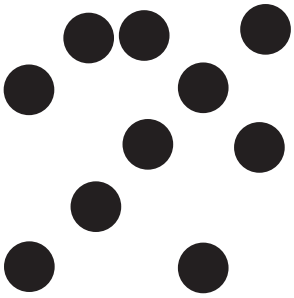
# Lesson 12: Count Images (Part 2)

- Let's figure out how many shapes there are.

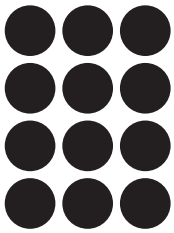
## Warm-up: Which One Doesn't Belong: Tons of Tens

Which one doesn't belong?

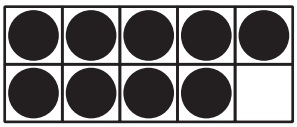
**A**



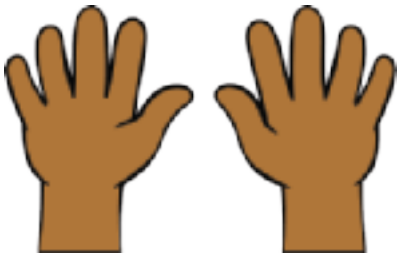
**B**



**C**



**D**

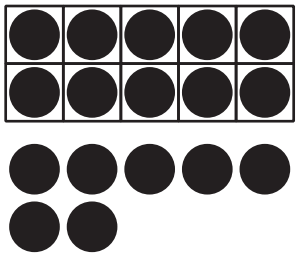


# 12.1: Count Images in Organized Arrangements

1.

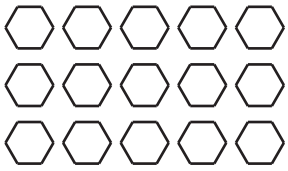
There are _____ rectangles.

2.



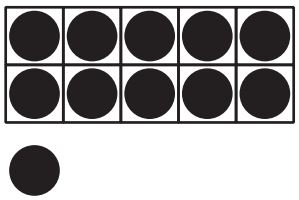
There are _____ dots.

3.



There are _____ hexagons.

4.



There are _____ dots.

5.

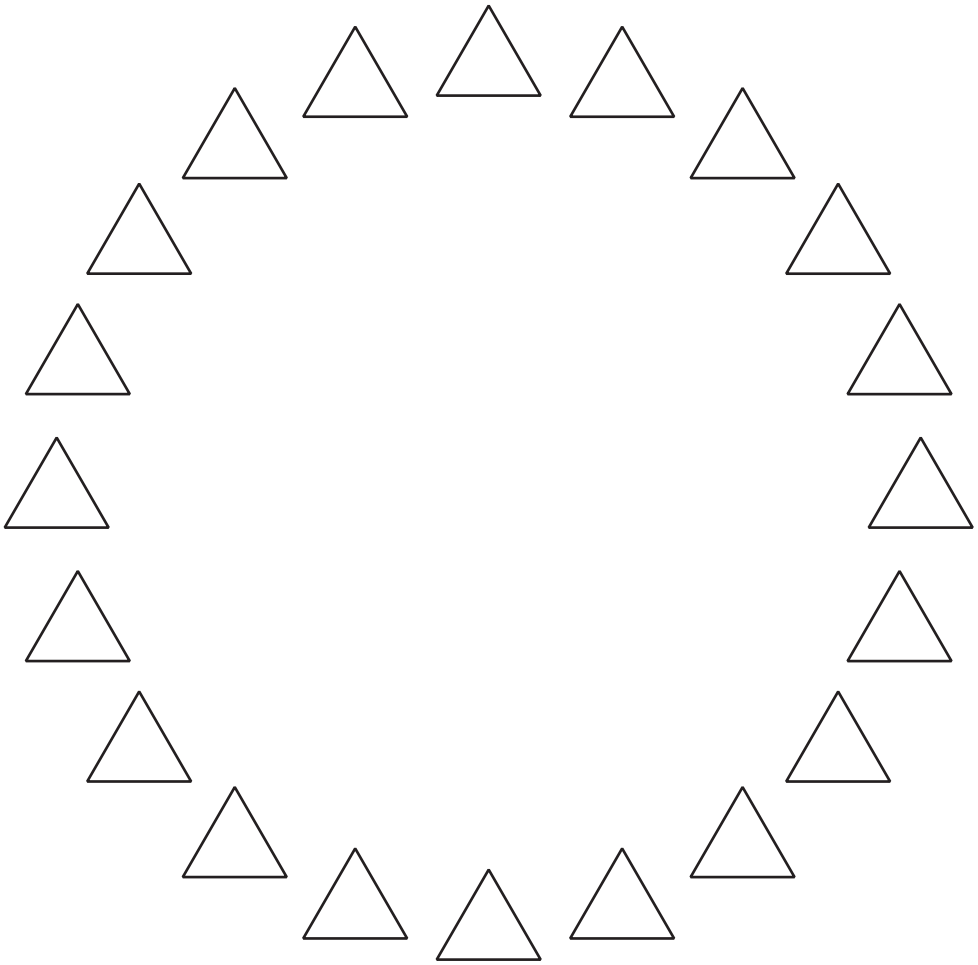
There are _____ squares.

