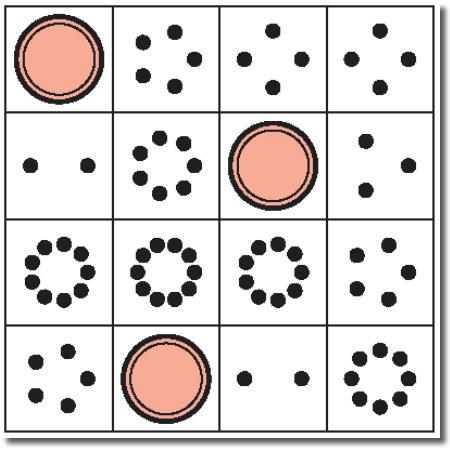
Core Knowledge® MATHEMATICS

# Numbers 0–20



Teacher Guide

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# Numbers 0–20

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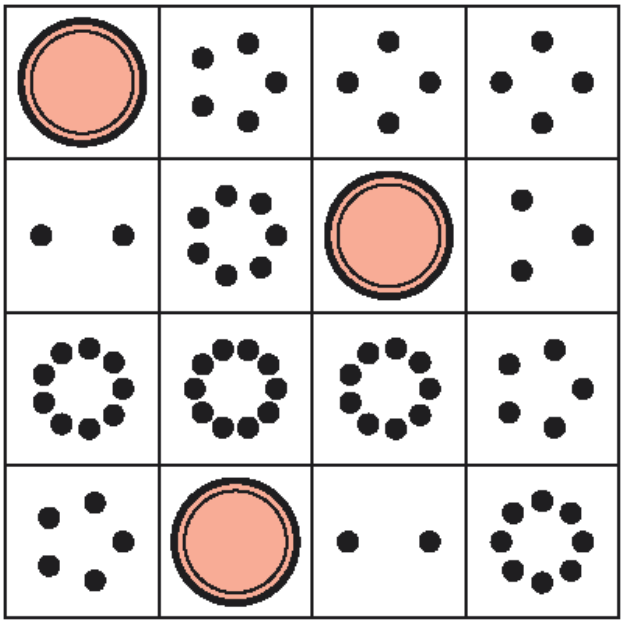


# Numbers 0–20

## Teacher Guide

Core Knowledge Mathematics™

# Unit 6: Numbers 0-20

## At a Glance

Unit 6 is estimated to be completed in 13-15 days including 2 days for assessment.

This unit is divided into three sections including 11 lessons and 2 optional lesson.

- Section A—Count Groups of 11-20 Objects (Lessons 1-4)
- Section B—10 Ones and Some More (Lessons 5-10)
- Section C—Count Groups of 11-20 Images (Lessons 11-13)

On pages 6-8 of this Teacher Guide is a chart that identifies the section each lesson belongs in and the materials needed for each lesson.

This unit uses nine student centers.

- Number Race
- Subtraction Towers
- 5-frames
- Find the Pair
- Tower Build
- Grab and Count
- Bingo
- Make or Break Apart Numbers
- Find the Value of Expressions

# Unit 6: Numbers 0–20

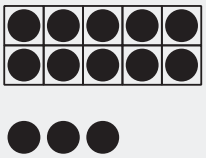
## Unit Learning Goals

- Students answer "how many" questions and count out groups within 20. They understand that numbers 11 to 19 are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. They write numbers within 20.

In this unit, students count and represent collections of objects and images within 20. They apply previously developed counting concepts—such as one-to-one correspondence, keeping track of what has been counted, and conservation of numbers—to larger numbers.

Previously, students have counted, composed, and decomposed numbers up to 10, using tools such as counters, connecting cubes, 5-frames, 10-frames, drawings, and their fingers. They wrote expressions to record compositions and decompositions.

Here, students use the 10-frame to organize groups of 11–19 objects and images. This tool encourages students to see teen numbers as 10 ones and some more ones, emphasizing the $10 + n$ structure of the numbers 11–19. They use this structure as they represent teen numbers with their fingers, objects, drawings, expressions, and equations. Students see equations with the addend written first, such as $10 + 6 = 16$.



Throughout the unit, students practice tracing and writing numbers 11–20. It is common for students at this stage to write numbers backwards, so the emphasis is on writing a number that is recognizable to others. Reversing the order of the digits of teen numbers is also expected, due to how teen numbers are said in English. Repeatedly seeing the number 1 written first to represent teen numbers helps students recognize the structure of these numbers.

When tracing and writing numbers, students should write on a flat surface while sitting in a chair with feet flat on the floor. Number writing practice can also happen in other parts of the day and can be done using a variety of writing tools (crayons, colored pencils, markers, and so on) for increased engagement. Students can practice creating numbers with dough, tracing numbers in sand, or forming numbers with pipe cleaners.

# Section A: Count Groups of 11-20 Objects

## Standards Alignments

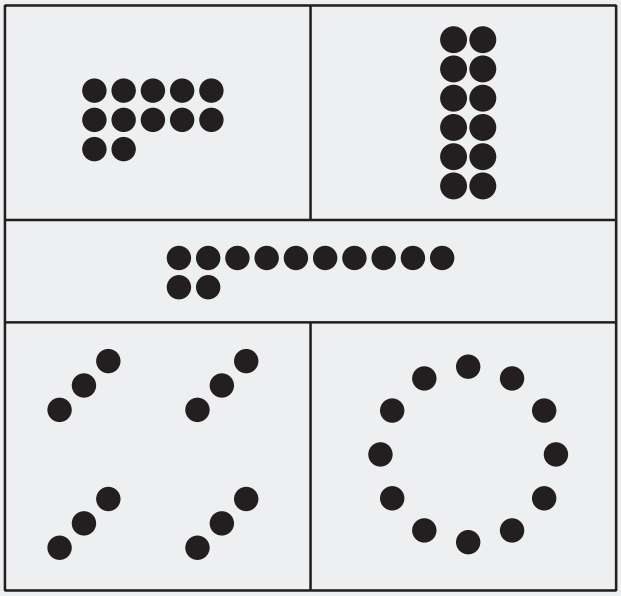
| | |
|---|---|
| Addressing | K.CC.A.1, K.CC.A.2, K.CC.A.3, K.CC.B, K.CC.B.4, K.CC.B.4.a, K.CC.B.4.b, K.CC.B.5, K.OA.A.1, K.OA.A.2, K.OA.A.5 |
| Building Towards | K.OA.A.5 |

## Section Learning Goals

- Count groups of up to 20 objects.

In this section, students count groups of 11–20 objects using strategies they developed earlier when working with smaller sets of objects.

Students participate in Counting Collections as the first activity in each lesson. They think about how organizing the objects can help ensure an accurate count and may use a counting mat or a 10-frame. Students also recognize that the number of objects in a group does not change, regardless of the way they are arranged.



Display written numbers for students whenever they share their count. In later sections, after seeing numbers displayed repeatedly, students will practice recognizing, tracing, and writing numbers 11–20. They will relate these numbers to addition expressions and equations. No expressions or equations are used in this section.

PLC: Lesson 4, Activity 2, Count, Rearrange, Recount

# Section B: 10 Ones and Some More

## Standards Alignments

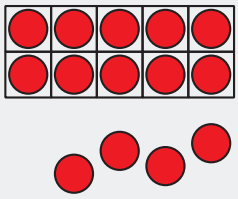
| | |
|---|---|
| Addressing | K.CC, K.CC.A.3, K.CC.B.4.a, K.CC.B.5, K.NBT.A.1, K.OA.A.1 |
| Building Towards | K.NBT.A.1 |

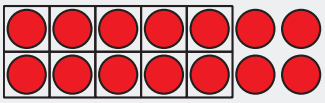
## Section Learning Goals

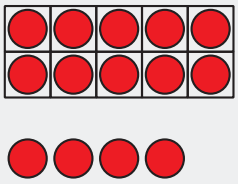
- Understand numbers 11-19 as 10 ones and some more ones.

In this section, students see the numbers 11–19 as 10 ones and some more ones. They compose and decompose teen numbers and record the compositions and decompositions with objects, drawings, and expressions.

Students use fingers and 10-frames to represent these numbers, but with more emphasis on the 10-frames as the lessons progress. To represent a teen number, they fill a 10-frame and show some more ones, which they may arrange in different ways. To determine the number of objects, students may count all or count on from 10 (though the latter is not an expectation in kindergarten).

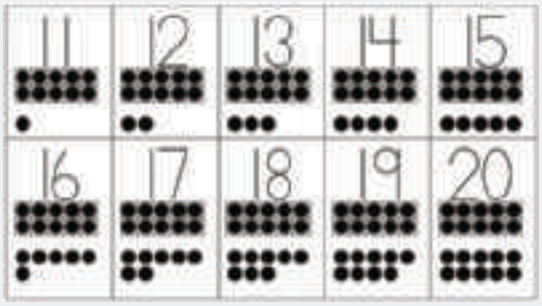






Students compose and decompose teen numbers by starting with the parts (“10 and 5 is 15”) and starting with the total (“15 is 10 and 5”). For the first time, students see equations with the addends on the left side of the equal sign ($10 + 5 = 15$). They complete equations that show missing parts or a missing total to represent teen numbers as 10 ones and some more ones ($_____ + _____ = 12$ and $10 + 7 = _____$).

Starting from this section, students have access to a reference sheet that shows numbers 11–20 with dots in 10-frames, which they can use to identify written numbers. Students can count the dots to determine which written number is on the card.




PLC: Lesson 8, Activity 2, Make Each Number

# Section C: Count Groups of 11–20 Images

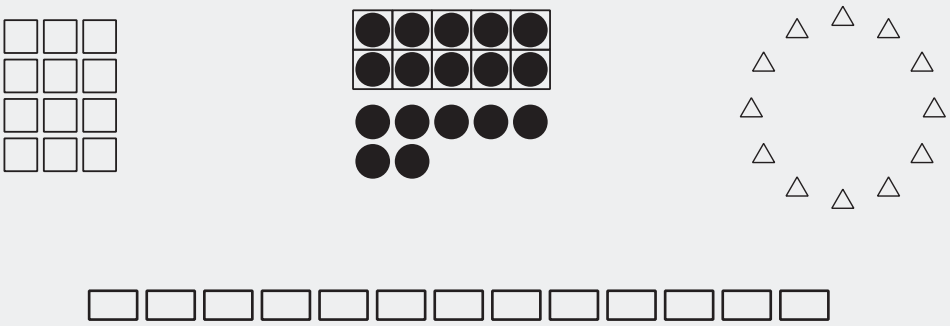
## Standards Alignments

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

## Section Learning Goals

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

In this short section, students count groups of up to 20 images arranged in lines, arrays, circles, and on 10-frames.



Images arranged in a circle can be tricky to count, motivating a greater need to keep track of what has been counted. Students use their understanding that teen numbers are composed of 10 ones and some ones to help them count and keep track of groups of up to 20 images and then to write numbers to represent such quantities.

Throughout this section, students should have continued access to the reference sheet that shows numbers 11–20 with dots in 10-frames.

PLC: Lesson 12, Activity 2, Count in Circles

## Throughout the Unit

In the Choral Count routine throughout this unit, students practice counting on from a given number, with particular focus on counting on from 10 to 20 to gain familiarity with numbers 11–20. Students also extend the verbal count sequence to 90.

Students are introduced to new centers that support the work of this unit. Centers to revisit from previous units are also suggested in each section. Feel free to incorporate other centers that have been

previously introduced based on student need and interest.

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

# Materials Needed

| LESSON | GATHER | COPY |
|---|---|---|
| A.1 | • 10-frames<br>• Collections of objects<br>• Colored pencils, crayons, or markers<br>• Connecting cubes<br>• Counting mats<br>• Materials from a previous activity<br>• Materials from previous centers | • Number Mat 11–20 (groups of 2)<br>• Number Race Stage 2 Recording Sheet for Tracing (groups of 1) |
| A.2 | • 10-frames<br>• Collections of objects<br>• Counting mats<br>• Materials from a previous activity<br>• Materials from previous centers | • none |
| A.3 | • 10-frames<br>• 5-frames<br>• Collections of objects<br>• Connecting cubes<br>• Counters<br>• Counting mats<br>• Materials from previous centers<br>• Number cards 0–10 | • Find the Pair Stage 1 Recording Sheet (groups of 1) |

| | | |
|---|---|---|
| A.4 | • 10-frames<br>• Collections of objects<br>• Connecting cubes<br>• Counting mats<br>• Materials from a previous activity<br>• Materials from previous centers | • Number Mat 1-10 (groups of 2) |
| B.5 | • 10-frames<br>• Counting mats<br>• Materials from previous centers<br>• Pattern blocks | • Grab and Count Stage 1 Recording Sheet (groups of 1) |
| B.6 | • 10-frames<br>• Colored pencils, crayons, or markers<br>• Connecting cubes<br>• Counters<br>• Materials from previous centers | • Number Mat 11–20 (groups of 2)<br>• Number Race Stage 2 Recording Sheet for Writing (groups of 1) |
| B.7 | • Materials from previous centers<br>• Two-color counters | • 10-frame and More Dots Cards (groups of 2)<br>• Number Cards 1–9 (groups of 2)<br>• Reference Sheet Numbers 11–20 with 10-frames (groups of 1) |
| B.8 | • Glue or tape<br>• Scissors<br>• Two-color counters | • 10-frame and More Dots Cards (groups of 2)<br>• Make Number Cards (groups of 1)<br>• Bingo Stage 4 Gameboard (groups of 4)<br>• Number Cards 11-19 (groups of 2) |
| B.9 | • Connecting cubes<br>• Materials from previous centers<br>• Two-color counters | • Numbers and Expressions Cards (groups of 4)<br>• Make or Break Apart Numbers Stage 2 Gameboards (groups of 4)<br>• Make or Break Apart Numbers Stage 2 Number Mat 11-19 (groups of 1)<br>• Make or Break Apart Numbers Stage 2 Recording Sheet (groups of 1) |

| | | |
|---|---|---|
| B.10 | • 10-frames<br>• Materials from previous centers<br>• Two-color counters | • none |
| C.11 | • Colored pencils, crayons, or markers<br>• Materials from previous centers | • none |
| C.12 | • 10-frames<br>• Connecting cubes<br>• Connecting cubes or counters<br>• Materials from previous centers<br>• Number cards 0–10 | • Find the Pair Stage 2 Recording Sheet (groups of 1) |
| C.13 | • Colored pencils, crayons, or markers | • Fingerprint Animals on the 10-frame (groups of 1) |

# Center: Number Race (K–1)

## Stage 1: Numbers to 10

**Activities**

- Kindergarten.6.A2.3 (supporting)
- Kindergarten.6.A3.3 (supporting)
- Kindergarten.6.A4.3 (supporting)
- Kindergarten.6.B7.3 (supporting)
- Kindergarten.6.B9.3 (supporting)
- Kindergarten.6.B10.3 (supporting)

### Stage Narrative

Students take turns rolling a connecting cube onto a number mat and write the number (1–10) they land on, on the recording sheet. Students may want to use colored pencils to write the numbers.

**Variation:**

Students may use the Instructional master that allows them to trace each number to support their number writing skills.

### Standards Alignments

Addressing K.CC.A.3

### Materials to Gather

Colored pencils, crayons, or markers, Connecting cubes

### Materials to Copy

Number Mat 1-10 (groups of 2), Number Race Stage 1 Recording Sheet for Tracing (groups of 1), Number Race Stage 1 Recording Sheet for Writing (groups of 1)

### Additional Information

Each group of 2 needs 1 connecting cube.

# Stage 2: Numbers 11 - 20

**Activities**

- Kindergarten.6.A1.3 (addressing)
- Kindergarten.6.A2.3 (addressing)
- Kindergarten.6.A3.3 (addressing)
- Kindergarten.6.A4.3 (addressing)
- Kindergarten.6.B6.3 (addressing)
- Kindergarten.6.B7.3 (addressing)
- Kindergarten.6.B9.3 (addressing)
- Kindergarten.6.B10.3 (addressing)

## Stage Narrative

Students take turns rolling a connecting cube onto a number mat and write the number (11–20) they land on, on the recording sheet. Students may want to use colored pencils to write the numbers.

**Variation:**

Students may use the Instructional master that allows them to trace each number to support their number writing skills.

## Standards Alignments

Addressing K.CC.A.3

## Materials to Gather

Colored pencils, crayons, or markers, Connecting cubes

## Materials to Copy

Number Mat 11–20 (groups of 2), Number Race Stage 2 Recording Sheet for Tracing (groups of 1), Number Race Stage 2 Recording Sheet for Writing (groups of 1)

## Additional Information

Each group of 2 needs 1 connecting cube.

# Center: Subtraction Towers (K)

## Stage 1: Objects

**Activities**

- Kindergarten.6.A1.3 (supporting)
- Kindergarten.6.A2.3 (supporting)
- Kindergarten.6.A3.3 (supporting)
- Kindergarten.6.A4.3 (supporting)

### Stage Narrative

One partner builds a tower with 5–10 cubes. The other partner rolls a cube onto the number mat to figure out how many cubes to subtract. Students work together to figure out how many cubes are left.

### Standards Alignments

Addressing K.CC.B.5, K.OA.A.1

### Materials to Gather

Connecting cubes

### Materials to Copy

Number Mat 1–5 (groups of 2)

# Center: 5-frames (K)

## Stage 1: Add

**Activities**

- Kindergarten.6.A1.3 (supporting)
- Kindergarten.6.A2.3 (supporting)
- Kindergarten.6.A3.3 (supporting)
- Kindergarten.6.A4.3 (supporting)

### Stage Narrative

Students begin with a full 5-frame and roll to see how many counters to add.

### Standards Alignments

Addressing K.CC.B.5, K.OA.A.1

### Materials to Gather

Connecting cubes, Counters

### Materials to Copy

5-Frame (groups of 1), 5-frames Stages 1 and 2 Recording Sheet (groups of 1), Number Mat 1–5 (groups of 2)

## Stage 2: Subtract

**Activities**

- Kindergarten.6.A1.3 (supporting)
- Kindergarten.6.A2.3 (supporting)
- Kindergarten.6.A3.3 (supporting)
- Kindergarten.6.A4.3 (supporting)

### Stage Narrative

Students begin with a full 5-frame and roll to see how many counters to take away.

### Standards Alignments

Addressing K.CC.B.5, K.OA.A.1

### Materials to Gather

Connecting cubes, Counters

### Materials to Copy

5-Frame (groups of 1), 5-frames Stages 1 and 2 Recording Sheet (groups of 1), Number Mat 1–5 (groups of 2)

# Center: Find the Pair (K–1)

## Stage 1: Make 5

**Activities**

- Kindergarten.6.A3.3 (addressing)
- Kindergarten.6.A4.3 (addressing)
- Kindergarten.6.B5.3 (addressing)
- Kindergarten.6.B6.3 (addressing)
- Kindergarten.6.B7.3 (addressing)

### Stage Narrative

Before playing, students remove the cards that show numbers greater than 5 and set them aside.

Partner A asks their partner for a number that would make 5 when added to the number on one of their cards. If Partner B has the card, they give it to Partner A and Partner A gets a match. If not, Partner A chooses a new card. When students make the target number 5, they put down those two cards and write an expression to represent the combination. Students continue playing until one player runs out of cards. The player with the most pairs wins.

### Standards Alignments

Addressing K.OA.A.5

### Materials to Gather

5-frames, Counters, Number cards 0–10

### Materials to Copy

Find the Pair Stage 1 Recording Sheet (groups of 1)

## Stage 2: Make 10

**Activities**

- Kindergarten.6.C12.3 (addressing)

### Stage Narrative

Partner A asks their partner for a number that would make 10 when added to the number on one of their cards. If Partner B has the card, they give it to Partner A. If not, Partner A chooses a new card. When students make the target number 10, they put down those two cards and write an equation to represent the combination. Students continue playing until one player runs out of cards. The player with the most pairs wins.

### Standards Alignments

Addressing 1.OA.C.6, K.OA.A.4

## Materials to Gather

10-frames, Connecting cubes or counters, Number cards 0–10

## Materials to Copy

Find the Pair Stage 2 Recording Sheet (groups of 1)

# Center: Tower Build (K)

## Stage 1: Count and Build to 10

**Activities**

- Kindergarten.6.B5.3 (supporting)
- Kindergarten.6.B6.3 (supporting)
- Kindergarten.6.B7.3 (supporting)
- Kindergarten.6.B9.3 (supporting)
- Kindergarten.6.B10.3 (supporting)

### Stage Narrative

Students take turns rolling a connecting cube onto a number mat and add that number of cubes to their tower. The first student to make a tower of 10 wins. If a student makes a tower with more than 10 cubes, they use the extra cubes to begin a new tower.