6.

There are _____ triangles.

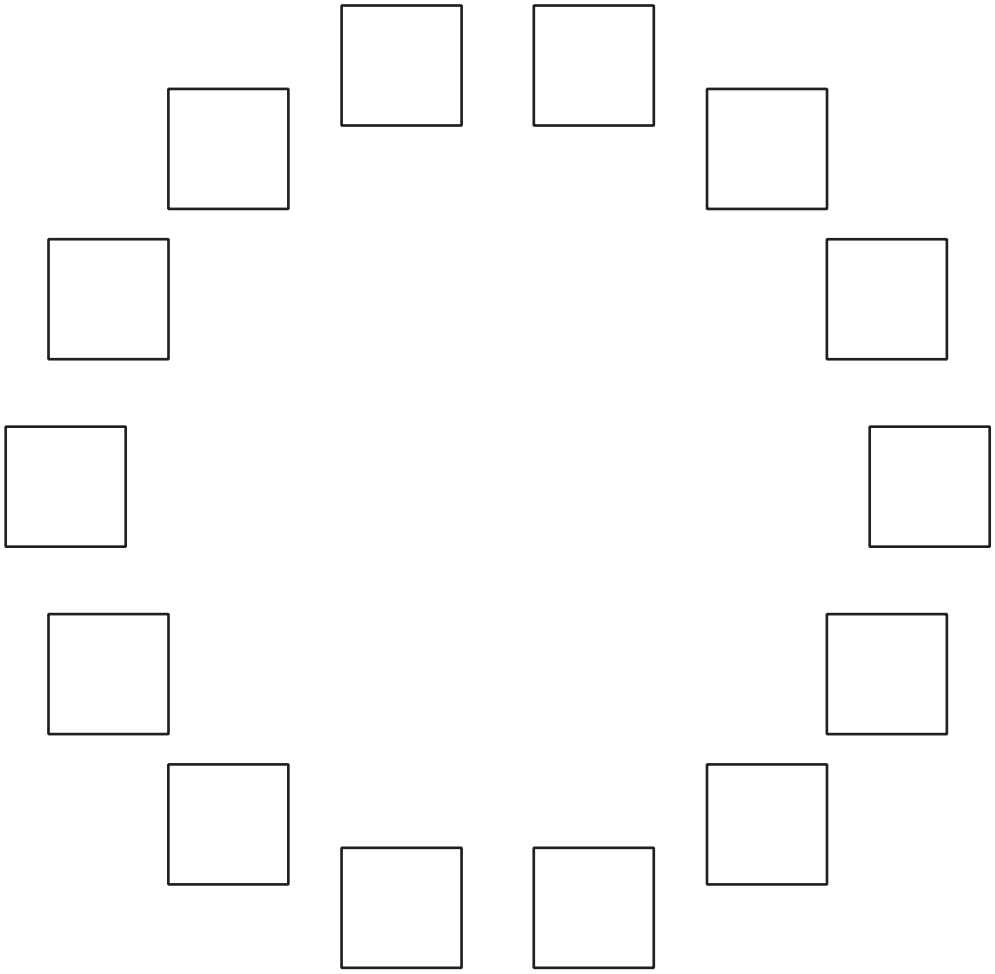
## 12.2: Count in Circles

1.