### Standards Alignments

Addressing K.CC.B.5

### Materials to Gather

Connecting cubes

### Materials to Copy

Number Mat 1–5 (groups of 2)

## Stage 2: Count and Build to 20

**Activities**

- Kindergarten.6.A4.3 (addressing)
- Kindergarten.6.B5.3 (addressing)
- Kindergarten.6.B6.3 (addressing)
- Kindergarten.6.B7.3 (addressing)
- Kindergarten.6.B9.3 (addressing)
- Kindergarten.6.B10.3 (addressing)

### Stage Narrative

Students take turns rolling a connecting cube onto a number mat and add that number of cubes to their tower. The first student to make a tower of 20 wins. If a student makes a tower with more than 20 cubes, they use the extra cubes to begin a new tower.

### Standards Alignments

Addressing K.CC.B.5

## Materials to Gather

Connecting cubes

## Materials to Copy

Number Mat 1-10 (groups of 2)

# Center: Grab and Count (K–1)

## Stage 1: Pattern Blocks

**Activities**

- Kindergarten.6.B5.3 (addressing)
- Kindergarten.6.B6.3 (addressing)
- Kindergarten.6.B7.3 (addressing)
- Kindergarten.6.B9.3 (addressing)
- Kindergarten.6.B10.3 (addressing)

### Stage Narrative

Each student grabs a handful of pattern blocks and puts them together with their partner's. They guess how many pattern blocks there are and then count the blocks. Students record their guess and the actual number of blocks on the recording sheet.

**Variation:**

Students can count their own group of blocks first and record an expression to represent the total number of pattern blocks.

### Standards Alignments

Addressing K.CC.B.5

### Materials to Gather

Pattern blocks

### Materials to Copy

Grab and Count Stage 1 Recording Sheet (groups of 1)

### Additional Information

Each group of 2 needs around 20 pattern blocks.

# Center: Bingo (K)

## Stage 1: Images

**Activities**

- Kindergarten.6.B9.3 (supporting)
- Kindergarten.6.B10.3 (supporting)
- Kindergarten.6.C11.3 (supporting)
- Kindergarten.6.C12.3 (supporting)

### Stage Narrative

One student chooses a card with an image and all students in the group can place a counter on their gameboard over a group that has the same number of images.

### Standards Alignments

Addressing K.CC.B.5, K.CC.C.6

### Materials to Gather

Counters

### Materials to Copy

Bingo Stage 1 Cards (groups of 4), Bingo Stages 1-3 Gameboard (groups of 4)

## Stage 2: Images and Numbers

**Activities**

- Kindergarten.6.B9.3 (supporting)
- Kindergarten.6.B10.3 (supporting)
- Kindergarten.6.C11.3 (supporting)
- Kindergarten.6.C12.3 (supporting)

### Stage Narrative

One student chooses a number card and all students in the group can place a counter on their gameboard over a group that has that number of images.

### Standards Alignments

Addressing K.CC.B.5, K.CC.C.6

### Materials to Gather

Counters, Number cards 0–10

### Materials to Copy

Bingo Stages 1-3 Gameboard (groups of 4)

# Stage 3: Add and Cover

**Activities**

- Kindergarten.6.B9.3 (supporting)
- Kindergarten.6.B10.3 (supporting)
- Kindergarten.6.C11.3 (supporting)
- Kindergarten.6.C12.3 (supporting)

## Stage Narrative

Students roll 2 cubes onto the dot mat. They find the total number of dots and cover any spaces on the gameboard with that number of images.

## Standards Alignments

Addressing K.CC.B.5, K.OA.A.1

## Materials to Gather

Connecting cubes, Two-color counters

## Materials to Copy

Bingo Stages 1-3 Gameboard (groups of 4), Dot Mat 1-5 (dots and 5-frames) (groups of 2)

# Stage 4: Numbers 11–19

**Activities**

- Kindergarten.6.B8.3 (addressing)
- Kindergarten.6.B9.3 (addressing)
- Kindergarten.6.B10.3 (addressing)
- Kindergarten.6.C11.3 (addressing)
- Kindergarten.6.C12.3 (addressing)

## Stage Narrative

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.

## Standards Alignments

Addressing K.CC.B.5

## Materials to Gather

Two-color counters

## Materials to Copy

Bingo Stage 4 Gameboard (groups of 4), Number Cards 11-19 (groups of 2)

# Center: Make or Break Apart Numbers (K)

## Stage 1: Numbers to 9

**Activities**

- Kindergarten.6.B10.3 (supporting)
- Kindergarten.6.C11.3 (supporting)
- Kindergarten.6.C12.3 (supporting)

### Stage Narrative

Students roll to get a number from 4–9. They find two groups of dots that can be put together to make that number. Students write an expression to represent the two parts that make the number.

### Standards Alignments

Addressing K.OA.A.1, K.OA.A.3

### Materials to Gather

Connecting cubes, Two-color counters

### Materials to Copy

Make or Break Apart Numbers Stage 1 Dot Page (groups of 2), Make or Break Apart Numbers Stage 1 Number Mat 4 - 9 (groups of 1), Make or Break Apart Numbers Stage 1 Recording Sheet (groups of 1)

## Stage 2: Numbers 11–19

**Activities**

- Kindergarten.6.B9.3 (addressing)
- Kindergarten.6.B10.3 (addressing)
- Kindergarten.6.C11.3 (addressing)
- Kindergarten.6.C12.3 (addressing)

### Stage Narrative

Students roll to get a number from 11–19. They find two groups of dots that can be put together to make that number. Students write an expression to represent the two parts that make the number.

### Standards Alignments

Addressing K.NBT.A.1

## Materials to Gather

Connecting cubes, Two-color counters

## Materials to Copy

Make or Break Apart Numbers Stage 2 Gameboards (groups of 4), Make or Break Apart Numbers Stage 2 Number Mat 11-19 (groups of 1), Make or Break Apart Numbers Stage 2 Recording Sheet (groups of 1)

# Center: Find the Value of Expressions (K)

## Stage 1: Color the Total or Difference

**Activities**

- Kindergarten.6.C11.3 (supporting)
- Kindergarten.6.C12.3 (supporting)

### Stage Narrative

One partner chooses an expression card. The other partner finds the value of the expression. When both partners agree, they both color in that number on the recording sheet. All expressions have values within 10.

### Standards Alignments

Addressing K.CC.A.3, K.OA.A.1, K.OA.A.2

### Materials to Gather

Connecting cubes or two-color counters

### Materials to Copy

Find the Value of Expressions within 10 Stage 1 Cards (groups of 2), Find the Value of Expressions within 10 Stage 1 Recording Sheet (groups of 1)

# Section A: Count Groups of 11-20 Objects

# Lesson 1: Count Larger Collections of Objects

### Standards Alignments

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

### Teacher-facing Learning Goals

- Answer "how many" questions about groups of up to 20 objects.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to count to answer "how many" questions about groups of up to 20 objects.

In previous units, students answered "how many" questions about up to 10 objects. With smaller groups of objects, students could sometimes figure out how many there were without counting. Students developed methods such as moving and counting objects, lining up objects, or placing and moving objects on a counting mat. This exploratory lesson provides formative data for teachers on how students apply counting concepts from previous units to larger groups of objects. Students will be introduced to the written numbers 11–20 over the course of the section and will have opportunities to practice tracing and writing the numbers. In this lesson, display written numbers whenever students share their count.

Students can be invited to bring objects from home to use in counting collections throughout this unit and in centers. The objects in the collections should be small enough to fit on a counting mat, such as buttons, counting bears, coins, connecting cubes, or two-color counters.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Choral Count (Warm-up)

### Materials to Gather

- 10-frames: Activity 1
- Collections of objects: Activity 1
- Colored pencils, crayons, or markers: Activity 3
- Connecting cubes: Activity 2, Activity 3
- Counting mats: Activity 1
- Materials from a previous activity: Activity 2
- Materials from previous centers: Activity 3

### Materials to Copy

- Number Mat 11–20 (groups of 2): Activity 3
- Number Race Stage 2 Recording Sheet for Tracing (groups of 1): Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

How have 5- and 10-frames supported students in keeping track of and accurately counting groups of objects?

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

0 min

Unit 6, Section A Checkpoint

### Standards Alignments

Addressing K.CC.B

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 20.
- Answer how many without counting again.
- Keep track of objects that have been counted.

Begin Lesson

# Warm-up

10 min

Choral Count: Count to 80 and Count On

### Standards Alignments

Addressing K.CC.A.1, K.CC.A.2

The purpose of this warm-up is for students to extend the verbal count sequence to 80 and to count on from a given number. As students count, point to the numbers posted so that students can follow along.

### Instructional Routines

Choral Count

### Student Responses

- Students count to 80.
- Students count on from 10 to 20.

### Launch

- "Let's count to 80."
- Count to 80 1–2 times as a class.

### Activity

- "Now, start at the number 10 and count to 20."
- Count on from 10 to 20.
- Record as students count.
- Repeat 3–4 times starting with other numbers within 20.

### Synthesis

- "We counted and recorded the numbers from 10 to 20. Find and point to the number 11. Tell your partner how you know you found the number 11."
- Repeat 2–3 times with other numbers 11–20.

# Activity 1

10 min

Counting Collections

## Standards Alignments

Addressing K.CC.B.4, K.CC.B.5

The purpose of this activity is for students to count their collection in a way that makes sense to them. Students may use the counting mat or 10-frame to organize objects as they count. Students use appropriate tools strategically as they choose which tools help them count their collections (MP5). As students share how many objects are in their collection, write or display the number to record their count.

If there is additional time, invite students to count more than 1 collection of objects.

### Access for Students with Disabilities

*Action and Expression: Internalize Executive Functions*. Invite students to plan a strategy for how they will count their collection. Encourage students to think about the tools they will use to count the number of objects in the collection. If time allows, invite students to share their plan with a partner before they begin. *Supports accessibility for: Organization*

## Materials to Gather

10-frames, Collections of objects, Counting mats

## Required Preparation

- Each student needs a collection of 11–20 objects.

## Student Responses

Students count the objects in their collections.

## Launch

- Groups of 2
- Give each student a collection of objects and access to 10-frames and a counting mat.
- "How many objects are in your collection?"

### Activity

- 5 minutes: independent work time

### Synthesis

- "Tell your partner how you figured out how many objects are in your collection."
- Invite 2–3 students to share how they counted their collection.
- After each student shares, display the number and say, "There are _____ objects in their collection."
- "In the next activity we will share different ways that we counted our collections."

### Advancing Student Thinking

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

- "Can you tell me how many objects there are without counting them again?"
- If needed, demonstrate counting the group of objects and after saying the last number, ask "What does the number ___ tell us?"

## Activity 2

10 min

How We Count

### Standards Alignments

Addressing K.CC.B.4, K.CC.B.5

The purpose of this activity is for students to describe different methods that help them count collections of objects. Consider adding visual cues to the chart created in this activity and leaving it displayed for students to refer to throughout the unit. When students explain how they could count the disorganized cubes, they attend to precision in counting accurately (MP6).

### Access for English Learners

*MLR8 Discussion Supports.* As students share their strategies, annotate the display to illustrate connections. Use verbal descriptions along with gestures, drawings, or concrete objects to demonstrate each method. For example, read "We could put the cubes on a 10-frame and then count them" and point to the 10-frame.
*Advances: Speaking, Representing*

### Materials to Gather

Connecting cubes, Materials from a previous activity

### Required Preparation

- Create a pile of 4 connecting cubes to display.
- Create a pile of 13 connecting cubes to display.
- Students need the collections of 11-20 objects from the previous activity.

### Student Responses

Sample responses:

- We can count the cubes:
  - We can move and count each cube.
  - We can put the cubes in a line and touch and count each cube.
  - We can put the cubes into a tower and count each cube.
  - We can put the cubes on a counting mat and count while we move each cube to the other side.
  - We could put the cubes on a 10-frame and then count them.

### Launch

- Groups of 2
- Give students access to 10-frames and counting mats.
- Display 4 connecting cubes in a scattered arrangement.
- "How many cubes are there? How do you know?" (There are 4 cubes. I can just see 4. I counted 1, 2, 3, 4).
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.
- Display 13 cubes in a pile.
- "How many cubes are there?" (We can't see how many there are. There are a lot.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.

### Activity

- "What can we do to figure out how many cubes there are?"
- 1 minute: quiet think time
- 1 minute: partner discussion
- If needed, ask "How would you count this collection of cubes?"
- Share and record responses on a chart.

### Synthesis

- "We talked about and wrote down many different ways that we can count collections of objects. Switch collections with your partner and figure out how many objects are in your new collection. If it is helpful, you can choose to count your collection in one of the ways that we talked about."
- 3 minutes: independent work time

## Activity 3

25 min

Introduce Number Race, 11–20

### Standards Alignments

Addressing K.CC.A.3

The purpose of this activity is for students to learn stage 2 of the Number Race center. Students practice recognizing and writing numbers 11–20 as they roll a connecting cube onto the mat and trace the number that it lands on. To support their developing number recognition, students can match the symbol on the number mat to the symbol on the recording sheet. Students continue rolling and tracing until one number "wins" (all of the numbers in the column are traced). After students have traced all of one number, they can finish tracing the rest of the numbers. Students can use different colors or writing utensils during this center. In a future variation of this center, students will write the numbers instead of tracing them.

After they participate in the center, students choose from any stage of previously introduced centers.

- Subtraction Towers
- 5-frames

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

## Materials to Gather

Colored pencils, crayons, or markers, Connecting cubes, Materials from previous centers

## Materials to Copy

Number Mat 11–20 (groups of 2), Number Race Stage 2 Recording Sheet for Tracing (groups of 1)

## Required Preparation

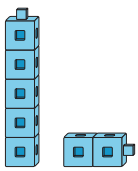
- Gather materials from:
  - Subtraction Towers, Stage 1
  - 5-frames, Stages 1 and 2

## Student-facing Task Statement

Choose a center.

Number Race

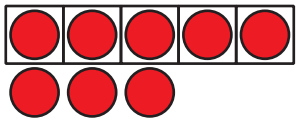
Subtraction Towers



5-frames

## Launch

- Groups of 2
- Give each student a recording sheet and access to colored pencils or other writing utensils. Give each group of students a number mat and a connecting cube.
- "We're going to play Number Race with numbers 11–20."
- Display the recording sheet and number mat.
- "What steps do we take to play Number Race with our partner?"
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- If needed, review the steps for Number Race with students.
- "Take turns with your partner. During each



turn, roll the cube and trace the number on the recording sheet. Play until you've traced all of one number. That number is the winner."

### Activity

- 8 minutes: partner work time
- "Now you can choose another center. You can also continue playing Number Race."
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 10 minutes: center work time
- If time, invite students to choose another center.

### Synthesis

- Invite a student to share their completed recording sheet.
- Point to and say each number. Invite students to chorally repeat each number.
- "Which numbers did they roll more than 3 times?"
- "Which numbers did they roll less than 4 times?"

## Lesson Synthesis

5 min

"Today we talked about 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?" (You still have to make sure that you count all of the objects one time. Sometimes when the collection is smaller, you can just see how many there are. It is quicker to count smaller collections of objects. It is easier to lose track with a larger collection of objects.)

# Lesson 2: Keep Track of Objects (Optional)

### Standards Alignments

| | |
|---|---|
| Addressing | K.CC.B, K.CC.B.4, K.CC.B.4.a, K.CC.B.5, K.OA.A.1, K.OA.A.2 |
| Building Towards | K.OA.A.5 |

### Teacher-facing Learning Goals

- Answer "how many" questions about groups of up to 20 objects.
- Keep track of objects that have been counted.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to keep track of objects that have been counted in order to accurately count groups of up to 20 objects.

This lesson is optional because it is an opportunity for extra practice keeping track of and accurately counting groups of up to 20 objects. When counting larger groups of objects, it is more likely that students will skip some objects or recount objects more than once which highlights the need to organize and keep track while counting. The second activity provides opportunities to practice different ways of keeping track of objects in order to count accurately.

### Access for:

#### Students with Disabilities

- Engagement (Activity 3)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

Number Talk (Warm-up)

### Materials to Gather

- 10-frames: Activity 1
- Collections of objects: Activity 1
- Counting mats: Activity 1
- Materials from a previous activity: Activity 2

- Materials from previous centers: Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

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

## Cool-down (to be completed at the end of the lesson) 0 min

Unit 6, Section A Checkpoint

### Standards Alignments

Addressing K.CC.B

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 20.
- Answer how many without counting again.
- Keep track of objects that have been counted.

Begin Lesson

## Warm-up 10 min

Number Talk: Add and Subtract 0 and 1

## Standards Alignments

| | |
|---|---|
| Addressing | K.OA.A.1, K.OA.A.2 |
| Building Towards | K.OA.A.5 |

The purpose of this Number Talk is to elicit strategies and understandings students have for adding and subtracting 0 and 1. These understandings help students develop fluency with the count sequence and adding and subtracting within 5.

When students use their knowledge of the count sequence when they add or subtract 1, they look for and make use of structure (MP7).

## Instructional Routines

Number Talk

### Student-facing Task Statement

Find the value of each expression.

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

### Student Responses

- 3: 0 is nothing so 3 plus 0 is still 3.
- 4: 3 and 1 more is 4.
- 2: 2 comes before 3 when we count.
- 2: If you have 2 and take away 0, it is still 2.

### Launch

- Display one expression.
- "Give me a signal when you have an answer and can explain how you got it."
- 1 minute: quiet think time

### Activity

- Record answers and strategy.
- Keep expressions and work displayed.
- Repeat with each expression.

### Synthesis

- Display $3 + 0$ and $2 - 0$.
- "What is the same about these expressions? What is different about them?" (One is addition and one is subtraction. They both have zero.)

# Activity 1

10 min

Counting Collections

## Standards Alignments

Addressing K.CC.B.4, K.CC.B.5

The purpose of this activity is for students to count their collection in a way that makes sense to them and keep track of which objects have been counted. Keeping track of which objects have been counted helps students count accurately and ensure they count all of the objects and do not count each object more than once (MP6). Students are provided with 10-frames and counting mats to help them organize their collections.

## Access for English Learners

*MLR8 Discussion Supports.* Display and read aloud the following sentence frame to support small-group discussion: "There are _____ objects in my collection." Invite students to chorally repeat this sentence in unison 1–2 times.
*Advances: Speaking, Conversing, Representing*

## Materials to Gather

10-frames, Collections of objects, Counting mats

## Required Preparation

- Each student needs a collection of 11-20 objects.

## Student Responses

Students count the objects in their collections.

## Launch

- Groups of 2
- Give each student a collection of objects and access to 10-frames and a counting mat.
- "How many objects are in your collection?"

## Activity

- 5 minutes: independent work time

- Monitor for students who use the 10-frame or the counting mat to organize and count their objects.
- "Tell your partner how many objects are in your collection."
- 1 minute: partner discussion

### Synthesis

- Invite previously identified students to share how they counted their collections.
- "What do you notice about how they counted?" (They said one number for each object. They used the counting mat/ 10-frame to organize their objects. They counted all of the objects one time.)
- After each student shares, write or display the number and say, "There are _____ objects in their collection."

### Advancing Student Thinking

If students count each object more than once or do not count some of the objects, consider asking:

- "How many objects do you have? How do you know?"
- Display the counting mat or the 10-frame and ask "How can you use this mat to help you make sure that you count each object?"

These students may benefit from the next activity in this optional lesson.

## Activity 2

10 min

Different Ways to Keep Track

### Standards Alignments

Addressing K.CC.B.4.a

The purpose of this activity is for students to practice keeping track of the objects that have been counted as they count collections of up to 20 objects. Students may benefit from working on the concepts in this optional activity more than one time.

### Materials to Gather

Materials from a previous activity

## Required Preparation

- Each student needs a collection of 11–20 objects.
- Students need the 10-frames and counting mats from the previous activity.

## Student Responses

- Students count the objects in their collections using a 10-frame or counting mat.

## Launch

- Groups of 2
- Give each student a collection of objects and access to 10-frames and a counting mat.
- Display a 10-frame mat and a counting mat.
- "How can you use the counting mat to help you figure out how many objects are in your collection?" (I can put all of the objects on one side and say a number as I move each object to the other side.)
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- "How can you use the 10-frame to help you figure out how many objects there are in your collection?" (I can put one object in each box and line up the rest of the objects. Then I can count them.)
- 30 seconds: quiet think time
- 30 seconds: partner discussion
- Share responses.
- "Choose either the 10-frame or the counting mat to help you figure out how many objects are in your collection."

### Activity

- 4 minutes: independent work time
- "Find a partner who used a different tool to help them count their collection. If you used a 10-frame to help you count your collection, find a partner who used the counting mat. Show your new partner how you counted your collection."
- 4 minutes: partner work time

### Synthesis

- Invite at least one student who used each tool to share how they counted their collection.
- After each student shares, write or display the number and say, "There are _____ objects in their collection."
- "How do you know that you have counted each object one time?" (I moved the objects from one side of the counting mat to the other. There are none left on this side, so I counted them all. I put them in a 10-frame and then touched and counted each one in order.)
- If needed, "When we count, a counting mat or 10-frame can help us make sure that we count each object 1 time."