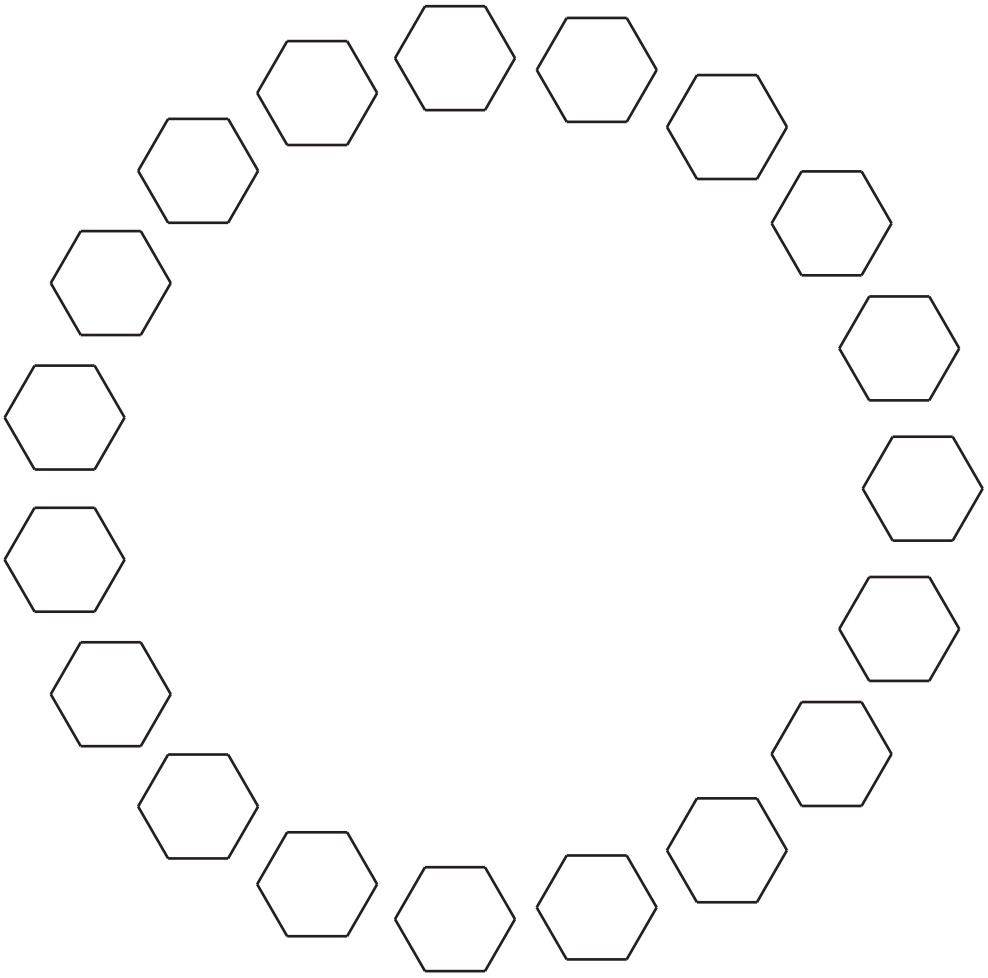
There are _____ triangles.

2.



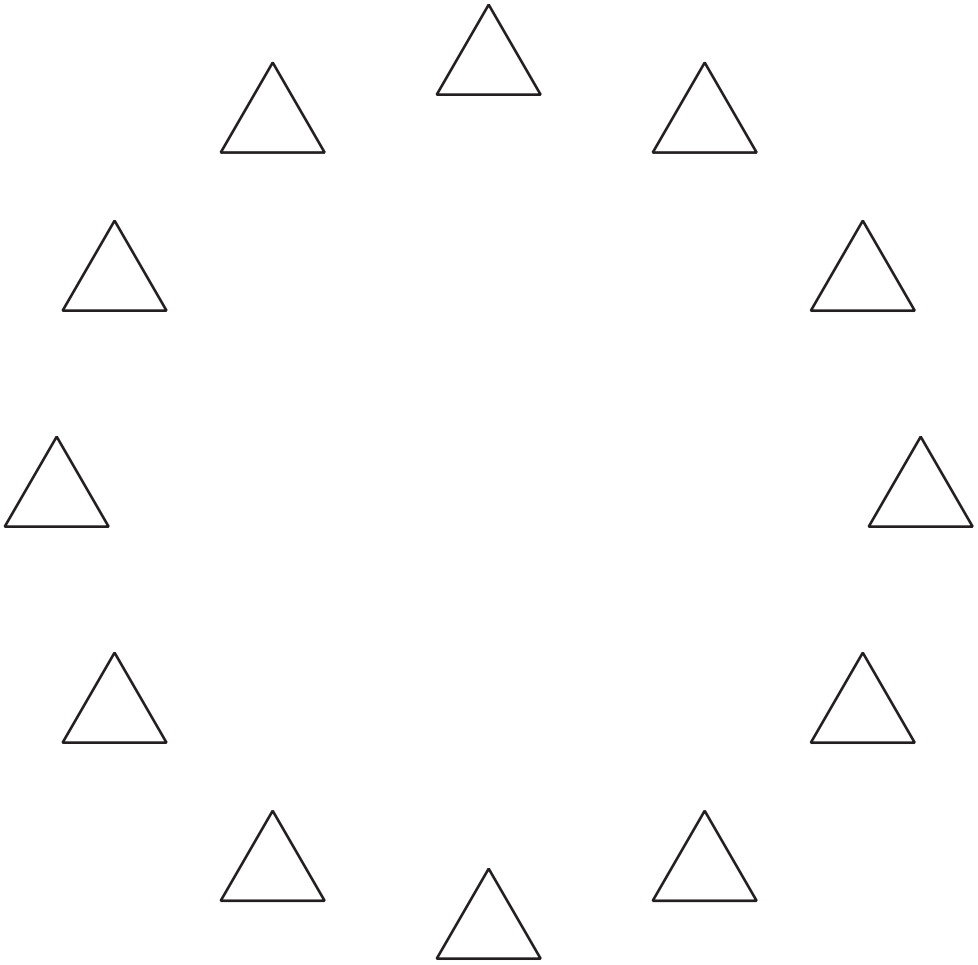
There are _____ squares.