## Activity 3

25 min

Centers: Choice Time

The purpose of this activity is for students to choose from activities that offer practice with addition, subtraction, and tracing numbers.

Students choose from any stage of previously introduced centers.

- Number Race
- Subtraction Towers
- 5-frames

### Access for Students with Disabilities

*Engagement: Provide Access by Recruiting Interest.* Use visible timers or audible alerts to help students anticipate and prepare to transition between activities.
*Supports accessibility for: Social-Emotional Functioning, Organization*

### Materials to Gather

Materials from previous centers

## Required Preparation

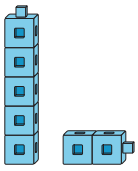
- Gather materials from:
  - Number Race, Stages 1 and 2
  - Subtraction Towers, Stage 1
  - 5-frames, Stages 1 and 2

### Student-facing Task Statement

Choose a center.

Number Race

Subtraction Towers



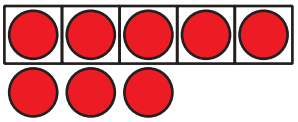
5-frames

### Launch

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

### Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- "Choose what you would like to do next."
- 10 minutes: center work time



### Synthesis

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

## Lesson Synthesis

5 min

"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." (I move each object as I count it. I touch each object as I count it. I put the objects in a line and then count all of them. I move each object from one side to the other on the counting mat. I put the objects in a 10-frame and then count each one.)

# Lesson 3: Count Carefully

## Standards Alignments

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

## Teacher-facing Learning Goals

- Answer "how many" questions about groups of up to 20 objects.
- Know that counting a group of objects will yield the same number, regardless of their arrangement or how they are counted.

## Student-facing Learning Goals

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

## Lesson Purpose

The purpose of this lesson is for students to recognize that the number of objects in a group stays the same regardless of how they are counted.

In previous lessons, students counted groups of up to 20 objects and kept track of the objects that have been counted. In this lesson, students count the same collection as a partner, both to compare different ways of organizing and keeping track of collections of objects and to notice that the total number of objects stays the same. As students use and observe a variety of ways to count collections, they begin to understand that the order or arrangement that objects are counted in does not affect the number of objects. Students will further explore the conservation of number when a group of objects is rearranged in a future lesson.

## Access for:

### Students with Disabilities

- Representation (Activity 1)

### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Notice and Wonder (Warm-up)

## Materials to Gather

- 10-frames: Activity 1
- 5-frames: Activity 3

## Materials to Copy

- Find the Pair Stage 1 Recording Sheet (groups of 1): Activity 3

- Collections of objects: Activity 1
- Connecting cubes: Warm-up, Activity 2
- Counters: Activity 3
- Counting mats: Activity 1
- Materials from previous centers: Activity 3
- Number cards 0–10: Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

What can the work of the second activity help you learn about your students' understanding of counting and conservation of number?

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

0 min

Unit 6, Section A Checkpoint

### Standards Alignments

Addressing K.CC.B

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 20.
- Answer how many without counting again.
- Keep track of objects that have been counted.
- After a group of objects that have been counted is rearranged, know that the total number of objects remains the same without recounting.

Begin Lesson

# Warm-up

10 min

Notice and Wonder: Pile of Connecting Cubes

### Standards Alignments

Addressing K.CC.B.5

The purpose of this warm-up is to elicit the idea that organizing objects helps us count them, which will be useful when students count collections of up to 20 objects in a later activity. While students may notice and wonder many things about the cubes, the number of connecting cubes is the important discussion point.

### Instructional Routines

Notice and Wonder

### Materials to Gather

Connecting cubes

## Required Preparation

- Create a pile of 18 connecting cubes to display.

### Student-facing Task Statement

What do you notice?
What do you wonder?

### Launch

- Groups of 2
- Display a pile of 18 connecting cubes or the image.
- "What do you notice? What do you wonder?"
- 1 minute: quiet think time

### Activity

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

### Synthesis

- "How many cubes are there?" (A lot. We can't

see all of the cubes, so we can't count them.)

### Student Responses

Students may notice:

- There are cubes in a pile. They are messy.
- None of the cubes are connected.
- There are many different colors.

Students may wonder:

- How many cubes are there?
- Are there more blue cubes or yellow cubes?

## Activity 1

10 min

Counting Collections

### Standards Alignments

Addressing K.CC.B.4, K.CC.B.5

The purpose of this activity is for students to count their collection in a way that makes sense to them and notice that the number of objects stays the same when a collection is counted multiple times (MP8). Students are provided with 10-frames and counting mats to help them organize their collections. Students use appropriate tools strategically as they choose which tools help them count their collections (MP5).

### Access for English Learners

*MLR8 Discussion Supports*. Display and read aloud the following sentence frames to support small-group discussion: "I agree because _____." and "I disagree because _____." Invite students to chorally repeat this sentence in unison 1–2 times.
*Advances: Speaking, Conversing, Representing*

### Access for Students with Disabilities

*Representation: Internalize Comprehension.* Synthesis: Use multiple examples and non-examples to emphasize the importance of counting every object one time. Demonstrate to students the non-example of counting one object twice in a collection.
*Supports accessibility for: Conceptual Processing, Organization*

## Materials to Gather

10-frames, Collections of objects, Counting mats

## Required Preparation

- Each student needs a collection of 11–20 objects.

## Student Responses

Students count the objects in their collections.

## Launch

- Groups of 2
- Give each student a collection of objects and access to 10-frames and a counting mat.
- "How many objects are in your collection?"

## Activity

- 3 minutes: independent work time
- "Tell your partner how many objects are in your collection."
- 30 seconds: partner discussion
- "Switch collections with your partner. Do you agree with your partner about how many objects are in the collection?"
- 3 minutes: independent work time

### Synthesis

- "Show your partner how you counted and tell your partner how many objects are in your new collection. Did you and your partner count the collection the same way? Did you agree about how many objects are in the collection?"
- "We might count the objects differently than our partner, but we should get the same number if we count every object one time."

### Advancing Student Thinking

If students count each object more than once or do not count some of the objects, consider asking:

- "How many objects do you have? How do you know?"
- Display the counting mat or the 10-frame and ask "How can you use this mat to help you make sure that you count each object?"

## Activity 2

10 min

Count Carefully with Friends

### Standards Alignments

Addressing K.CC.B.4.b

The purpose of this activity is for students to notice and discuss that counting the same collection should yield the same result each time. Students may benefit from the opportunity to count the displayed collection of objects at the beginning of the activity, before discussing how Clare, Andre, and Noah counted. When students show different ways to count the cubes accurately they attend to precision in organizing and counting (MP6).

### Materials to Gather

Connecting cubes

## Required Preparation

- Create a pile of 16 connecting cubes to display.

## Student-facing Task Statement

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?

## Student Responses

No. They should get the same number.

Sample responses:

- They were not careful.
- They did not count some of the cubes.
- They counted some of the cubes more than once.
- They mixed up the numbers when they were counting.

## Launch

- Groups of 2
- Display a pile of 16 cubes.
- "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?" (No, they all got different numbers.)
- 30 seconds: quiet think time
- Share responses.

## Activity

- "Why might they have gotten different answers?"
- 1 minute: quiet think time
- 1 minute: partner discussion
- Share responses.

## Synthesis

- Select a student to figure out how many cubes there are.
- "Is there another way that we can count the cubes?"
- Select a student to figure out how many cubes there are in another way.
- "What is the same about how _____ and _____ counted the cubes? What is different?" (They both counted all of the cubes 1 time. They both counted 16 cubes. _____ put them in a line. _____ used a counting mat.)

- "There are 16 cubes."
- Write or display the number 16.

## Activity 3

25 min

Introduce Find the Pair, Make 5

### Standards Alignments

Addressing K.OA.A.5

The purpose of this activity is for students to learn stage 1 of the Find the Pair center. Students develop fluency with addition and subtraction within 5 as they find the number that makes 5 when added to a given number. Each student draws a hand of 5 cards. Students take turns asking their partner for a card that goes with one of their cards to make 5. When students receive a match, they write an expression. Students draw a new card when they do not receive a match. Students may use math tools such as 5-frames or draw a picture to make 5.

After they participate in the center, students choose from any stage of previously introduced centers.

- Number Race
- Subtraction Towers
- 5-frames

### Materials to Gather

5-frames, Counters, Materials from previous centers, Number cards 0–10

### Materials to Copy

Find the Pair Stage 1 Recording Sheet (groups of 1)

### Required Preparation

- Before playing, remove the cards that show numbers greater than 5.
  - Number Race, Stages 1 and 2
  - Subtraction Towers, Stage 1
  - 5-frames, Stages 1 and 2

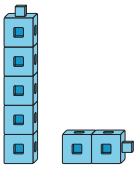
## Student-facing Task Statement

Choose a center.

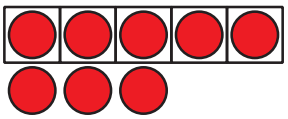
Find the Pair

Number Race

Subtraction Towers



5-frames



## Launch

- Groups of 2
- Give each student a set of cards, a recording sheet, and access to two-color counters, 5-frames, and 10-frames.
- "We're going to learn a center called Find the Pair."
- "Put your cards in a pile in the middle of the table. You and your partner will both draw 5 cards. Keep your cards hidden from your partner."
- Demonstrate drawing 5 cards. Invite a student to act as the partner and draw 5 cards.
- "I am going to look at my cards. I need to choose 1 card and figure out which number I need to make 5 with the card."
- Display a card with the number 4.
- "My card says 4. What card do I need to go with it to make 5?" (1)
- "I need a 1 card. I'm going to ask my partner if they have a 1 card."
- "If my partner has a 1 card, they will give it to me. I will put the 4 card and 1 card down as a match and write an expression."
- "If I have a 4 card and a 1 card, what expression should I write?" ($4 + 1$ or $1 + 4$)
- "If my partner doesn't have the card that I asked for, I draw 1 more card from the middle. We will keep playing until we run out of cards."
- Invite students to play one game with their partners and answer any questions about the rules of the game.
- "Take turns playing with your partner."

## Activity

- 8 minutes: partner work time
- "Now you can choose another center that

you would like to do. You can also choose to continue playing Find the Pair."

- Display the student page with center choices.
- Invite students to work at the center of their choice.
- 10 minutes: center work time

### Synthesis

- "As you played Find the Pair, how did you figure out what number you needed to make 5?"

## Lesson Synthesis

5 min

Display pile of 18 connecting cubes from the warm-up.

Invite a student to count the pile of connecting cubes.

Write the number 18.

"There are 18 cubes."

"Elena counted this pile of cubes and said that there are 19 cubes. What should she do next?" (She should count again. She should make sure she counted each cube 1 time.)

# Lesson 4: Does the Number Change?

### Standards Alignments

Addressing K.CC.B, K.CC.B.4, K.CC.B.4.b, K.CC.B.5

### Teacher-facing Learning Goals

- Answer "how many" questions about groups of up to 20 objects
- Know that counting a group of objects will yield the same number, regardless of their arrangement or how they are counted.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to count collections of objects and understand that the number of objects in a collection stays the same, regardless of how they are arranged.

Students will count the same collection of objects in different arrangements to build this conservation of number, which develops through experience over time. While developing conservation of number, students may need to recount the objects each time they are rearranged. With repeated practice, some students may know that the number of objects is that same without recounting (MP8). The purpose of the lesson synthesis is to highlight that a collection of objects does not need to be counted when they are rearranged.

This lesson has a Student Section Summary.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 2)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Notice and Wonder (Warm-up)

### Materials to Gather

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

### Materials to Copy

- Number Mat 1-10 (groups of 2): Activity 3

- Connecting cubes: Activity 2, Activity 3
- Counting mats: Activity 1
- Materials from a previous activity: Activity 2
- Materials from previous centers: Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

As students worked together today, where did you see evidence of the mathematical community established over the course of the school year?

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

0 min

Unit 6, Section A Checkpoint

### Standards Alignments

Addressing K.CC.B

### Student-facing Task Statement

Lesson observations

### Student Responses

- Say the count sequence to 20.
- Answer how many without counting again.
- Keep track of objects that have been counted.
- After a group of objects that have been counted is rearranged, know that the total number of objects remains the same without recounting.

Begin Lesson

# Warm-up

10 min

Notice and Wonder: Lots of Dots

## Standards Alignments

Addressing K.CC.B.4.b, K.CC.B.5

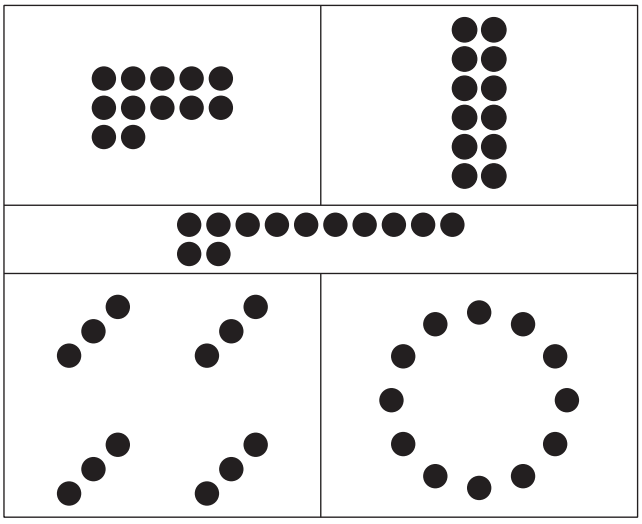
The purpose of this warm-up is to elicit the idea that collections may be arranged in different ways, which will be useful when students rearrange collections in a later activity. While students may count the dots, it is not expected for this activity. The purpose of the synthesis is to consider which arrangements would be easiest to count.

## Instructional Routines

Notice and Wonder

## Student-facing Task Statement

What do you notice?
What do you wonder?



## Student Responses

Students may notice:

- There are groups of dots
- They are arranged in different ways. Some are in a circle. Some are in a line.

Students may wonder:

## Launch

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

## Activity

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

## Synthesis

- "Which arrangements do you think would be easiest to count? Why?" (The lined up dots would be easy to count. I could count one line and then the other line.)

- How many dots are there?
- Does each group have the same number of dots?
- Why are the dots arranged in different ways?

## Activity 1

10 min

Counting Collections

### Standards Alignments

Addressing K.CC.B.4, K.CC.B.5

The purpose of this activity is for students to count their collection in a way that makes sense to them. Students are provided with 10-frames and counting mats to help them organize their collections. Students use appropriate tools strategically as they choose which tools help them count their collections (MP5). The purpose of the activity synthesis is to highlight that collections can be arranged in different ways, which will be useful in a future activity when students rearrange objects and notice that the total number of objects remains the same.

### Materials to Gather

10-frames, Collections of objects, Counting mats

### Required Preparation

- Each student needs a collection of 11–20 objects.

### Student Responses

Students count the objects in their collections.

### Launch

- Groups of 2
- Give each student a collection of objects and access to 10-frames and a counting mat.
- “How many objects are in your collection?”

### Activity

- 3 minutes: independent work time
- "Tell your partner how many objects are in your collection."
- 30 seconds: partner discussion
- "Switch collections with your partner. Do you agree with your partner about how many objects are in the collection?"
- 3 minutes: independent work time
- Monitor for students who arrange their objects in different ways to count them.

### Synthesis

- Invite previously identified students to demonstrate how they arranged and counted their collections.
- "What do you notice about how they counted?"
- If needed, "Each person arranged their objects in a different way, but they all counted each object one time."
- After each student shares, write or display the number and say "There are _____ objects in their collection."

## Activity 2

15 min

Count, Rearrange, Recount

PLC Activity

### Standards Alignments

Addressing K.CC.B.4.b, K.CC.B.5

The purpose of this activity is for students to rearrange and determine how many there are in the same collection of objects multiple times, to build their understanding that the arrangement of

objects does not affect the number (MP8). As students share how many objects are in their collection, write or display the number to record their count.

### Access for English Learners

*MLR8 Discussion Supports*. Use multimodal examples to clarify what it means to rearrange the objects. Use verbal descriptions along with gestures or drawings to show the meaning of the word rearrange.
*Advances: Listening, Representing*

### Access for Students with Disabilities

*Action and Expression: Develop Expression and Communication*. Synthesis: Make a connection between the two different strategies used to count the cubes. Ask students if there is only one strategy to count the total number of cubes. Reiterate to students that there are different strategies that can be used to count a collection but we always end up with the same number of cubes.
*Supports accessibility for: Organization, Conceptual Processing*

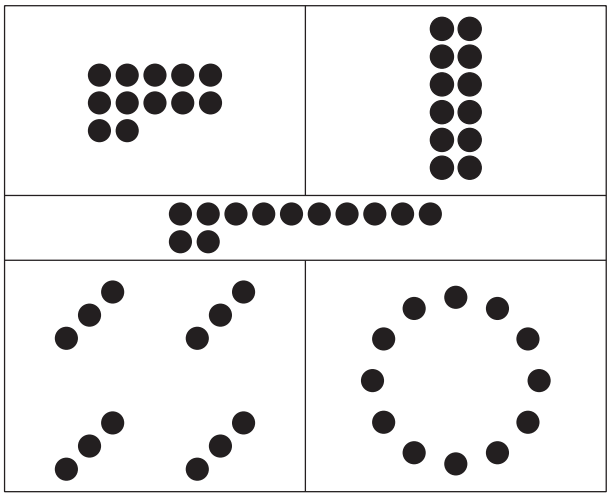
### Materials to Gather

Connecting cubes, Materials from a previous activity

### Required Preparation

- Each student needs a collection of 11–20 objects.

### Student-facing Task Statement



### Launch

- Groups of 2
- Give each group of students a collection of 11–20 objects and access to connecting cubes.
- "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 go 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."

## Student Responses

Answers vary. Sample responses:

- Students recount the collection of objects each time they are rearranged and get the same answer.
- Students know that the number of objects is the same after they've been rearranged without counting again.

- 3 minutes: partner work time
- "Once your partner has counted, rearrange the objects. You can use the picture for ideas."
- 1 minute: independent work time
- "Figure out how many objects are in your collection now."
- 2 minutes: partner work time
- Invite students to switch roles and repeat the steps.
- "Trade collections with another group. Then take turns figuring out how many objects there are and rearranging them."

## Activity

- 5 minutes: partner work time
- Monitor for students who know that the number of objects is the same after they've been rearranged without counting.

## Synthesis

- Select previously identified students who knew that the number of objects was the same without recounting to share.
- "What did you notice each time that the objects were rearranged?" (We always got the same number. The number of objects stayed the same.)
- "Count out a collection of 12 cubes."
- Write or display the number 12.
- 1 minute: independent work time
- "How many cubes are there?" (12 cubes).
- "Arrange the cubes so they are easy to count."
- 30 seconds: independent work time
- "How many cubes are there?" (There are still 12 cubes.)
- "Now arrange the cubes so that they are more difficult to count."

- 30 seconds: independent work time
- "How many cubes are there?" (There are still 12 cubes.)
- "We have been rearranging objects to make them easier to count. Moving the objects around does not change how many objects there are."

## Activity 3

20 min

Introduce Tower Build, Count and Build to 20

### Standards Alignments

Addressing K.CC.B.5

The purpose of this activity is for students to learn stage 2 of the Tower Build center. Students practice counting out objects, counting to 20, and counting on from a given number. Students may start counting their connecting cubes from 1 each time or may remember how many cubes were in the tower and count on to determine the total number of cubes.

After they participate in the center, students choose from any stage of previously introduced centers.

- Find the Pair
- Number Race
- Subtraction Towers
- 5-frames

### Materials to Gather

Connecting cubes, Materials from previous centers

### Materials to Copy

Number Mat 1-10 (groups of 2)

### Required Preparation

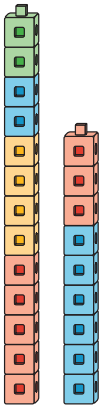
- Create a tower with 16 cubes for the activity synthesis.

- Gather materials from:
  - Find the Pair, Stage 1
  - Number Race, Stages 1 and 2
  - Subtraction Towers, Stage 1
  - 5-frames, Stages 1 and 2

## Student-facing Task Statement

Choose a center.

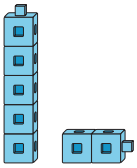
Tower Build



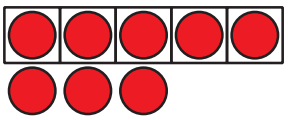
Find the Pair

Number Race

Subtraction Towers



5-frames



## Launch

- Groups of 2
- Give each group of students a number mat and access to connecting cubes.
- "We are going to learn a new way to play the Tower Build center."
- "Your goal is to make a tower with 20 cubes. The first partner who has 20 cubes in their tower wins."
- "Take turns rolling a cube onto the mat to figure out how many cubes to add to your tower. After each round, check to see if you or your partner have 20 cubes in your tower."
- "If you have more than 20 cubes in your tower, use those cubes to start a new tower."

## Activity

- 8 minutes: partner work time
- "Now you can choose another center. You can also continue playing Tower Build."
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 10 minutes: center work time

## Synthesis

- Display a tower of 16 connecting cubes.
- Count the cubes in the tower or invite a student to count the cubes.

- "Noah has a tower of 16 cubes. He rolled a 3. Is he going to win? How do you know?" If needed, ask "Is his tower going to get to 20 cubes?" (He is not going to win. His tower will have 19 cubes.)
- "How many more connecting cubes does he need to have 20 in his tower now?" (He needs 1 more. 20 is 1 more than 19.)

## Lesson Synthesis

5 min

Display 20 objects in a line.

Count the objects as a class or invite a student to count them. Write or display the number 20.

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

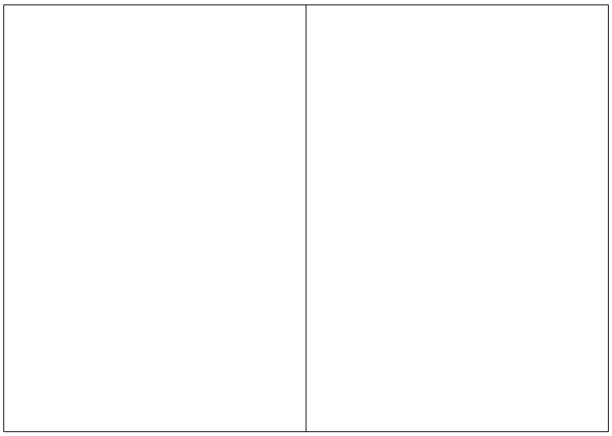
If needed, move the objects into a circle and invite a student to count the objects to confirm that there are still 20 objects.

### Student Section Summary

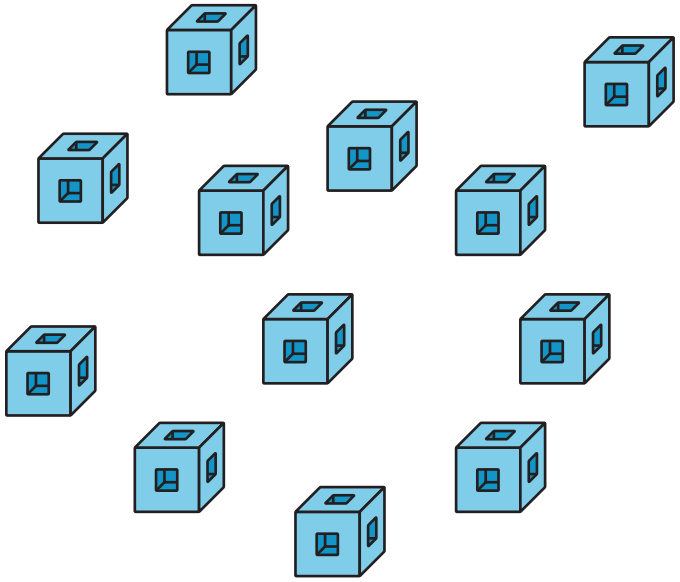
In this section, we counted groups of up to 20 objects.

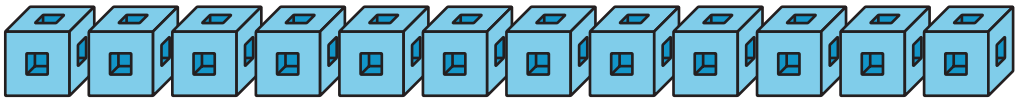
We kept track of the objects that we counted.

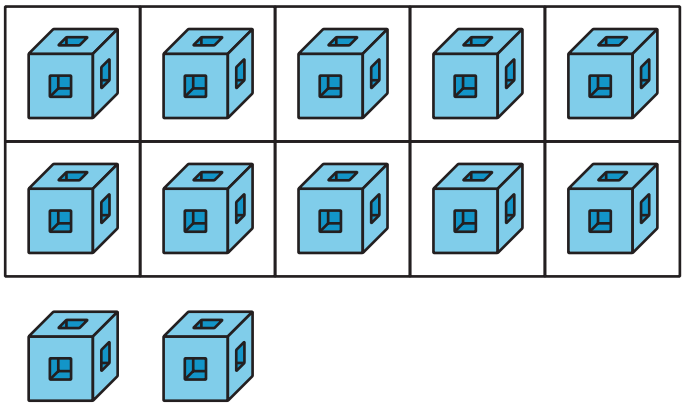
We used a 10-frame or a counting mat to help us.



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







# Section B: 10 Ones and Some More

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

### Standards Alignments

| | |
|---|---|
| Addressing | K.CC.A.3, K.CC.B.5 |
| Building Towards | K.NBT.A.1 |

### Teacher-facing Learning Goals

- Answer "how many" questions about groups of up to 19 images.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to count to answer "how many" questions about groups of up to 19 images.

In this lesson students see 11–19 images displayed on fingers and 10-frames. Both representations highlight a group of 10 ones in teen numbers. Students begin to understand that each of these numbers have 10 ones and some more ones (MP7). Although some students may begin to recognize the group of 10 ones and determine how many there are by counting on from 10, this is not an expectation of students in kindergarten. Make sure that numbers 1–20 are posted in the classroom so that students can count from 1 to find the number 17 if they are unsure what the written number 17 looks like. Throughout the section, students have access to a reference sheet that shows numbers 11–20 with dots in 10-frames that they can use to identify written numbers.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 3)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

Estimation Exploration (Warm-up)

### Materials to Gather

- 10-frames: Activity 3
- Counting mats: Activity 3
- Materials from previous centers: Activity 3
- Pattern blocks: Activity 3

### Materials to Copy

- Grab and Count Stage 1 Recording Sheet (groups of 1): Activity 3

### Lesson Timeline

| | |
|---|---|
| Warm-up | 10 min |
| Activity 1 | 10 min |
| Activity 2 | 10 min |
| Activity 3 | 20 min |
| Lesson Synthesis | 5 min |
| Cool-down | 5 min |

### Teacher Reflection Question

In upcoming lessons, students will compose and decompose numbers 11–19 using 10 ones and some more ones. How does the work of this lesson help build students' understanding numbers 11–19 as 10 ones and some more ones?

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

5 min

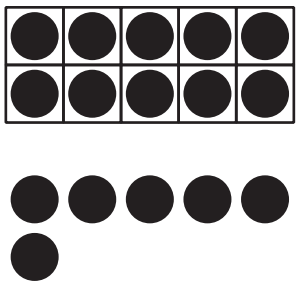
How Many?

### Standards Alignments

Addressing K.CC.B.5

### Student-facing Task Statement

Circle the number that shows how many dots there are.



12 18 16

### Student Responses

16

Begin Lesson

## Warm-up

10 min

Estimation Exploration: Connecting Cubes

### Standards Alignments

Building Towards K.NBT.A.1

The purpose of an Estimation Exploration is to practice the skill of estimating a reasonable answer based on experience and known information. This is the first time students participate in the Estimation Exploration routine. Encourage students to make an estimate without counting each cube.

### Instructional Routines

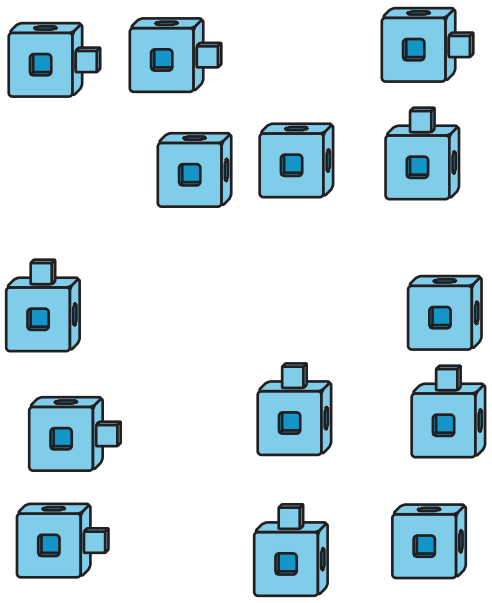
Estimation Exploration

### Student-facing Task Statement

How many cubes are there?

### Launch

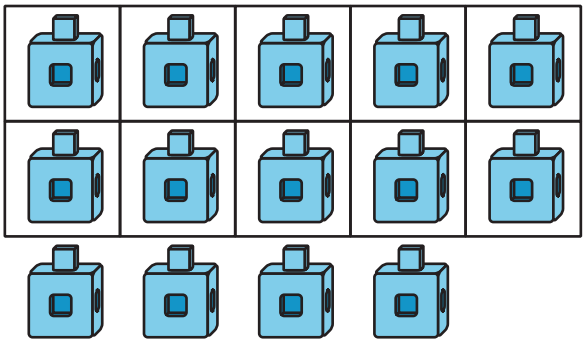
- Groups of 2
- Display the image.
- "Today we are doing a new warm-up called Estimation Exploration. In this activity we are going to see a collection of cubes. Your job is to estimate or make a guess about how many cubes there are without counting them."
- Display the image.
- "What is an estimate, or guess, that's too high? Too low? About right?"
- 1 minute: quiet think time



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 |
|---|---|---|
| | | |

## Student Responses

1. Answers vary. Sample responses:
    - too low: 5, about right: 25, too high: 100
    - too low: 2, about right: 10, too high: 50
2. Answers vary. Sample responses:
    - too low: 5, about right: 15, too high: 50

## Activity

- 1 minute: partner discussion
- Record responses.
- "Let's look at same collection of cubes arranged in a different way."
- Display the image.
- "Now that you have seen the cubes again, do you want to revise, or change, your estimates?"
- 1 minute: quiet think time
- 1 minute: partner discussion
- Record responses.

## Synthesis

- "Let's look at our revised estimates. Why were these estimates more accurate the second time?" (We knew that there were more than 10 because we saw that the 10-frame is filled in, and there were some extra cubes.)
- "There are 14 connecting cubes."

- too low: 10, about right: 14, too high: 20

## Activity 1

10 min

How Many Fingers?

### Standards Alignments

| | |
|---|---|
| Addressing | K.CC.B.5 |
| Building Towards | K.NBT.A.1 |

The purpose of this activity is for students to count to answer "how many" questions about images displayed on fingers. Students draw a line to the number that shows how many fingers there are.

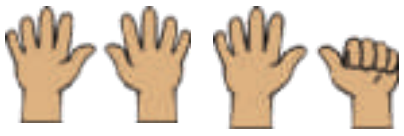
### Access for English Learners

*MLR8 Discussion Supports.* Pair gestures with verbal directions to clarify the instructions of the activity, demonstrating what it means to draw a line from the fingers to the number that shows the quantity.
*Advances: Listening, Representing*

### Required Preparation

- Make sure numbers 1–20 are posted in the classroom.

### Student-facing Task Statement

1. 

14

2.

17

3.

13

### Launch

- Groups of 2
- Display the student page.
- "Let's practice reading numbers."
- Point to and read each written number. Invite students to chorally repeat each written number 1–2 times.
- "Now, figure out how many fingers there are. Draw a line from the fingers to the number that shows how many there are."

4.

19

5.

16

### Student Responses

1. 16
2. 13
3. 19
4. 14
5. 17

### Activity

- 3 minutes: independent work time
- 2 minutes: partner work time

### Synthesis

- Invite students to share how many fingers are in each image and how they know.

### Advancing Student Thinking

If students match the first group of fingers with a number other than 16, consider asking:

- "How many fingers are there? How do you know?"
- "What can you do to help you make sure that you count each finger one time?"

## Activity 2

10 min

How Many Dots in 10-frames?

### Standards Alignments

| | |
|---|---|
| Addressing | K.CC.B.5 |
| Building Towards | K.NBT.A.1 |

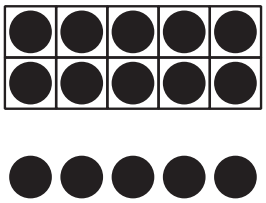
The purpose of this activity is for students to count to answer "how many" questions about images arranged on 10-frames. Students circle the number that shows how many dots there are.

## Required Preparation

- Make sure numbers 1–20 are posted in the classroom.

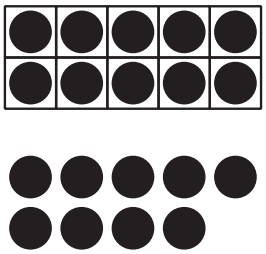
## Student-facing Task Statement

1.



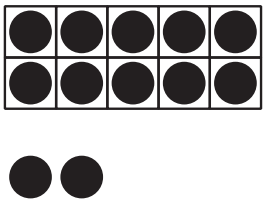
10 12 15

2.



19 11 14

3.



13 15 12

4.

## Launch

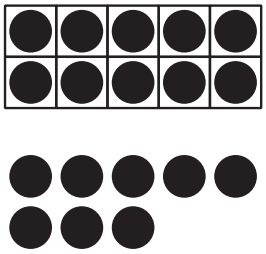
- Groups of 2
- Display the student page.
- "Let's practice reading numbers again."
- Point to each written number on the page and invite students to chorally read each number.
- "Now, figure out how many dots there are. Circle the number that shows how many dots there are."

## Activity

- 3 minutes: independent work time
- 2 minutes: partner work time

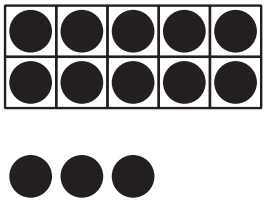
## Synthesis

- Display the 10-frame with 19 dots from the student page.
- Invite students to share how many dots there are.
- "There are 19 dots. There are 10 dots on the 10-frame and 9 more dots. 19 is 10 and 9."



18 14 17

5.



15 13 11

### Student Responses

1. 15
2. 19
3. 12
4. 18
5. 13

## Activity 3

20 min

Introduce Grab and Count, Pattern Blocks

### Standards Alignments

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

The purpose of this activity is for students to learn stage 1 of the Grab and Count center. Students look at a handful of pattern blocks and guess how many there are. Then they figure out how

many pattern blocks there actually are and record the number. Students should have access to 10-frames and counting mats and may use any strategy they choose to figure out the total number of blocks.

After they participate in the center, students choose from any stage of previously introduced centers.

- Find the Pair
- Tower Build

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

### Access for Students with Disabilities

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

### Materials to Gather

10-frames, Counting mats, Materials from previous centers, Pattern blocks

### Materials to Copy

Grab and Count Stage 1 Recording Sheet (groups of 1)

### Required Preparation

- Each group of 2 needs around 20 pattern blocks.
- Gather a group of 18 pattern blocks for the activity synthesis.
- Gather materials from:
  - Find the Pair, Stage 1
  - Tower Build, Stages 1 and 2

### Student-facing Task Statement

Choose a center.

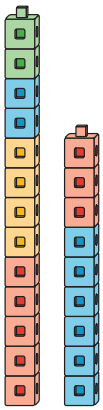
Grab and Count

Tower Build

Find the Pair

### Launch

- Groups of 2
- Give each student a recording sheet, pattern blocks, and access to 10-frames and counting mats.
- "We are going to learn a center called Grab and Count. Let's play one round together."
- Choose a student to be your partner.
- "First, we both grab a small handful of



pattern blocks and put them together."

- Demonstrate grabbing a handful of blocks and putting them together with your partner's blocks.
- "Now we each guess how many blocks we have and write down the number."
- "Ask your partner for their guess and then think aloud as you make your own guess. For example, you might say, 'There are a lot of blocks. It looks like there are more than 10. I think I will guess 15.'"
- Demonstrate recording your guess on the recording sheet.
- "Now we take turns figuring out how many pattern blocks there are. When you both agree on how many pattern blocks you have, write this number on your recording sheet."
- Demonstrate taking turns counting and writing the number of blocks on the recording sheet.
- "Then you can put those pattern blocks back and play again."

## Activity

- 5 minutes: partner work time
- "Now you can choose another center. You can also continue playing Grab and Count."
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 10 minutes: center work time
- If time, invite students to choose another center.

## Synthesis

- Display 18 pattern blocks.
- "How many pattern blocks do you think are

here? How did you make your guess?"

- "Did it get easier to guess as you played more rounds? Why or why not?"

## Lesson Synthesis

5 min

Display the image of 16 fingers from the first activity and the image of 18 dots from the second activity.

"How are these the same?" (They both show 10 things and some more.)

"How are these different?" (One is a 10-frame and one is fingers. They show different numbers.)

Complete Cool-Down

### Response to Student Thinking

Students circle a number other than 16.

**Next Day Support**

- During the launch of the second activity in the next lesson, have students arrange more than 10 counters on a 10-frame and determine how many counters there are.

# Lesson 6: Fingers and 10-frames

### Standards Alignments

| | |
|---|---|
| Addressing | K.CC, K.CC.A.3, K.CC.B.5, K.NBT.A.1 |
| Building Towards | K.NBT.A.1 |

### Teacher-facing Learning Goals

- Represent numbers 11–19 with fingers and on a 10-frame.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to represent numbers 11–19 with fingers and on a 10-frame.

Using these representations highlights the important idea that all teen numbers are made up of 10 ones and some more ones (MP7). In each representation, students can still see each individual one, but they can also see a group of 10 ones, either on the 10-frame or with all of the fingers on hands.

### Access for:

#### Students with Disabilities

- Representation (Activity 2)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

How Many Do You See? (Warm-up)

### Materials to Gather

- 10-frames: Activity 2
- Colored pencils, crayons, or markers: Activity 3
- Connecting cubes: Activity 3
- Counters: Activity 2
- Materials from previous centers: Activity 3

### Materials to Copy

- Number Mat 11–20 (groups of 2): Activity 3
- Number Race Stage 2 Recording Sheet for Writing (groups of 1): Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

Think about who volunteered to share their thinking with the class today. Are the same students always volunteering, while some students never offer to share? What can you do to help the class understand the value of hearing the ideas of every mathematician?

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

0 min

Unit 6, Section B Checkpoint

### Standards Alignments

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

### Student-facing Task Statement

Lesson observations

### Student Responses

- Count all to find the total.
- Know that a full 10-frame or all the fingers on two hands represent 10 without counting.
- Count on from 10 to find the total.

Begin Lesson

## Warm-up

10 min

How Many Do You See: 5 and Some More

### Standards Alignments

Addressing K.CC

The purpose of this How Many Do You See is to allow students to use subitizing or grouping strategies to describe the images they see.

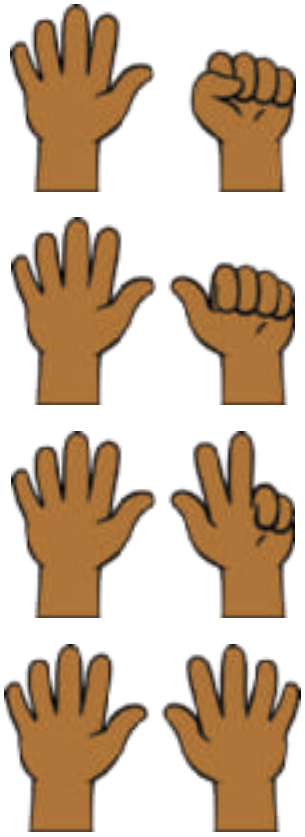
In this activity, students have an opportunity to look for and make use of the 5 and some more structure of fingers (MP7).

## Instructional Routines

How Many Do You See?

## Student-facing Task Statement

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



## Student Responses

Sample responses:

- 5: I know there are 5 fingers on a hand.
- 6: 5 and 1 more is 6.
- 8: I counted 5...6, 7, 8

## Launch

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

## Activity

- Display the image.
- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Record responses.
- Repeat for each image.

## Synthesis

- "How can I show 11 on my fingers?" (You don't have enough fingers. You could work with a friend.)

- 10: I know that there are 10 fingers on 2 hands.

## Activity 1

10 min

Lots of Fingers

### Standards Alignments

| | |
|---|---|
| Addressing | K.CC.B.5 |
| Building Towards | K.NBT.A.1 |

The purpose of this activity is for students to use fingers to represent numbers 11–19. Initially students represent numbers 5–10 to recall the structure of 5 and some more for these numbers. Students work with a partner to represent numbers 11–19, which highlights that these numbers are 10 ones and some more ones. The purpose of the activity synthesis is to describe numbers 11–19 as "10 and _____." In future lessons, numbers 11–19 will also be represented as expressions: $10 + 4$ and equations: $10 + 4 = 14$.

### Student Responses

Students hold up the given number of fingers.