3.



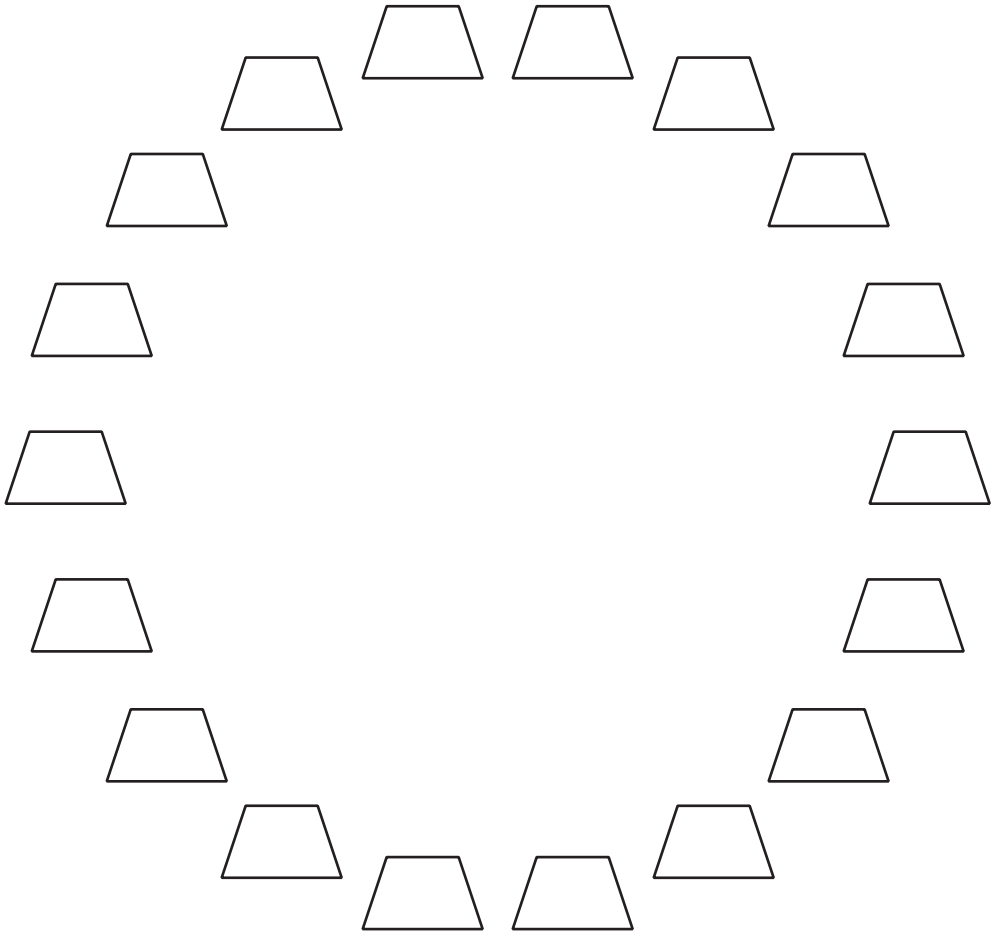
There are _____ hexagons.

4.