### Launch

- Groups of 2
- "Show 5 with your fingers."
- 30 seconds: independent work time
- Invite a student who holds up 1 hand without counting their fingers to share.
- "How do you know that you are holding up 5 fingers?" (I know I have 5 fingers on each hand.)
- "Show 6 with your fingers. Did you and your partner show 6 the same way?"
- 1 minute: partner work time
- "Show 10 with your fingers."
- Invite a student who holds up all of their fingers without counting them to share.
- "How do you know that you're holding up

10 fingers?" (I know that I have 10 fingers, so I put them all up.)

### Activity

- "Show 13 with your fingers." (I can't, because I only have 10 fingers.)
- 30 seconds: independent work time
- "Work with a partner to show 13 with your fingers."
- 1 minute: partner work time
- Monitor for groups in which 1 partner holds up 10 fingers and the other partner holds up the rest of the fingers.
- Repeat with numbers 15, 18, and 20.

### Synthesis

- Invite previously identified students to share 17 with their fingers.
- "How many fingers is _____ holding up?" (10)
- "How many fingers is _____ holding up?" (7)
- "How many fingers are they holding up altogether?" (17)
- "10 and 7 is 17."

## Activity 2

10 min

Fingers to 10-frames

### Standards Alignments

Addressing K.NBT.A.1

The purpose of this activity is for students to recognize numbers 11–19 on images of fingers and represent the same numbers on 10-frames. Students may count each finger and each counter as they create groups with the same number of counters as fingers. They may make a connection

between all the fingers on two hands and a full 10-frame and use that connection to make a group with the same number by filling in a 10-frame and then attending to how many additional fingers there are (MP7). If students represent numbers on the 10-frame without counting, ask, "How do you know you have the same number of counters and fingers without counting them?"

In the activity synthesis, students discuss and compare different ways to arrange the additional counters that do not fit on the 10-frame. While students may arrange their additional counters in a way that makes sense to them, these materials will show the additional counters arranged under the 10-frame.

### Access for English Learners

*MLR8 Discussion Supports.* Invite each partner to say the number that is displayed. This gives both students an opportunity to produce language. Listen for and clarify any questions.
*Advances: Conversing*

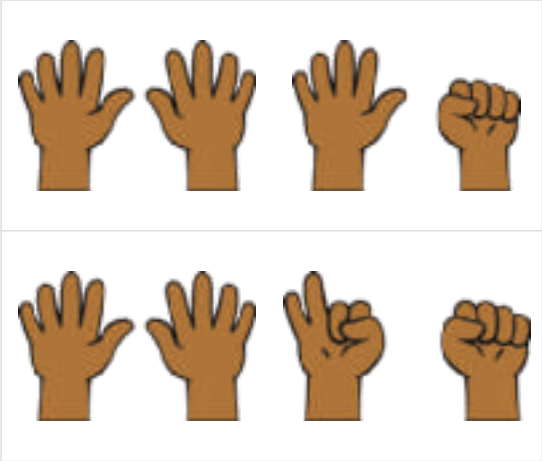
### Access for Students with Disabilities

*Representation: Develop Language and Symbols.* Synthesis: Make connections between representations visible by using gestures or labeled displays as students describe where they see the ten fingers from the image in their representation. If time permits, ask students what the hand with zero fingers showing represents.
*Supports accessibility for: Conceptual Processing*

## Materials to Gather

10-frames, Counters

## Student-facing Task Statement

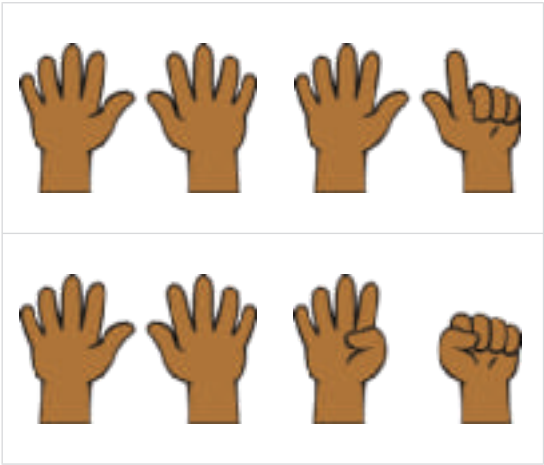


## Launch

- Groups of 2
- Give each group a 10-frame and counters.
- "One partner figures out how many fingers there are. The other partner shows the same number of counters on a 10-frame. Take turns for each problem."

## Activity

- 5 minutes: partner work time
- Monitor for students who arrange the additional counters underneath or on the side of the 10-frame in different ways.

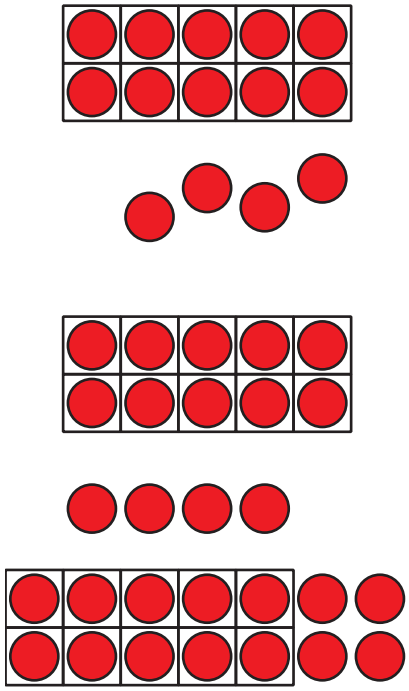


## Student Responses

Students represent each number with counters on a 10-frame.

## Synthesis

- Display previously selected arrangements, such as:



- "What is the same about how _____ and _____ showed 14? What is different?" (They both used counters.They both filled in the 10-frame. _____ put the counters underneath the 10-frame and _____ put the counters next to the 10-frame.
- "Where do you see 10 in each person's work?" (There are 10 counters in each 10-frame.)
- "Where do you see 4 in each person's work?" (There are 4 counters underneath or 4 counters on the side.)
- Display "14."
- "There are 10 counters and 4 counters. There are 14 counters. 10 and 4 is 14."

# Activity 3

25 min

Revisit Number Race, Numbers 11–20

## Standards Alignments

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

The purpose of this activity is for students to revisit stage 2 of the Number Race center. In an earlier variation, students traced numbers 11-20. Students practice recognizing and writing numbers as they roll a connecting cube onto the mat and write the number that it lands on. Students continue rolling and writing until one number "wins" (all of the numbers in the column are written). After students have written all of one number, they can finish writing the rest of the numbers. Students can use different colors or writing utensils during this center. Writing numbers backwards ("reversals") and incorrectly forming numbers is expected in kindergarten. The emphasis is on students writing a number that is recognizable to others with practice.

After they participate in the center, students choose from any stage of previously introduced centers.

- Grab and Count
- Find the Pair
- Tower Build

## Materials to Gather

Colored pencils, crayons, or markers, Connecting cubes, Materials from previous centers

## Materials to Copy

Number Mat 11–20 (groups of 2), Number Race Stage 2 Recording Sheet for Writing (groups of 1)

## Required Preparation

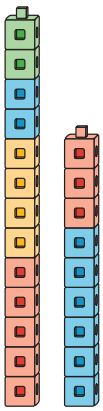
- Each group needs 1 connecting cube.
- Gather materials from:
  - Grab and Count, Stage 1
  - Find the Pair, Stage 1
  - Tower Build, Stages 1 and 2

## Student-facing Task Statement

Choose a center.

Number Race

Tower Build



Grab and Count

Find the Pair

## Launch

- Give each student a recording sheet. Give each group of students a number mat and access to colored pencils, crayons, or markers.
- Display the recording sheet.
- "We are going to learn a new way to play the Number Race center. What do you notice?" (The numbers are written at the bottom. There aren't numbers to trace.)
- 30 seconds: quiet think time
- Share responses.
- "Instead of tracing numbers we will practice writing numbers. What do you do each turn when you play Number Race with your partner?"

## Activity

- If needed, say: "Roll the cube onto the number mat. Find that number on your recording sheet and write that number in the bottom box. Take turns rolling and writing until you've written all of one number. That number is the winner."
- 5 minutes: partner work time
- "Now you can choose another center that you would like to do. You can also continue playing Number Race."
- Display the student page with center choices.
- Invite students to work at the center of their choice.
- 10 minutes: center work time
- If time, invite students to choose another center.

## Synthesis

- "Tell your partner something you noticed about writing the numbers 11–20." (They all

start with a 1 except 20. They all have 2 numbers. The second number gets bigger in each number. You don't write them the way they sound. For example, fourteen sounds like you write a 4 first but you don't.)

## Lesson Synthesis

5 min

"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?" (I would use a 10-frame because I don't have enough fingers to show 15. I only have 10 fingers. I need 5 more.)

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

### Standards Alignments

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

### Teacher-facing Learning Goals

- Compose and decompose numbers 11–19 using 10 ones and some more ones.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to compose numbers using 10 ones and some more ones.

Students write a number to represent a quantity greater than 10 for the first time. Students use full 10-frames and some more to identify and create numbers 11–19. Students may count all of the dots or counters to determine the teen number, or they may count on from 10. Counting on to determine the total is not an expectation in kindergarten.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 2)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

Choral Count (Warm-up)

### Materials to Gather

- Materials from previous centers: Activity 3
- Two-color counters: Activity 2

### Materials to Copy

- 10-frame and More Dots Cards (groups of 2): Activity 1
- Number Cards 1–9 (groups of 2): Activity 2
- Reference Sheet Numbers 11–20 with 10-frames (groups of 1): Activity 2

### Lesson Timeline

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

### Teacher Reflection Question

If you were to teach this lesson over again, what activity would you redo? How would your proposed changes support student learning?

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

0 min

Unit 6, Section B Checkpoint

### Standards Alignments

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

### Student-facing Task Statement

Lesson observations

### Student Responses

- Count all to find the total.
- Know that a full 10-frame or all the fingers on two hands represent 10 without counting.
- Count on from 10 to find the total.
- Count or recognize the ones outside of the 10 ones and use a 10 + n fact to find the total.
- Write numbers 11–19.

Begin Lesson

## Warm-up

10 min

Choral Count: Two Groups

### Standards Alignments

Addressing K.CC.B.4.a, K.CC.B.5

The purpose of this Choral Count is to invite students to practice counting on from 10. This will be helpful later when students answer "how many" questions about up to 20 objects or images.

### Instructional Routines

Choral Count

### Student Responses

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

### Launch

- Divide the class into two groups.

### Activity

- Tell the first group to count as a group from 1 until you tell them to stop. Tell the second group to count on where the first group leaves off.
- Stop the first group at 10. The second group counts on from 11 to 20.
- Switch groups, so each group has a chance to start from 1 and from 11.

### Synthesis

- "What number always comes after 10 when we count?" (11)

## Activity 1

10 min

Put Together Numbers 11–19

### Standards Alignments

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

The purpose of this activity is for students to use 10 ones and some more ones to compose numbers 11–19. As students determine how many dots they have when they put 2 cards together, some students may begin to count on from 10.

### Access for English Learners

*MLR8 Discussion Supports.* Before beginning group work time, invite a small number of students to act out the activity. Listen for and clarify any questions.
*Advances: Speaking, Representing*

### Materials to Copy

10-frame and More Dots Cards (groups of 2)

### Required Preparation

- Each student needs 1 card from the Instructional master.

### Student Responses

Responses vary.

### Launch

- Give each student 1 card. Half of the students should have a card with a full 10-frame. Half of the students should have a card with 1–9 dots.
- "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."

### Activity

- "Tell your partner how many dots you have on your card. Then work together to figure out how many dots you both have altogether."
- 2 minutes: partner work time
- As students work, ask:
    - "Does any group have 10 dots and 2 dots? How many dots do you have altogether?"

    - "Does any group have 15 dots altogether?"
- "Switch cards. Find a new 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."
- Repeat 2–3 times.

### Synthesis

- Invite 2–3 groups of students to share how many dots are on each student's card and how many dots there are altogether.
- "_____ has 10 dots on a 10-frame. _____ has 3 dots. 10 and 3 is 13."

## Activity 2

10 min

Add More Counters

### Standards Alignments

Addressing K.NBT.A.1

The purpose of this activity is for students to compose numbers 11–19 by adding to a full 10-frame. Starting with a full 10-frame highlights the structure of 10 ones and some more in numbers 11–19 and encourages students to count on from 10, which is highlighted in the activity synthesis (MP8).

### Access for Students with Disabilities

*Action and Expression: Develop Expression and Communication.* Synthesis: Identify connections between the strategy of counting starting at 1 and counting on from 10. For example: "Since I know that this 10-frame is full I can start counting at 11. I do not need to count all the dots in the 10-frame again."
*Supports accessibility for: Conceptual Processing*

### Materials to Gather

Two-color counters

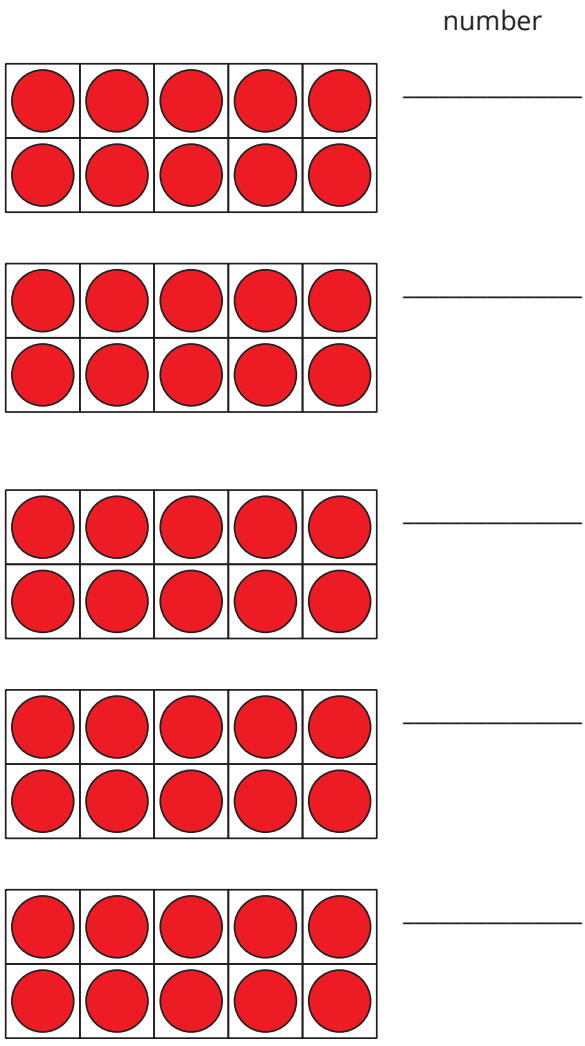
### Materials to Copy

Number Cards 1–9 (groups of 2), Reference Sheet Numbers 11–20 with 10-frames (groups of 1)

### Required Preparation

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

### Student-facing Task Statement




### Student Responses

Students add counters or draw dots and write a

### Launch

- Groups of 2
- Give each group a set of cards and access to two-color counters.
- "Flip over one card."
- 30 seconds: partner work time
- "Add that many counters or dots to your 10-frame."
- 30 seconds: partner work time
- "Write a number to show how many counters or dots there are now."
- 30 seconds: partner work time

### Activity

- "Work with your partner to finish the rest of the problems."
- 5 minutes: partner work time
- Monitor for students who counted on from 10 to determine how many counters or dots there are.

### Synthesis

- Invite previously identified students to share how they counted on to determine the total.
- "When you counted, you started at 11. Why didn't you start at 1?" (I know that there are 10 in the 10-frame, so I don't need to count those. I can start at 11 and count the extra

number 11–19 to record the total.

dots.)

## Activity 3

25 min

Centers: Choice Time

The purpose of this activity is for students to choose from activities that offer practice with addition and subtraction, writing numbers, and counting objects.

Students choose from any stage of previously introduced centers.

- Number Race
- Grab and Count
- Find the Pair
- Tower Build

### Materials to Gather

Materials from previous centers

### Required Preparation

- Gather materials from:
  - Number Race, Stages 1 and 2
  - Grab and Count, Stage 1
  - Find the Pair, Stage 1
  - Tower Build, Stages 1 and 2

### Student-facing Task Statement

Choose a center.

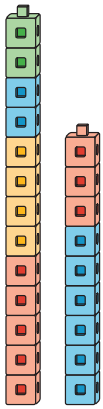
Number Race Tower Build

### Launch

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

Grab and Count

Find the Pair



- 30 seconds: quiet think time

### Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- "Choose what you would like to do next."
- 10 minutes: center work time

### Synthesis

- "Which math tools did you use during centers today? How did the tool(s) help you?"

## Lesson Synthesis

5 min

Display the cards from the first activity that have 6 dots, 10 dots on a 10-frame, and 2 dots.

"Today we put groups together to make numbers from 11 to 19. Which two groups of dots can we put together to make 12? How do you know?" (We can put together the full 10-frame and 2 more dots.)

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

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

### Standards Alignments

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

### Teacher-facing Learning Goals

- Compose and decompose numbers 11–19 using 10 ones and some more ones.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to compose numbers 11–19 using 10 ones and some more ones.

In previous lessons, students saw numbers 11–19 as ten ones and some more ones as they counted, composed, and represented these numbers. The purpose of this lesson is for students to use the understanding that a full 10-frame contains 10 ones to compose numbers 11–19. Using a 10-frame encourages students to count on from 10. While this lesson highlights counting on as a strategy, students need significant practice working with 10-frames before they are able to count on to determine the total with understanding. Students can complete the activities by counting all. Counting on to determine the total is not an expectation in kindergarten.

### Access for:

#### Students with Disabilities

- Engagement (Activity 2)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

How Many Do You See? (Warm-up)

### Materials to Gather

- Glue or tape: Activity 1
- Scissors: Activity 1
- Two-color counters: Activity 2, Activity 3

### Materials to Copy

- 10-frame and More Dots Cards (groups of 2): Activity 1
- Make Number Cards (groups of 1): Activity 1

- Bingo Stage 4 Gameboard (groups of 4): Activity 3
- Number Cards 11-19 (groups of 2): Activity 3

### Lesson Timeline

| | |
|---|---|
| Warm-up | 10 min |
| Activity 1 | 15 min |
| Activity 2 | 10 min |
| Activity 3 | 15 min |
| Lesson Synthesis | 5 min |
| Cool-down | 5 min |

### Teacher Reflection Question

How did the work of the previous lesson lay the foundation for students to be successful in the activities of this lesson?

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

5 min

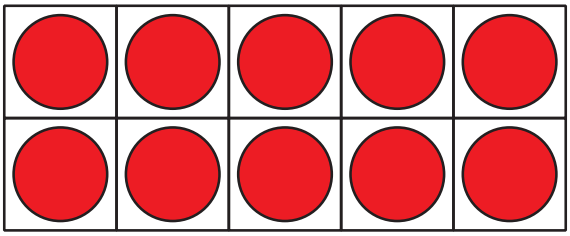
Make 14

### Standards Alignments

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

### Student-facing Task Statement

Draw more dots to show 14.



### Student Responses

Students draw 4 dots.

Begin Lesson

## Warm-up

10 min

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

### Standards Alignments

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

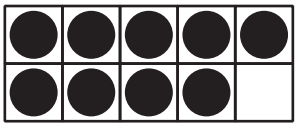
The purpose of this How Many Do You See is to allow students to use subitizing or grouping strategies to describe the images they see. Students have an opportunity to look for and make use of structure (MP7) because the 10-frame helps students see numbers 11–19 as ten ones and some more ones.

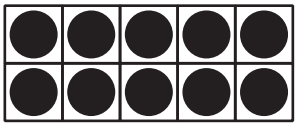
### Instructional Routines

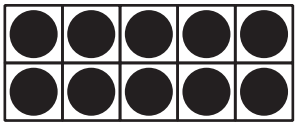
How Many Do You See?

### Student-facing Task Statement

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







### Launch

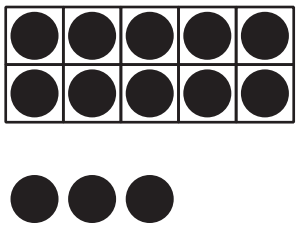
- Groups of 2
- "How many do you see? How do you see them?"
- Display the image.
- 1 minute: quiet think time

### Activity

- Display the image.
- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Record responses.
- Repeat for each image.

### Synthesis

- "What would 14 look like with a 10-frame? How do you know?" (There would be 10 in the 10-frame and 4 more.)



### Student Responses

Sample responses:

- 9: The 10-frame is almost full, but there is 1 missing. 9 is one less than 10.
- 11: 10 and 1 more is 11.
- 12: I counted 10...11, 12.
- 13: There were ten dots in the 10-frame and three more.

## Activity 1

15 min

Make Number Cards

### Standards Alignments

Addressing K.NBT.A.1

The purpose of this activity is for students to use 10 ones and some more ones to compose numbers 11–19. Students may need to put together a 10-frame and some more dots multiple times and count each time until they've composed the given number. Consider cutting out the cards that students create. Students can use these cards in future lessons, in centers, or at home.