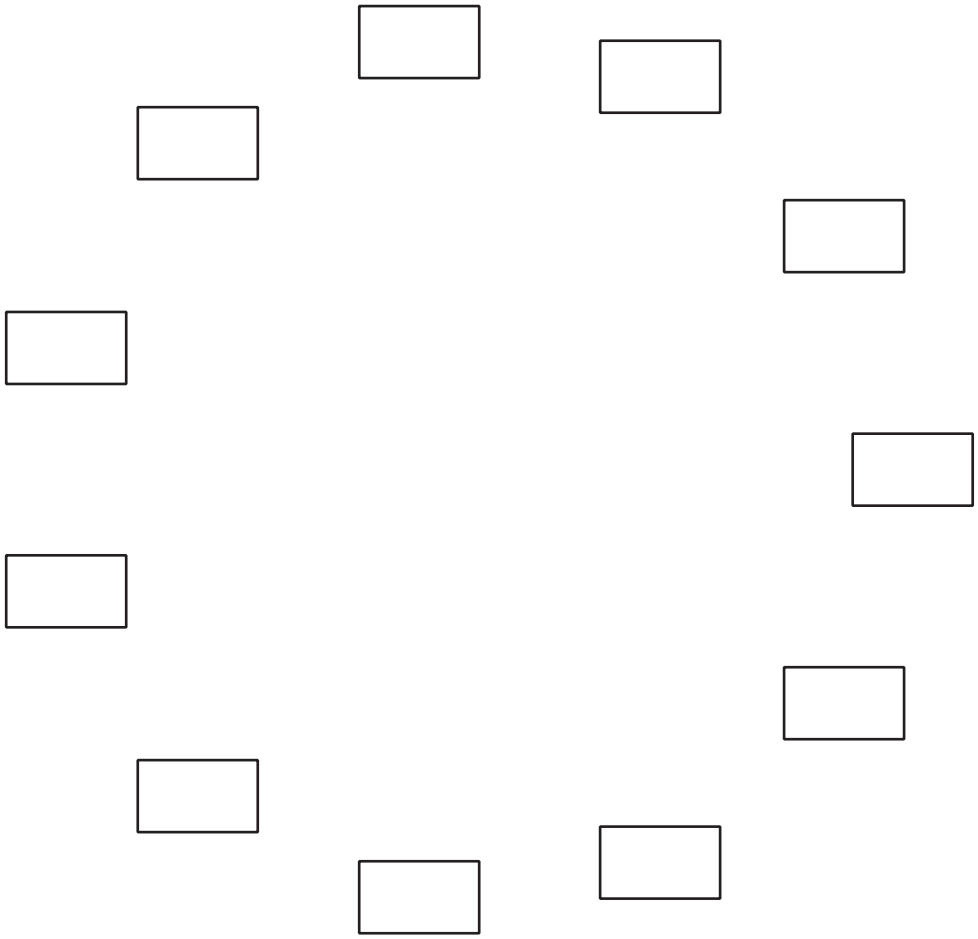
There are _____ triangles.

5.



There are _____ trapezoids.

6.



There are _____ rectangles.

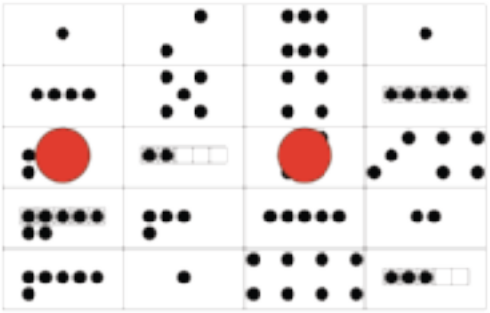
## 12.3: Introduce Find the Pair, Make 10

Choose a center.