### Access for English Learners

*MLR8 Discussion Supports.* Invite each partner to say each number aloud. This gives both students an opportunity to produce language. Listen for and clarify any questions.
*Advances: Conversing*

### Materials to Gather

Glue or tape, Scissors

### Materials to Copy

10-frame and More Dots Cards (groups of 2),

Make Number Cards (groups of 1)

## Required Preparation

- Create a set of 10-frame and More Dot Cards for each student.

## Student Responses

Students use a 10-frame and some more dots to make each number.

## Launch

- Groups of 2
- Give each student a pair of scissors, a glue stick, a set of cards, and a Make Number Cards Instructional master.
- "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."

## Activity

- 5 minutes: partner work time
- Monitor for students who glue the extra dots under a full 10-frame to compose each number.

## Synthesis

- Invite previously identified students to share how they made 15.
- "What are the 2 parts that you put together to make 15?" (10 and 5.)
- "10 and 5 is 15. We can also say $10 + 5$ is 15."
- "Tell your partner the 2 parts you put together to make each number."

## Advancing Student Thinking

If students choose two cards to compose the number without choosing a card with a 10-frame, consider asking:

- "What number are you going to make? Is that number more or less than 10?"
- "If we start with a 10-frame, what other card do we need to make the number ___?"

# Activity 2

10 min

Make Each Number

PLC Activity

## Standards Alignments

Addressing K.NBT.A.1

The purpose of this activity is for students to compose a number using a full 10-frame and some more ones. Students may recount after adding each dot to see if they've reached the target number. With repeated experiences, students may know that 17 is 10 and 7 without counting. The purpose of the activity synthesis is to highlight counting on and the structure of numbers 11–19 as 10 ones and some more ones. Give students access to two-color counters so that they can add or take away counters until they are confident that they have represented the given number.

When students represent and count numbers from 11 to 19 as 10 ones and some more ones they look for and express regularity in repeated reasoning (MP8).

### Access for Students with Disabilities

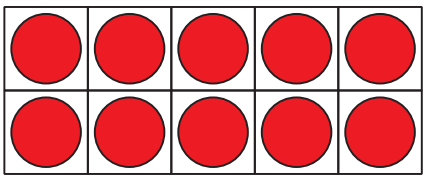
*Engagement: Develop Effort and Persistence.* Chunk this task into two manageable parts. Ask students to do the first three problems and check in with students to provide feedback and encouragement after each set of problems.
*Supports accessibility for: Organization*

## Materials to Gather

Two-color counters

## Student-facing Task Statement

11



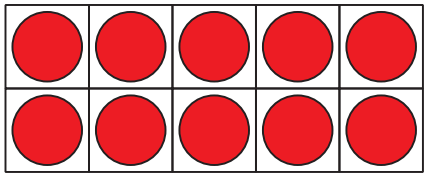
19

## Launch

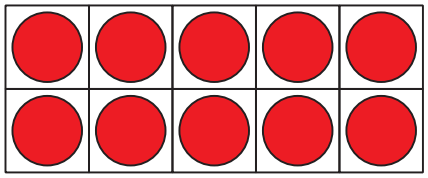
- Groups of 2
- Give students access to two-color counters.
- "Draw more dots to show each number."

## Activity

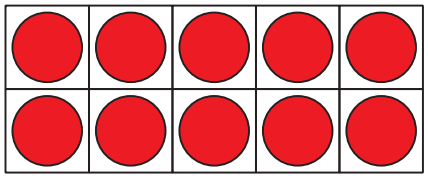
- 3 minutes: independent work time
- 3 minutes: partner work time
- Monitor for students who count on from



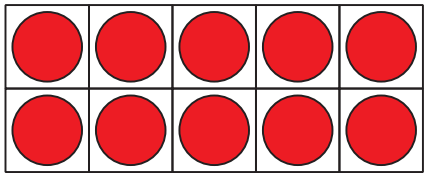
15



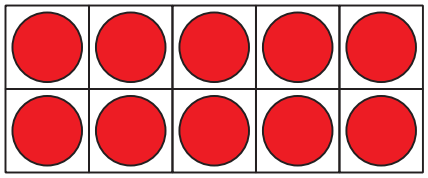
17



14



12



## Student Responses

Students draw:

- 1 dot
- 9 dots
- 5 dots
- 7 dots
- 4 dots
- 2 dots
- 10.

## Synthesis

- Invite previously selected students who counted on to share.
- Display completed student work for the number 17.
- "How many dots are on the 10-frame?" (10)
- "How many dots did you draw to make 17?" (7)
- "10 dots and 7 dots is 17. $10 + 7$ is 17."

### Advancing Student Thinking

If students count the 10 dots in the 10-frame each time, consider asking:,

- "How many dots are in the 10-frame? How do you know?"
- If students answer 10 without counting, ask, "How many dots would there be if we drew 1 more?"

## Activity 3

15 min

Introduce Bingo, Numbers 11–19

### Standards Alignments

Addressing K.CC.B.5

The purpose of this activity is for students to learn stage 4 of the Bingo center. Students match numbers 11–19 to different representations of the numbers.

### Materials to Gather

Two-color counters

### Materials to Copy

Bingo Stage 4 Gameboard (groups of 4), Number Cards 11-19 (groups of 2)

### Required Preparation

- Create a set of cards from the Instructional master for each group of 4.

### Launch

- Groups of 4
- Give each group a set of number cards, 4 gameboards, and two-color counters.
- "We are going to learn a new way to play Bingo. There will be 4 people in each group. One person will choose a number card that has a number from 11–19. Then everyone will use a counter to cover any group on their

gameboard that has that number of things. The first person to cover up 4 spaces in a row wins."

### Activity

- 10 minutes: small-group work time

### Synthesis

- Display one of the gameboards and the number 18.
- "What can we cover up on this gameboard? How do you know?"

## Lesson Synthesis

5 min

Give students access to two-color counters. Display a full 10-frame.

"Today we made numbers 11–19. How many counters do we need to add to make 16? How do you know?" (We need to add 6 counters. I know that 16 is 10 and 6.)

## Complete Cool-Down

### Response to Student Thinking

Students draw more or fewer than 4 dots.

**Next Day Support**

- Launch the first activity in the next day's lesson with a discussion of this cool-down.

# Lesson 9: Expressions and Equations

## Standards Alignments

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

## Teacher-facing Learning Goals

- Make sense of expressions and equations that represent numbers 11–19.

## Student-facing Learning Goals

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

## Lesson Purpose

The purpose of this lesson is for students to make sense of expressions and equations that represent numbers 11–19.

Students connect their understanding of numbers 11–19 as ten ones and some more ones to expressions (10 + _____.) Then, they match equations to 10-frame representations of teen numbers.

## Access for:

### Students with Disabilities

- Engagement (Activity 1)

### English Learners

- MLR8 (Activity 1)

## Instructional Routines

Choral Count (Warm-up)

## Materials to Gather

- Connecting cubes: Activity 3
- Materials from previous centers: Activity 3
- Two-color counters: Activity 3

## Materials to Copy

- Numbers and Expressions Cards (groups of 4): Activity 1
- Make or Break Apart Numbers Stage 2 Gameboards (groups of 4): Activity 3
- Make or Break Apart Numbers Stage 2 Number Mat 11-19 (groups of 1): Activity 3
- Make or Break Apart Numbers Stage 2 Recording Sheet (groups of 1): Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

As students worked in their small groups today, whose ideas were heard, valued, and accepted? How can you adjust the group structure tomorrow to ensure each student's ideas are a part of the collective learning?

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

0 min

Unit 6, Section B Checkpoint

### Standards Alignments

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

### Student-facing Task Statement

Lesson observations

### Student Responses

- Count all to find the total.
- Know that a full 10-frame or all the fingers on two hands represent 10 without counting.
- Count on from 10 to find the total.
- Count or recognize the ones outside of the 10 ones and use a $10 + n$ fact to find the total.

Begin Lesson

## Warm-up

10 min

Choral Count: Recording to 19

## Standards Alignments

Addressing K.CC.B.4.a, K.CC.B.5

The purpose of this Choral Count is to invite students to count to 19 and notice patterns in the count. Recognizing these patterns may help students remember how to write teen numbers. Students often reverse the digits due to how we say the teen numbers.

## Instructional Routines

Choral Count

### Student Responses

Record count:

| | |
|---|---|
| 0 | 10 |
| 1 | 11 |
| 2 | 12 |
| 3 | 13 |
| 4 | 14 |
| 5 | 15 |
| 6 | 16 |
| 7 | 17 |
| 8 | 18 |
| 9 | 19 |

Sample responses:

- All the numbers after 10 start with the number 1.
- All the numbers after 13 have "teen" in their name.
- The end of the numbers in each row is the same (1 and 11, 2 and 12, and so on).

### Launch

- "Count by ones, starting at 0."
- Record as students count.
- Stop counting and recording at 19.

### Activity

- "What patterns do you see?"
- 1–2 minutes: quiet think time
- Record responses.

### Synthesis

- "If we wanted to count on from 10, what number would we say after 10? How do you know?" (11 because 11 is one more than 10 and comes after 10 when we count.)

# Activity 1

15 min

Organize Expressions and Numbers

### Standards Alignments

Addressing K.NBT.A.1, K.OA.A.1

The purpose of this activity is for students to make connections between written numbers and expressions. In the activity synthesis, students see each teen number written as an equation. In this unit, when reading equations to students, read the equal sign as "is." For example, read $10 + 3 = 13$ as "10 plus 3 is 13." The equal sign will be read as "equals" in the next unit.

### Access for English Learners

*MLR8 Discussion Supports.* Synthesis: At the appropriate time, give students 2–3 minutes to make sure that everyone in their group can explain how they organized the numbers and expressions. Invite groups to rehearse what they will say when they share with the whole class.
*Advances: Speaking, Conversing, Representing*

### Access for Students with Disabilities

*Engagement: Develop Effort and Persistence.* Some students would benefit from having clear examples of the expectation of group work in this activity. Invite students to generate a list of shared expectations for group work. Ask students to share explicit examples of what those expectations would look like in this activity.
*Supports accessibility for: Social-Emotional Functioning*

### Materials to Copy

Numbers and Expressions Cards (groups of 4)

### Required Preparation

- Create a set of cards from the Instructional master for each group of 4.

### Student Responses

Sample response:

$10 + 1$ 11

### Launch

- Groups of 4
- Give each group of students a set of cards.
- "Work with your group to organize the

| | |
|---|---|
| $10 + 2$ | 12 |
| $10 + 3$ | 13 |
| $10 + 4$ | 14 |
| $10 + 5$ | 15 |

cards in a way that makes sense to you."

### Activity

- 6 minutes: small-group work time
- Monitor for students who organize the numbers and expressions as shown in the sample response.

### Synthesis

- Invite a group of students to share how they organized the numbers and expressions or display the image in student responses.
- "What do you notice about the numbers and expressions when they are arranged this way?" (They're in the order that we count. The first number stays the same. The second number is 1 more each time. All the expressions have a 10. The second number starts at 1 and is one more each time. The expressions match the numbers.)
- "Which number does $10 + 1$ represent? How do you know?" (11)
- "$10 + 1$ is 11. We can write that as $10 + 1 = 11$."
- Demonstrate writing equations for each number and expression.

## Activity 2

10 min

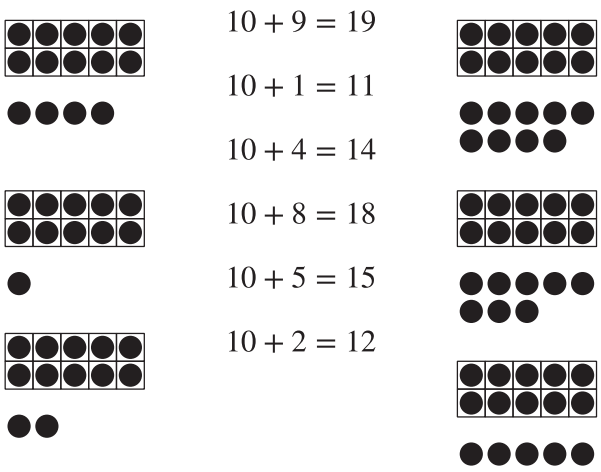
Equations and 10-frames

### Standards Alignments

Addressing K.NBT.A.1

The purpose of this activity is for students to match equations to numbers 11–19 presented on 10-frames. During the synthesis, students focus on each part of the equation and where it can be seen in the 10-frame representation of the number. When students see different parts of the equations in the 10-frame images, they look for and make use of structure (MP7).

### Student-facing Task Statement




### Student Responses

Students match each set of dots to the correct equation.

### Launch

- Groups of 2
- "Draw a line from each equation to the dots it matches."

### Activity

- 2 minutes: independent work time
- 3 minutes: partner work time

### Synthesis

- Invite a student to share which image matches $10 + 5 = 15$.
- "Where do you see 15 on the 10-frame?" (There are 15 dots altogether.)
- "Where do you see $10 + 5$ on the 10-frame?" (There are 10 dots on the 10-frame and 5 dots under the 10-frame.)

## Activity 3

20 min

Introduce Make or Break Apart Numbers, Numbers 11–19

### Standards Alignments

Addressing K.NBT.A.1

The purpose of this activity is for students to learn stage 2 of the Make or Break Apart Numbers

center. Students find 2 groups on their gameboard that make a given number and record the composition with an expression. After they participate in the center, students choose from any stage of previously introduced centers.

- Bingo
- Number Race
- Grab and Count
- Tower Build

## Materials to Gather

Connecting cubes, Materials from previous centers, Two-color counters

## Materials to Copy

Make or Break Apart Numbers Stage 2 Gameboards (groups of 4), Make or Break Apart Numbers Stage 2 Number Mat 11-19 (groups of 1), Make or Break Apart Numbers Stage 2 Recording Sheet (groups of 1)

## Required Preparation

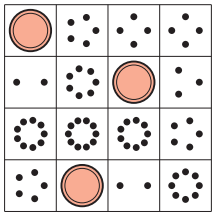
Gather materials from:

- Bingo, Stages 1-4
- Number Race, Stages 1 and 2
- Grab and Count, Stage 1
- Tower Build, Stages 1 and 2

## Student-facing Task Statement

Choose a center.

Bingo



Number Race

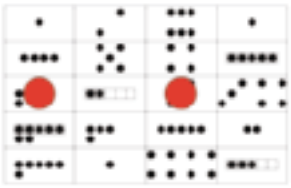
Grab and Count

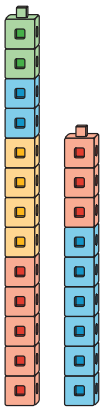
Tower Build

## Launch

- Groups of 2
- Give each group of students two-color counters, 1 connecting cube, and a number mat. Give each student a recording sheet and a gameboard.
- "We are going to learn a new way to do the Make or Break Apart Numbers center."
- "I'm going to roll a cube onto the number mat to find which number I have to make."
- Demonstrate rolling the connecting cube onto the number 13.
- Display the gameboard.

Make or Break Apart Numbers





- "We rolled the number 13. My partner and I have to find 2 groups that go together to make 13. Which groups go together to make 13?"
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share responses.
- "I'm going to put a counter on this group of 10 dots and a counter on this group of 3 fingers. 10 and 3 is 13. What expression should I write on my recording sheet?" $(10 + 3)$
- 30 seconds: quiet think time
- Share responses.
- Demonstrate writing $10 + 3$.
- "Now that my partner and I have written our expression, we can look to see if there are 2 more groups that go together to make 13. If we can't find any more ways to make 13, then we roll and make another number."
- "Take turns with your partner to find 2 groups to make a number and write an expression."

## Activity

- 8 minutes: partner work time
- "Now you can choose another center. You can also continue playing Make or Break Apart Numbers."
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 10 minutes: center work time

## Synthesis

- "We worked with numbers 11-19 in centers. Tell your partner two things that you know

about these numbers."

## Lesson Synthesis

5 min

Display 14 dots on a 10-frame and:

- the number 14
- 10 and 4
- $10 + 4$
- $10 + 4 = 14$

"Which of these matches the 10-frame? How do you know?" (They all match the 10-frame. There are 14 dots. There are 10 dots on the 10-frame and 4 more dots.)

# Lesson 10: Complete Equations

### Standards Alignments

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

### Teacher-facing Learning Goals

- Represent numbers 11–19 with equations.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to represent numbers 11–19 with equations.

In previous lessons students composed and decomposed numbers 11–19 with 10 ones and some more ones. They saw numbers 11–19 represented with written numbers, phrases such as "10 and 2," expressions, and equations. In this lesson, students interpret equations and fill in the missing numbers to complete equations for numbers 11–19 (MP2).

This lesson has a Student Section Summary.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 2)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

What Do You Know About _____? (Warm-up)

### Materials to Gather

- 10-frames: Activity 2
- Materials from previous centers: Activity 3
- Two-color counters: Activity 2

### Lesson Timeline

| | |
|---|---|
| Warm-up | 10 min |

### Teacher Reflection Question

What opportunities are you giving students to reflect on their understanding of the

| | |
|---|---|
| Activity 1 | 10 min |
| Activity 2 | 10 min |
| Activity 3 | 20 min |
| Lesson Synthesis | 10 min |

mathematical content?

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

0 min

Unit 6, Section B Checkpoint

### Standards Alignments

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

### Student-facing Task Statement

Lesson observations

### Student Responses

- Count all to find the total.
- Know that a full 10-frame or all the fingers on two hands represent 10 without counting.
- Count on from 10 to find the total.
- Count or recognize the ones outside of the 10 ones and use a $10 + n$ fact to find the total.
- Write numbers 11–19.

Begin Lesson

## Warm-up

10 min

What do you know about 15?

### Standards Alignments

Addressing K.NBT.A.1

The purpose of this What Do You Know About _____? is to invite students to share what they know and how they can represent the number 15.

### Instructional Routines

What Do You Know About _____?

### Student-facing Task Statement

What do you know about 15?

### Student Responses

Sample responses:

- 15 is 1 less than 16.
- It comes after 14.
- It is more than 10.
- You can make 15 with a full 10-frame and 5 more.
- You need 2 people to show 15 with fingers.
- 15 is $10 + 5$.

### Launch

- Display the number.
- "What do you know about 15?"
- 1 minute: quiet think time

### Activity

- Record responses.

### Synthesis

- "We have shown numbers 11–19 in lots of different ways. We have used fingers, 10-frames, written numbers, and expressions. In the next activity we will show these numbers as equations."

## Activity 1

10 min

What Is Missing?

### Standards Alignments

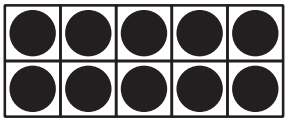
Addressing K.NBT.A.1, K.OA.A.1

The purpose of this activity is for students to fill in equations to represent decompositions of numbers 11–19 on 10-frames. Students fill in either the total or the two parts missing from the equations. When students relate the parts of the 10-frame representations and the equations they reason abstractly and quantitatively (MP2).

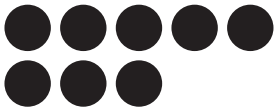
### Access for English Learners

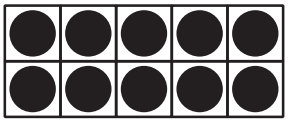
*MLR8 Discussion Supports.* Invite each partner to read the completed equation aloud. Listen for and clarify any questions about the equations.
*Advances: Conversing*

## Student-facing Task Statement

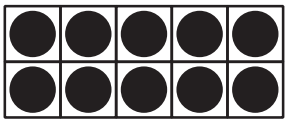


$10 + 8 =$ _____

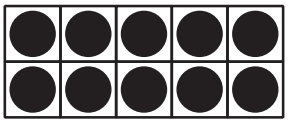




$10 + 3 =$ _____



$10 + 4 =$ _____



_____ + _____ = 16

## Launch

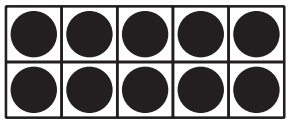
- Groups of 2
- "Use the dots to find the numbers that make each equation true."

## Activity

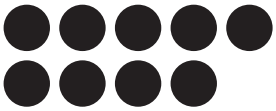
- 2 minutes: independent work time
- 3 minutes: partner work time

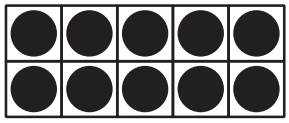
## Synthesis

- Display the image with 18 dots and the matching equation.
- "How did you figure out what was missing?" (I counted the dots to find out how many there are altogether.)
- Display the image with 16 dots and the matching equation.
- "How did you figure out what was missing?" (I looked for the two parts. There are 10 on the 10-frame and then there are 6 more.)
- "Sometimes the total number of dots was missing. Sometimes the two parts were missing."