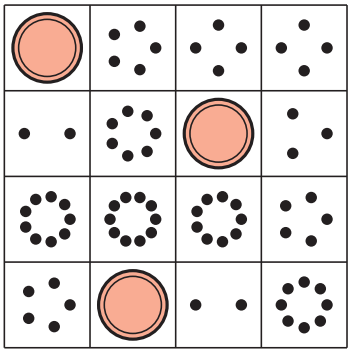
Find the Pair

Find the Value of Expressions

Make or Break Apart Numbers



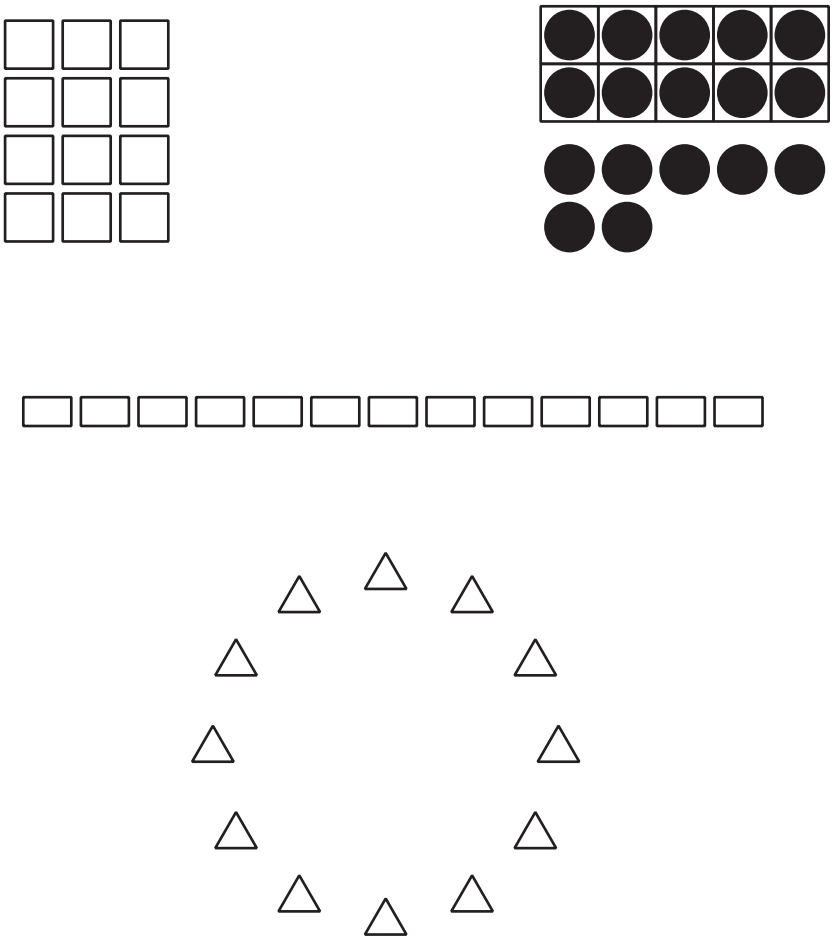
Bingo



## Section Summary

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.

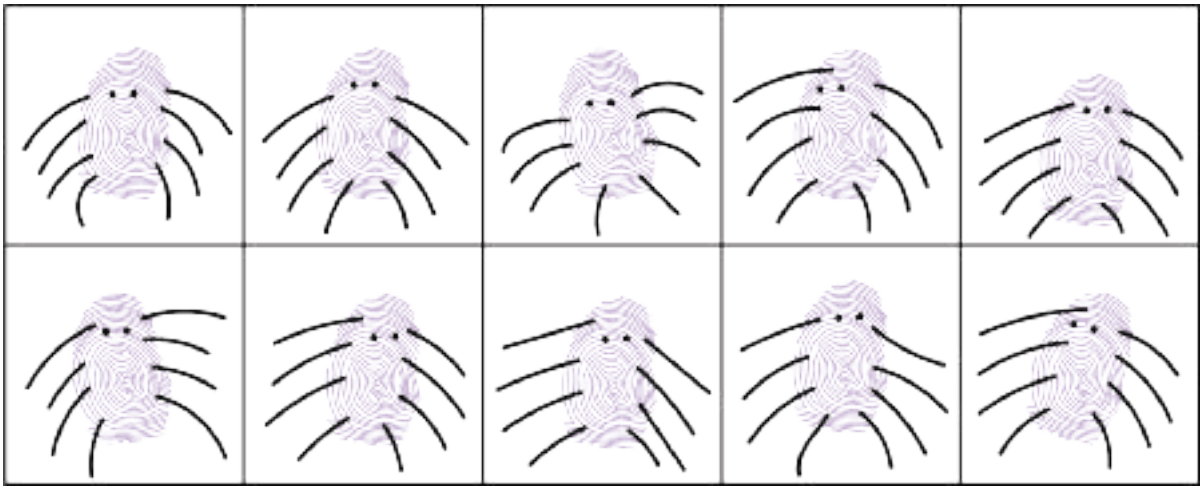
13

# Lesson 13: Fingerprint Animals

- Let's make a fingerprint animal book.

## Warm-up: How Many Do You See: Fingerprints or Animals?

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



## 13.1: Fingerprint Zoo Book Pages

Let's make pages for our book.

Student A: 11, 13, 18

Student B: 14, 16, 17

Student C: 12, 15, 19

## Section A: Practice Problems

1. **Exploration**

   How many shapes do you see on the soccer ball?

2. **Exploration**

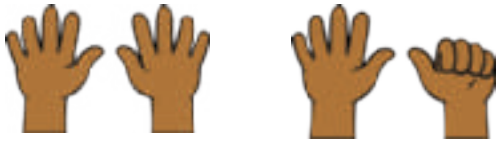
   How many soccer players are there in the picture?

   How did you count them?

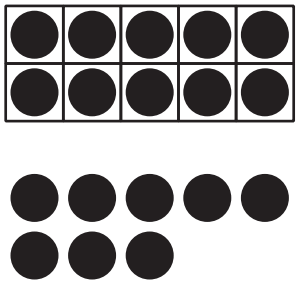
## Section B: Practice Problems

1. Draw a line from each picture to the number that shows how many there are.

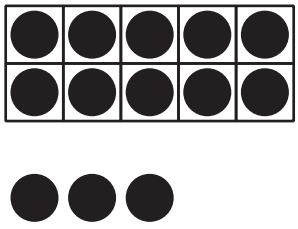
13



14



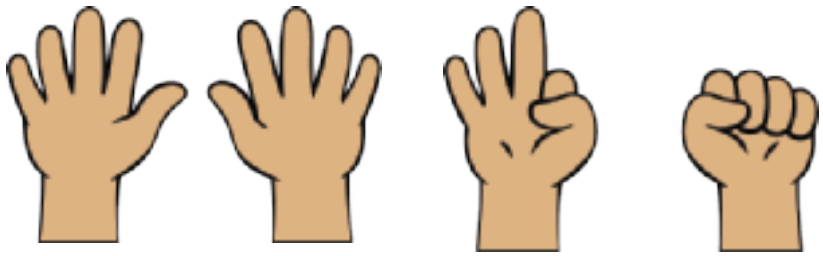
16



18

(From Unit 6, Lesson 5.)

2.

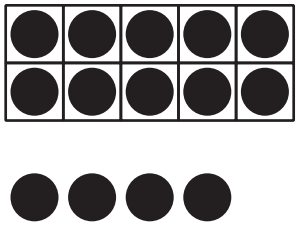


How many fingers are there?

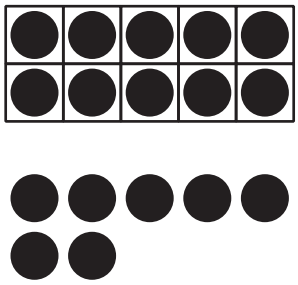
Show how many fingers there are using a 10-frame.

(From Unit 6, Lesson 6.)

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



_____

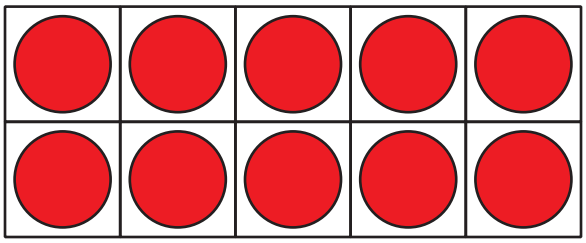


_____

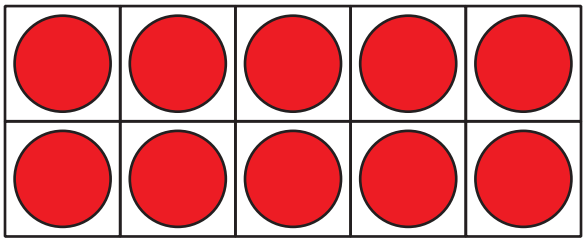
(From Unit 6, Lesson 7.)

4. Draw more dots to show each number.

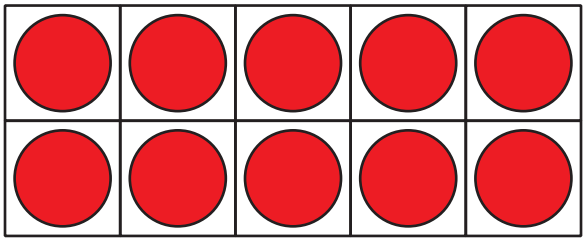
a. 11



b. 19

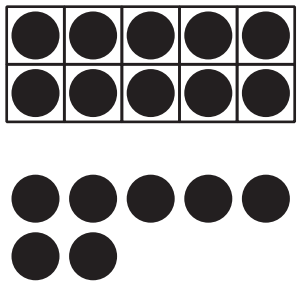


c. 15



(From Unit 6, Lesson 8.)

5. Choose an expression that matches the dots.



$10 + 5$

$10 + 2$

$10 + 7$

Explain how the expression matches the dots.

(From Unit 6, Lesson 9.)

6. Fill in the blanks to make each equation true.

a. $10 + 7 = _____$

b. $_____ + _____ = 18$

c. $_____ + _____ = 15$

(From Unit 6, Lesson 10.)

## 7. **Exploration**

What are some different ways you know how to show 16?

What is your favorite way to show 16?

Share with a partner.

8. **Exploration**

a. Arrange 18 dots in a way that helps you see there are 18.

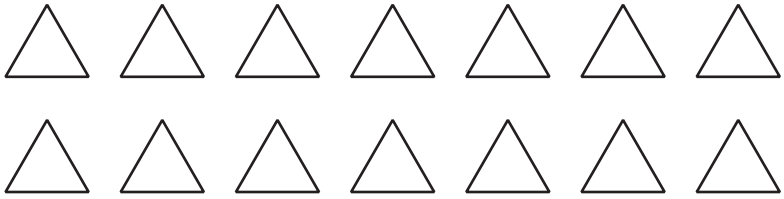
b. Arrange 18 dots in a way that makes it hard to see how many there are.

c. Explain why you chose your arrangements.

Try again with other numbers up to 19.

## Section C: Practice Problems

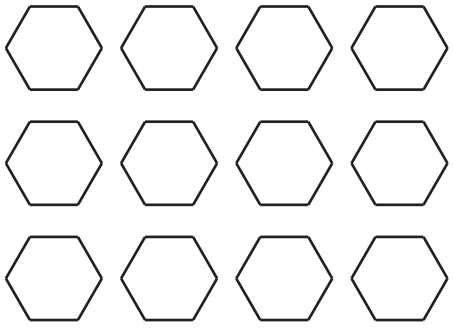
1. a. How many triangles are there?