_____ + _____ = 19





_____ + _____ = 12

### Student Responses

- 18
- 13
- 14
- $10 + 6$
- $10 + 9$
- $10 + 2$

## Activity 2

10 min

Make the Equations True

### Standards Alignments

Addressing K.NBT.A.1, K.OA.A.1

The purpose of this activity is for students to complete equations to represent numbers 11–19. Students may know that 17 is 10 and 7 because of repeated practice in this unit. Students may

need to use objects or drawings to represent each number and then fill in an equation. While there are many possible equations to represent each number, students have only composed and decomposed numbers 11–19 as ten ones and some more ones throughout this unit, which makes 10 + _____ the most likely way for students to fill in the equations (MP8).

### Access for Students with Disabilities

*Action and Expression: Internalize Executive Functions.* Invite students to plan a strategy, including the tools they will use, for filling in the missing numbers. If time allows, invite students to share their plan with a partner before they begin.
*Supports accessibility for: Organization, Conceptual Processing*

## Materials to Gather

10-frames, Two-color counters

## Student-facing Task Statement

1. $10 + 5 = _____$
2. $_____ + _____ = 16$
3. $_____ + _____ = 19$
4. $_____ + _____ = 13$
5. $_____ + _____ = 17$
6. $10 + 1 = _____$

## Student Responses

1. 15
2. $10 + 6$
3. $10 + 9$
4. $10 + 3$
5. $10 + 7$

## Launch

- Groups of 2
- Give students access to two-color counters and 10-frames.
- "Find the numbers that make each equation true. You can use objects, drawings, or 10-frames to help you."

## Activity

- 3 minutes: independent work time
- 3 minutes: partner work time

## Synthesis

- Invite a student who represented 17 on a 10-frame to share.
- "How do the counters and the 10-frame help you fill in the equation?"
- "Where do you see 10 on the 10-frame? Where do you see 7 on the 10-frame?"

6. 11

## Activity 3

20 min

Centers: Choice Time

The purpose of this activity is for students to choose from activities that offer practice with addition and subtraction, writing numbers, and counting objects.

Students choose from any stage of previously introduced centers.

- Make or Break Apart Numbers
- Bingo
- Number Race
- Grab and Count
- Tower Build

### Materials to Gather

Materials from previous centers

### Required Preparation

- Gather materials from:
  - Make or Break Apart Numbers, Stages 1 and 2
  - Bingo, Stages 1-4
  - Number Race, Stages 1 and 2
  - Grab and Count, Stage 1
  - Tower Build, Stages 1 and 2

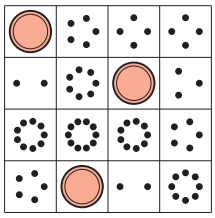
### Student-facing Task Statement

Choose a center.

Bingo Number Race

### Launch

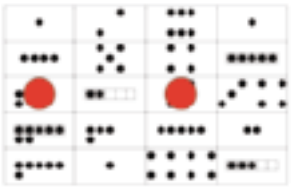
- "Today we are going to choose from centers we have already learned."
- Display the center choices in the student book.

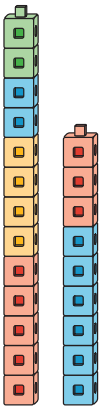


Grab and Count

Tower Build

Make or Break Apart Numbers





- "Think about what you would like to do first."
- 30 seconds: quiet think time

### Activity

- Invite students to work at the center of their choice.
- 8 minutes: center work time
- "Choose what you would like to do next."
- 8 minutes: center work time

### Synthesis

- "What center do you hope you can keep playing in upcoming lessons? What do you like about that center?"

## Lesson Synthesis

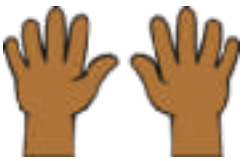
10 min

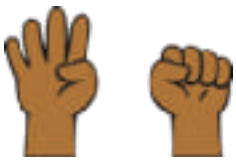
Display $10 + 9 = 19$.

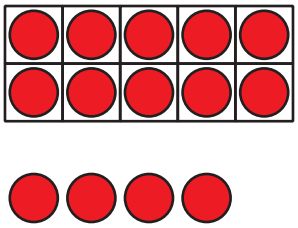
"Find a way to show that $10 + 9$ is 19." (Two students show 19 with 10 fingers and 9 fingers. Students use a full 10-frame and 9 counters.)

### Student 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. $10 + 4 = 14$

# Section C: Count Groups of 11–20 Images

# Lesson 11: Count Images (Part 1)

### Standards Alignments

Addressing K.CC, K.CC.A.1, K.CC.A.2, K.CC.B.5, K.NBT.A.1

### Teacher-facing Learning Goals

- Understand numbers 11–19 as ten ones and some more ones.
- Write a number to answer "how many" questions about groups of up to 19 images.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to use the 10 ones and some more ones structure of numbers 11–19 to help them count groups of up to 19 images.

In previous lessons, students counted groups of up to 20 objects and groups of up to 10 images. Students composed and decomposed numbers 11–19 into 10 ones and some more ones. In this lesson, students find a group of 10 images inside a group of 11–19 images and then determine the total number of images. Throughout the section, students have access to a reference sheet that shows numbers 11–20 with dots in 10-frames that they can use to identify written numbers.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

Choral Count (Warm-up)

### Materials to Gather

- Colored pencils, crayons, or markers: Activity 2

- Materials from previous centers: Activity 3

### Lesson Timeline

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

### Teacher Reflection Question

What connections did students make between the different strategies shared? What questions did you ask to help make the connections more visible?

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

0 min

Unit 6, Section C Checkpoint

### Standards Alignments

Addressing K.CC

### Student-facing Task Statement

Lesson observations

### Student Responses

- Keep track of images that have been counted.
- Identify a group of 10 images in a group of 11–19 images.
- Count all to find the total.
- Count on from 10 to find the total.
- Write numbers 11–20.

Begin Lesson

# Warm-up

10 min

Choral Count: Count to 90 and Count On

### Standards Alignments

Addressing K.CC.A.1, K.CC.A.2

The purpose of this warm-up is for students to extend the verbal count sequence to 90 and to count on from a given number. As students count, point to the numbers posted so that students can follow along.

### Instructional Routines

Choral Count

### Student Responses

- Students count to 90.
- Students count on from 13 to 20.

### Launch

- "Let's count to 90."
- Count to 90 1–2 times as a class.

### Activity

- "Now, start at the number 13 and count to 20."
- Count on from 13 to 20.
- Record as students count.
- Repeat 3–4 times starting with other numbers within 20.

### Synthesis

- "Take turns counting on with your partner. Tell your partner which number to start counting at and which number to stop counting at."

# Activity 1

10 min

Find 10 Ones to Count

## Standards Alignments

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

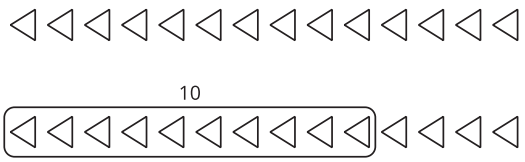
The purpose of this activity is for students to use the 10 ones and some more ones structure of numbers 11–19 to help accurately count images in organized arrangements (MP6, MP7). Some methods that students may use to count the shapes include:

- Begin at 1 to count each shape, even after they have circled 10 shapes.
- Circle 10 shapes and know that 10 shapes and 2 shapes is 12 shapes without counting based on experiences in previous lessons.
- Circle 10 shapes and count on from 10 to determine the total number of shapes.

## Access for Students with Disabilities

*Action and Expression: Internalize Executive Functions.* Invite students to plan a strategy, including the tools they will use, to figure out how many shapes there are. If time allows, invite students to share their plan with a partner before they begin.
*Supports accessibility for: Organization, Conceptual Processing*

## Student-facing Task Statement



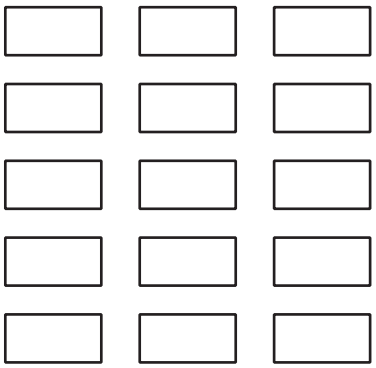

1.

There are _____ squares.

2.

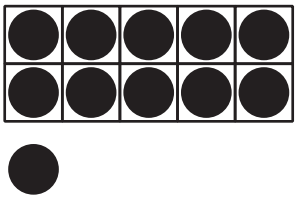
## Launch

- Groups of 2
- Display the images.
- "What do you notice? What do you wonder?" (I notice that there are a lot of triangles in the line. I notice that the triangles are circled in the second picture. I notice that there are 10 triangles and 4 triangles. There are 14 triangles. I wonder why one of them has 10 triangles circled. I wonder if there are 14 triangles in the first picture.)
- 30 seconds: quiet think time
- 1 minute: partner discussion
- Share and record responses.
- "Circle a group of 10 squares in the first problem."
- 30 seconds: independent work time



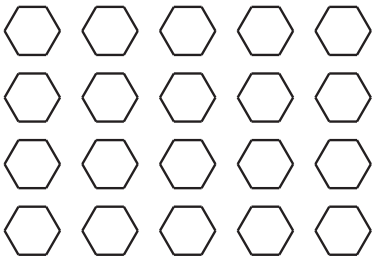
There are _____ rectangles.

3.



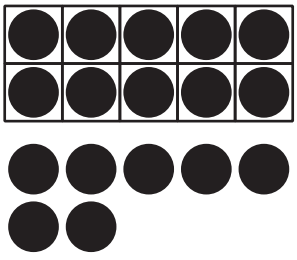
There are _____ dots.

4.



There are _____ hexagons.

5.



There are _____ dots.

6.

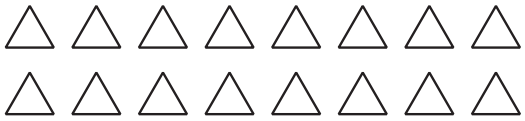
- "Share with your partner. Did you both circle the same 10 squares?"
- 30 seconds: partner discussion
- "How many squares are there? How do you know?" (13. There are 10 and 3 more.)
- 1 minute: quiet think time
- Share responses.
- "Figure out how many shapes there are. You may circle a group of 10 if it can help you figure out how many there are. Write a number to show how many shapes there are."

## Activity

- 5 minutes: independent work time
- Monitor for students who use the methods described in the activity narrative to determine how many shapes there are altogether.

## Synthesis

- Invite a student who circled 10 shapes and just knew that 10 shapes and _____ shapes is _____ to share.
- "How did circling 10 of the shapes help you figure out how many shapes there were altogether?" (I circled 10 shapes and saw that there were 3 more shapes. I know that 10 and 3 is 13.)
- "10 shapes and 3 shapes is 13 shapes."
- Invite a student who circled 10 shapes and counted on to determine the total number of shapes to share.
- "How did circling 10 of the shapes help you figure out how many shapes there were altogether?" (I circled 10 shapes. I knew that there were 10 shapes in my circle, so then I counted 11, 12, 13. I didn't have to count the 10 shapes again.)
- As each student shares, record the number



There are _____ triangles.

### Student Responses

1. 13
2. 15
3. 11
4. 20
5. 17
6. 16

of shapes with an equation, such as $10 + 3 = 13$.

### Advancing Student Thinking

If students count the 10 shapes that they have circled each time, consider asking:

- "How many shapes did you circle? How do you know?"
- If students answer 10 without counting, ask, "Can you figure out how many shapes there are without counting the shapes that you circled again?"

## Activity 2

10 min

Color to Match Expressions

### Standards Alignments

Addressing K.CC.B.5

The purpose of this activity is for students to show the 10 ones and some more ones structure of numbers 11–19 as they color images to match expressions. Once students color in the expressions, they figure out the total number of shapes and fill in an equation. Because students are coloring in the shapes to show $10 +$ _____, students may count on from 10 to determine the total number of shapes. It is important that students connect their equations to the

corresponding representations (MP2). While counting on from 10 is highlighted in the activity synthesis, counting on to determine the total is not an expectation in kindergarten.

### Access for English Learners

*MLR8 Discussion Supports.* Invite each partner to read the completed equation aloud. Listen for and clarify any questions about the equations.
*Advances: Conversing*

## Materials to Gather

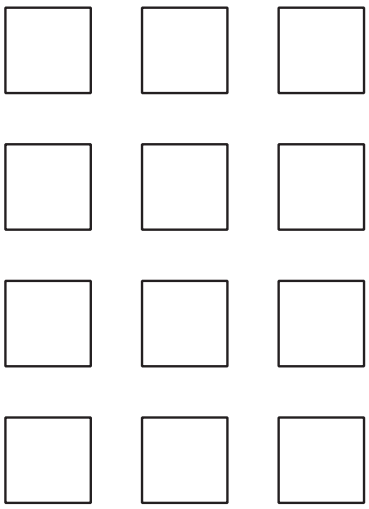
Colored pencils, crayons, or markers

## Required Preparation

- Students need access to at least 2 different colored crayons, colored pencils, or markers.

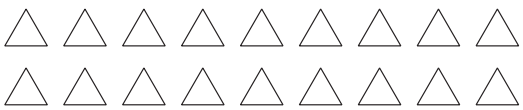
## Student-facing Task Statement

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



$10 + 2 =$ _____

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



$10 + 8 =$ _____

## Launch

- Groups of 2
- Give each student access to at least two different colored crayons.
- "Color the shapes to show each expression. Then complete the equation to show how many shapes there are altogether."

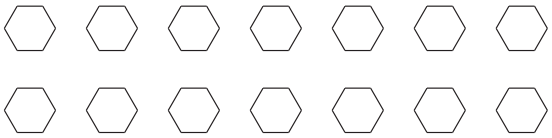
## Activity

- 2 minutes: independent work time
- 3 minutes: partner work time
- Monitor for students who count on from 10.

## Synthesis

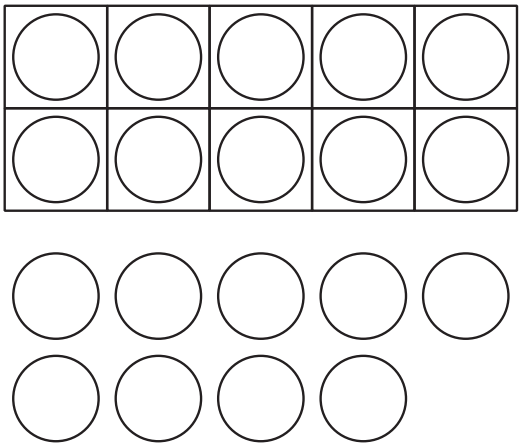
- Invite a student who counted all of the shapes to share.
- Invite a student who counted on from 10 to share.
- "What is the same and what is different about how _____ and _____ counted the shapes?" (They both counted all shapes.

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



$10 + 4 =$ _____

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



$10 + 9 =$ _____

**Student Responses**

1. $10 + 2 = 12$
2. $10 + 8 = 18$
3. $10 + 4 = 14$
4. $10 + 9 = 19$

_____ started counting at 1. _____ didn't count the shapes that they colored because they knew that there were 10.)

## Activity 3

25 min

Centers: Choice Time

The purpose of this activity is for students to choose from activities that offer practice with addition, subtraction, composing, and decomposing.

Students choose from any stage of previously introduced centers.

- Find the Value of Expressions
- Make or Break Apart Numbers
- Bingo

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

## Materials to Gather

Materials from previous centers

## Required Preparation

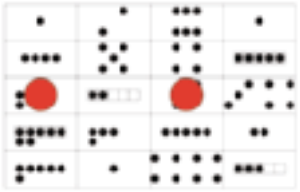
- Gather materials from:
  - Find the Value of Expressions, Stage 1
  - Make or Break Apart Numbers, Stages 1 and 2
  - Bingo, Stages 1-4

## Student-facing Task Statement

Choose a center.

Find the Value of the Expressions

Make or Break Apart Numbers



Bingo

## Launch

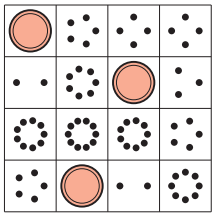
- "Today we are going to choose from centers we have already learned."
- Display the center choices in the student book.
- "Think about what you would like to do first."
- 30 seconds: quiet think time

## Activity

- Invite students to work at the center of their choice.
- 10 minutes: center work time
- "Choose what you would like to do next."
- 10 minutes: center work time

## Synthesis

- "What did you like about the activities you



worked on today?”

## Lesson Synthesis

5 min

"In this unit, we have been working with the numbers 11–20. What is one thing you have learned about these numbers?"

# Lesson 12: Count Images (Part 2)

### Standards Alignments

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

### Teacher-facing Learning Goals

- Keep track of images that have been counted.
- Write a number to answer "how many" questions about groups of up to 20 images.

### Student-facing Learning Goals

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

### Lesson Purpose

The purpose of this lesson is for students to count to answer "how many" questions about groups of up to 20 images and keep track of images that have been counted.

In previous lessons, students counted groups of up to 20 objects and groups of up to 19 images arranged in lines, arrays, and on 10-frames. In this lesson, students count groups of up to 20 images arranged in lines, arrays, circles, and on 10-frames. Students use methods of keeping track of images that they have developed in previous lessons and units and may develop new methods, especially when counting images in circles. Students practice writing numbers 11–20 to represent quantities.

This lesson has a Student Section Summary.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 2)

#### English Learners

- MLR8 (Activity 1)

### Instructional Routines

Which One Doesn't Belong? (Warm-up)

### Materials to Gather

- 10-frames: Activity 3
- Connecting cubes or counters: Activity 3
- Connecting cubes: Activity 2

### Materials to Copy

- Find the Pair Stage 2 Recording Sheet (groups of 1): Activity 3

- Materials from previous centers: Activity 3
- Number cards 0–10: Activity 3

### Lesson Timeline

| | |
|---|---|
| Warm-up | 10 min |
| Activity 1 | 10 min |
| Activity 2 | 10 min |
| Activity 3 | 15 min |
| Lesson Synthesis | 10 min |
| Cool-down | 5 min |

### Teacher Reflection Question

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

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

5 min

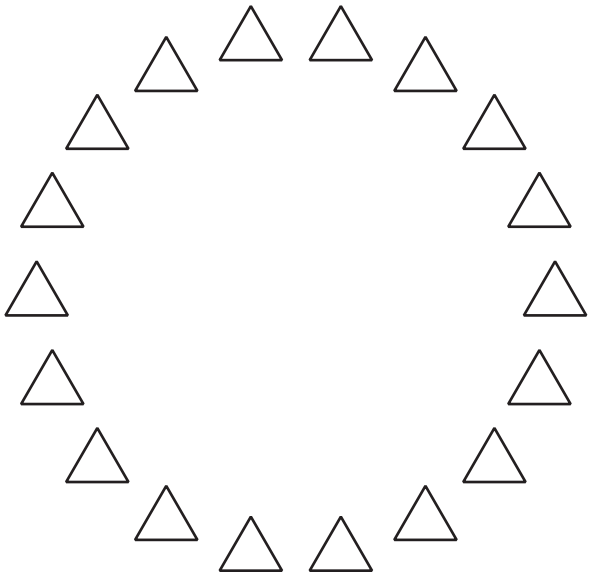
How Many Triangles?

### Standards Alignments

Addressing K.CC.B.5

### Student-facing Task Statement

How many triangles are there?



There are _____ triangles.

**Student Responses**

18

Begin Lesson

## Warm-up

10 min

Which One Doesn't Belong: Tons of Tens

**Standards Alignments**

Addressing K.CC.B.4.a, K.CC.B.5

This warm-up prompts students to carefully analyze and compare features of four groups of images. The activity also enables the teacher to hear the terminologies students know and how they talk about characteristics of each group of images.

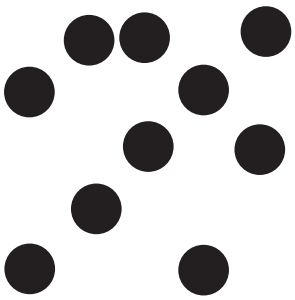
## Instructional Routines

Which One Doesn't Belong?

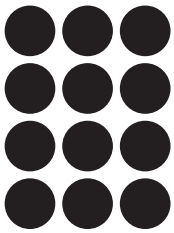
### Student-facing Task Statement

Which one doesn't belong?

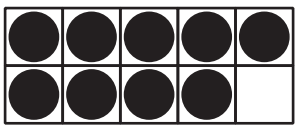
A



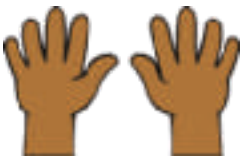
B



C



D



### Student Responses

Sample responses:

A doesn't belong because:

- It is the only one that is not arranged neatly.

B doesn't belong because:

- It is the only one that shows more than 10.

C doesn't belong because:

- It is the only one that shows less than 10.

D doesn't belong because:

- It is the only one that does not use dots.