There are _____ triangles.

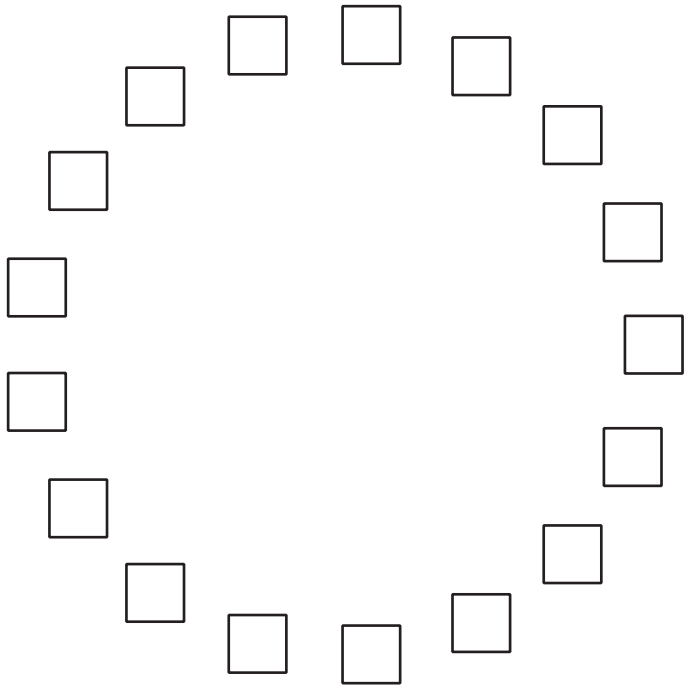
b. Lin wrote the equation $10 + 2 = 12$ to show the number of hexagons.

Color the hexagons to show Lin's equation.



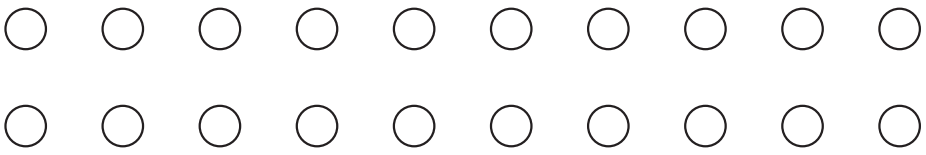
(From Unit 6, Lesson 11.)

2. a. How many squares are there?



There are _____ squares.

b. How many circles are there?



There are _____ circles.

(From Unit 6, Lesson 12.)

## 3. **Exploration**

Pick some of the flowers in the picture.

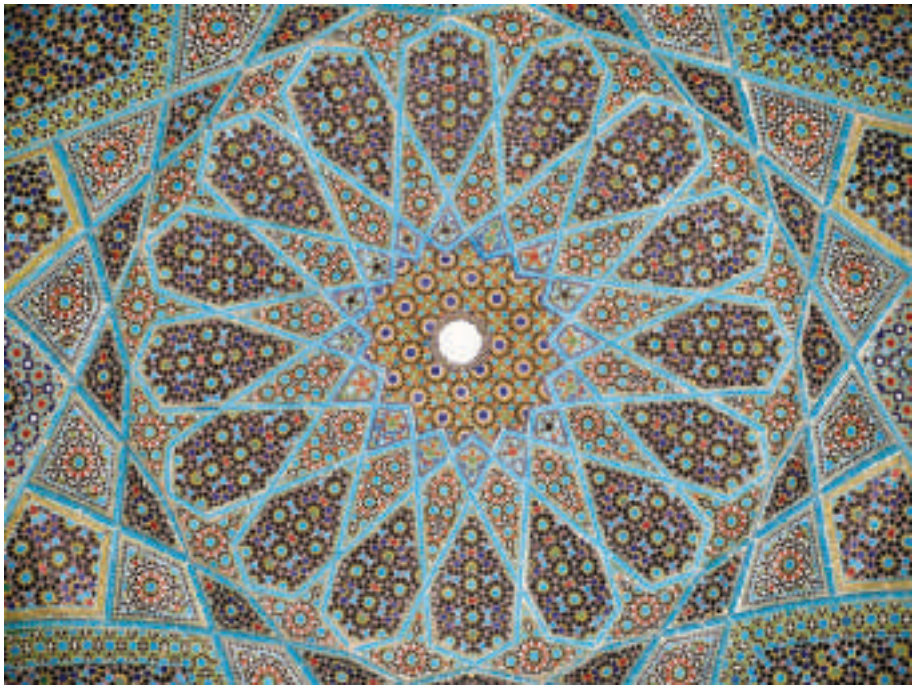
a. How many are there?

b. Share your answer with a partner.

Can you guess which flowers your partner counted?

## 4. **Exploration**

Pick a shape in one of the designs and figure out how many there are.



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