### Launch

- Groups of 2
- Display the image.
- "Pick one that doesn't belong. Be ready to share why it doesn't belong."
- 1 minute: quiet think time

### Activity

- "Discuss your thinking with your partner."
- 2–3 minutes: partner discussion
- Share and record responses.

### Synthesis

- "What are some different ways you might see a group of things arranged?"
- "Let's find at least one reason why each one doesn't belong."

# Activity 1 (optional)

10 min

Count Images in Organized Arrangements

## Standards Alignments

Addressing K.CC.B.4.b, K.CC.B.5

The purpose of this optional activity is for students to count groups of up to 20 images presented in lines, arrays, and on 10-frames. This activity is optional because it is an opportunity for extra practice keeping track of and accurately counting groups of up to 20 images that not all students may need. Based on formative assessment data and observation from previous lessons, this activity will be helpful for students who count some images more than one time or do not count some images. The purpose of the activity synthesis is to highlight that the order that the images are counted does not affect the number of images.

## Access for English Learners

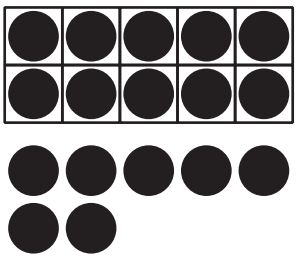
*MLR8 Discussion Supports.* Display and read aloud the following sentence frames to support small-group discussion: "How many rectangles are there?" and "There are _____ rectangles." Invite students to chorally repeat these sentences in unison 1–2 times.
Advances: Speaking, Conversing, Representing

## Student-facing Task Statement

1.

There are _____ rectangles.

2.



There are _____ dots.

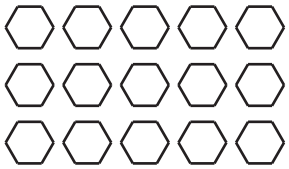
## Launch

- Groups of 2
- "Figure out how many shapes there are. Write a number to show how many shapes there are."

## Activity

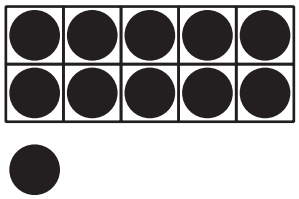
- 2 minutes: independent work time
- 3 minutes: partner work time
- Monitor for students who count the triangles by:
  - counting horizontally (by rows)
  - counting vertically (by columns)

3.



There are _____ hexagons.

4.



There are _____ dots.

5.

There are _____ squares.

6.

There are _____ triangles.

## Student Responses

1. There are 13 rectangles.
2. There are 17 dots.

## Synthesis

- Display the image of triangles.
- Invite a student who counted each row to share how they counted.
- Invite a student who counted each column to share how they counted.
- "What was the same about how _____ and _____ counted? What was different?" (They both figured out that there are 16 triangles. They both counted all of the triangles. _____ counted across. _____ counted down.)
- "We can start in different places or count in a different order, as long as we count each shape 1 time."

3. There are 15 hexagons.
4. There are 11 dots.
5. There are 20 squares.
6. There are 16 triangles.

### Advancing Student Thinking

If students count each image more than one time or do not count some of the images, consider asking:

- "How many shapes are there? How do you know that you have counted each shape?"
- "What can you do to keep track of which shapes you have already counted?"

## Activity 2

10 min

Count in Circles

PLC Activity

### Standards Alignments

Addressing K.CC.B.4.b, K.CC.B.5

The purpose of this activity is to count groups of up to 20 images that are arranged in a circle. Counting images arranged in a circle can be more difficult because there are not clear places to start and end when counting.

Students may use different methods for keeping track of the images that have been counted. They may:

- place an object such as a connecting cube on top of each hexagon as it is counted.
- color or mark each hexagon as it is counted
- mark the first hexagon that they count and touch each hexagon as they count

These methods are highlighted in the activity synthesis. Each method helps ensure that the images are counted accurately (MP6).

### Access for Students with Disabilities

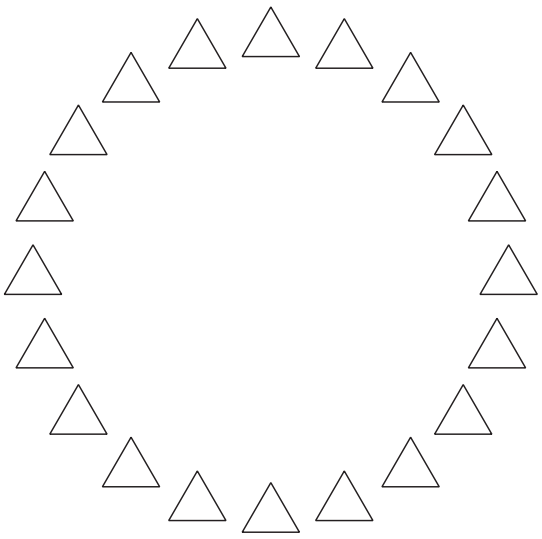
*Action and Expression: Internalize Executive Functions.* Invite students to plan a strategy, including the tools they will use, to count all the shapes in the circle. Students may benefit from recalling the strategy used prior to cross out each image after they counted them. If time allows, invite students to share their plan with a partner before they begin.
*Supports accessibility for: Organization, Conceptual Processing*

## Materials to Gather

Connecting cubes

## Student-facing Task Statement

1.



There are _____ triangles.

2.

## Launch

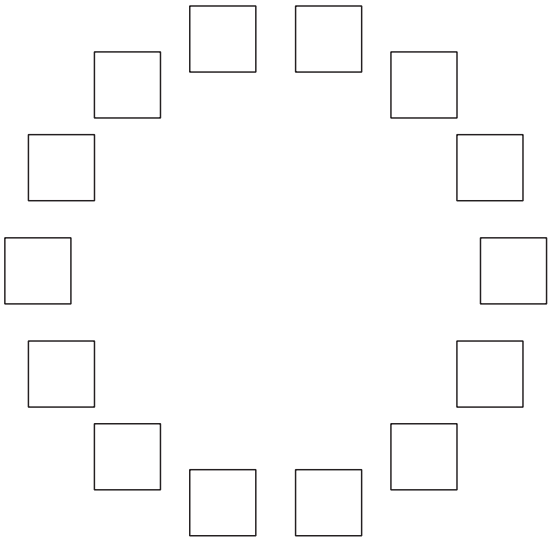
- Groups of 2
- Give students access to connecting cubes.
- "Work with your partner to figure out how many triangles there are in the first problem. Write a number to show how many triangles there are."
- 30 seconds: quiet think time
- 2 minutes: partner work time
- "Pair up with another group. Did you count the triangles the same way?"
- 2 minutes: small-group discussion
- "Figure out how many shapes there are. Write a number to show how many shapes there are."

## Activity

- 4 minutes: partner work time
- Monitor for students who use the methods described in the activity narrative to count the shapes.

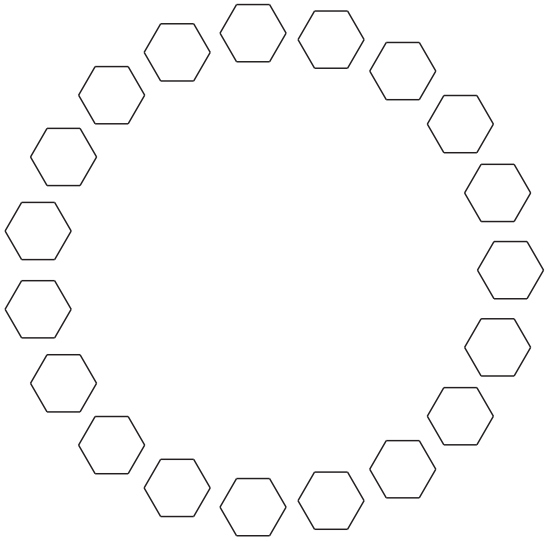
## Synthesis

- Invite a student who placed a connecting cube on each shape to share.
- "How does putting a cube on top of each



There are _____ squares.

3.

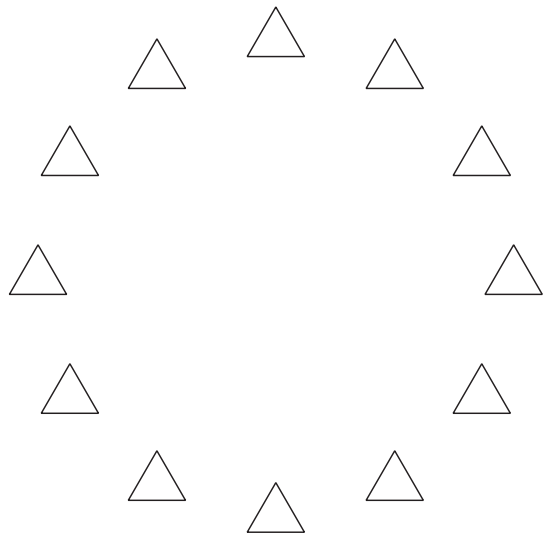


There are _____ hexagons.

4.

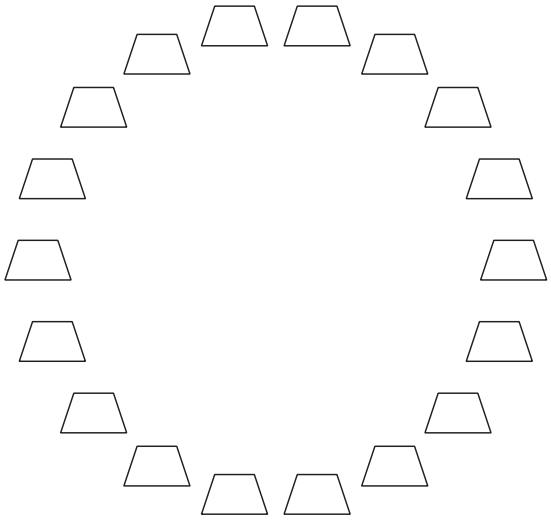
shape help you figure out how many shapes there are?" (I know that I've already counted the shapes that have a cube on top. Once all of the shapes have a cube on top, I know that I've counted all of the shapes 1 time.)

- Invite a student who crossed out or colored each shape to share.
- "How does crossing out each shape help you figure out how many shapes there are?" (When all of the shapes are crossed out, I know that I have counted all of the shapes 1 time.)
- Invite a student who marked the first shape they counted to share.
- "How does marking which shape you counted first help you figure out how many shapes there are?" (If I know which shape I counted first, I can stop counting before I get back to it.)
- "Which method do you like to use to keep track of what you've counted in a circle? Why?"



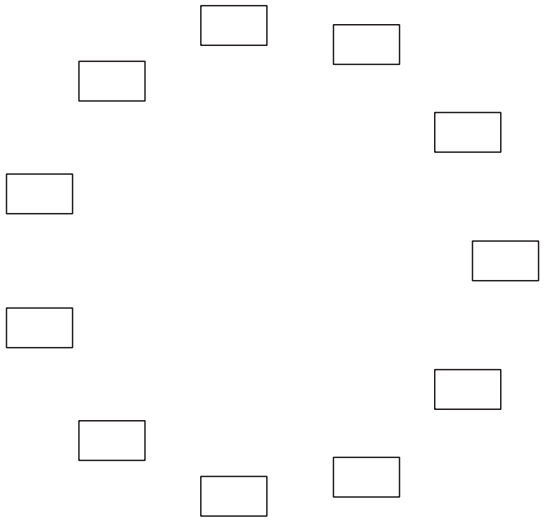
There are _____ triangles.

5.



There are _____ trapezoids.

6.



There are _____ rectangles.

### Student Responses

1. There are 20 triangles.
2. There are 14 squares.
3. There are 19 hexagons.
4. There are 12 triangles.
5. There are 18 trapezoids.
6. There are 11 rectangles.

### Advancing Student Thinking

If students count each image more than one time or do not count some of the images, consider asking:

- "Which shape did you count first? What can you do to know which shape you counted first?"
- "What can you do so that you know when you have counted all of the shapes?"

## Activity 3

15 min

Introduce Find the Pair, Make 10

## Standards Alignments

Addressing K.OA.A.4

The purpose of this activity is for students to learn stage 2 of the Find the Pair center. Students practice finding the number that makes 10 when added to a given number. Each student draws a hand of 5 cards. Students take turns asking their partner for a card that goes with one of their cards to make 10. When students receive a match, they write an equation. Students draw a new card when they do not receive a match. Students may use two-color counters and a 10-frame or their fingers to help them determine the number needed to make 10.

After students participate in this center, they have a choice of centers introduced previously.

- Find the Value of Expressions
- Make or Break Apart Numbers
- Bingo

Students will continue to choose from these centers in upcoming lessons. Keep the materials from each center organized to use each day.

## Materials to Gather

10-frames, Connecting cubes or counters, Materials from previous centers, Number cards 0–10

## Materials to Copy

Find the Pair Stage 2 Recording Sheet (groups of 1)

## Required Preparation

- Gather materials from:
  - Find the Value of Expressions, Stage 1
  - Make or Break Apart Numbers, Stages 1 and 2
  - Bingo, Stages 1-4

## Student-facing Task Statement

Choose a center.

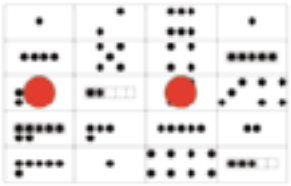
Find the Pair

Find the Value of Expressions

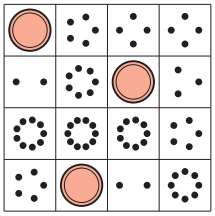
## Launch

- Groups of 2
- Give each student a set of cards, a recording sheet, and access to two-color counters and 10-frames.
- "We are going to learn a new way to play the Find the Pair center."

Make or Break Apart Numbers



Bingo



- "Put all of the cards in a pile in the middle of the table. You and your partner will both draw 5 cards. Keep your cards hidden from your partner."
- Demonstrate drawing 5 cards. Invite a student to act as the partner and draw 5 cards.
- "I am going to look at my cards. I need to choose 1 card and figure out which number I need to make 10 with the card."
- Display a card with the number 9.
- "My card says 9. What card do I need to go with it to make 10?" (1)
- "I need a 1 card. I'm going to ask my partner if they have a 1 card."
- "If my partner has a 1 card, they will give it to me. I will put the 9 card and 1 card down as a match and fill in an equation."
- "If I have a 9 card and a 1 card, what equation should I write?" ($9 + 1 = 10$ or $1 + 9 = 10$)
- "If my partner doesn't have the card that I asked for, I draw 1 more card from the middle."
- Invite students to play one game with their partners and answer any questions about the rules of the game.
- "Take turns playing with your partner."

## Activity

- 5 minutes: partner work time
- "Now you can choose another center. You can also continue playing Find the Pair."
- Display the center choices in the student book.
- Invite students to work at the center of their choice.
- 5 minutes: center work time

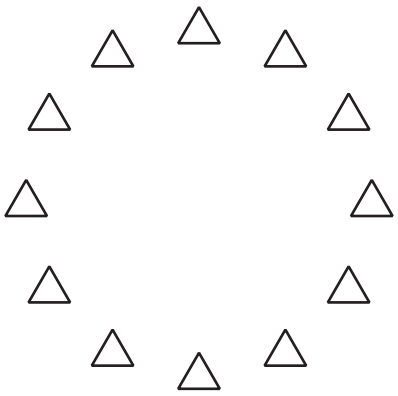
### Synthesis

- "As you played Find the Pair, how did you figure out what number you needed to make 10?"

## Lesson Synthesis

10 min

Display the image from the second activity of 12 triangles in a circle.



Demonstrate counting the triangles incorrectly. Continue counting around the circle even after you've counted all of the triangles.

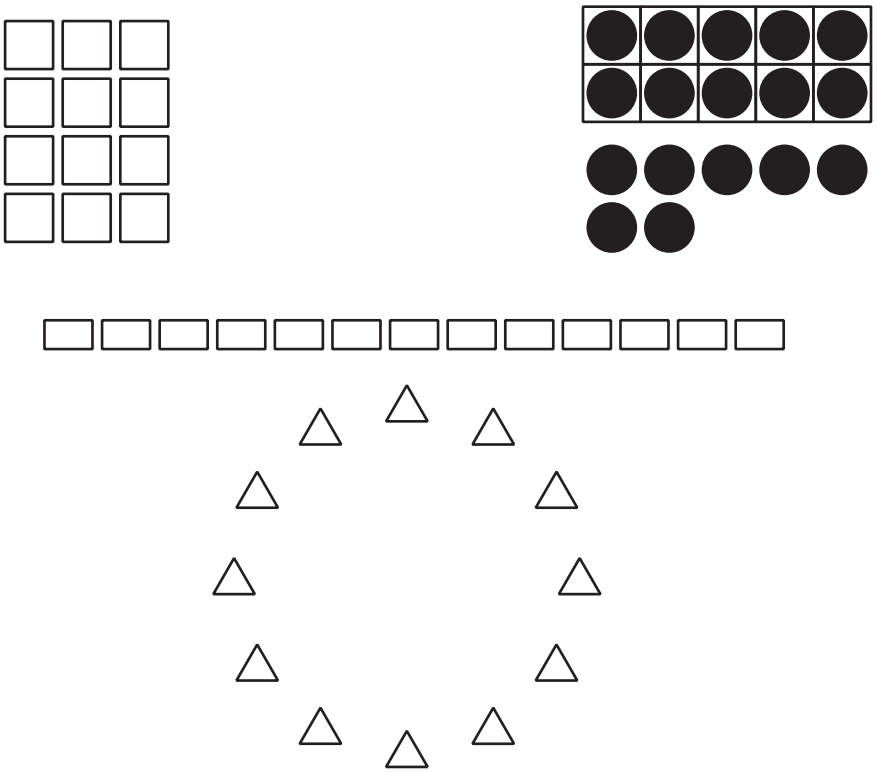
"Did I count correctly? Why or why not?" (You didn't count correctly because you counted some of the triangles more than one time.)

"What can I do to make sure that I count each triangle one time and that I don't forget to count any triangles?" (You can put a cube on top of each triangle as you count it. You can cross off each triangle as you count it. You can color each triangle as you count it. You can mark which triangle you counted first.)

### Student 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

## Complete Cool-Down

### Response to Student Thinking

Students write a number other than 18.

**Next Day Support**

- During the launch of the next lesson, review different ways to keep track while counting images in a circle.

# Lesson 13: Fingerprint Animals (Optional)

### Standards Alignments

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

### Teacher-facing Learning Goals

- Complete equations to represent teen numbers.
- Understand numbers 11–19 as 10 ones and some more ones.

### Student-facing Learning Goals

- Let's make a fingerprint animal book.

### Lesson Purpose

The purpose of this lesson is for students to use their understanding of numbers 11–19 to make a number book.

This lesson is optional because it does not address any new mathematical content standards. This lesson does provide students with an opportunity to apply precursor skills of mathematical modeling. This lesson builds on students' previous understanding and experiences with writing and composing numbers 11–19.

In this lesson, students make a number book with pages of fingerprint animals for the numbers 11–19. They arrange the animals in a 10-frame so that it is easy to see the number as $10 + \square$ and write matching equations like $10 + 4 = 14$. Then they put the numbers in order and read the book together.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

#### English Learners

- MLR8 (Activity 2)

### Instructional Routines

How Many Do You See? (Warm-up)

### Materials to Gather

- Colored pencils, crayons, or markers: Activity 1

### Materials to Copy

- Fingerprint Animals on the 10-frame (groups of 1): Activity 1

### Lesson Timeline

| | |
|---|---|
| Warm-up | 10 min |
| Activity 1 | 25 min |
| Activity 2 | 15 min |
| Lesson Synthesis | 10 min |

### Teacher Reflection Question

How did students use 10-frames to reason about or explain how the equation is true? If students did not use a 10-frame, how did they explain the connection?

Begin Lesson

## Warm-up

10 min

How Many Do You See: Fingerprints or Animals?

### Standards Alignments

Addressing K.CC.B.4

The purpose of this How Many Do You See is for students to subitize or use grouping strategies to describe the images they see. The images used introduce students to the context that will be used throughout the lesson.

When students use the placement of objects in a 10-frame, they look for and make use of structure (MP7).

### Instructional Routines

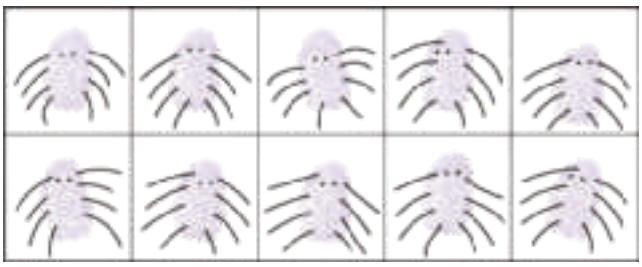
How Many Do You See?

### Student-facing Task Statement

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

### Launch

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



### Student Responses

Sample response:

- 10: I know that if all the boxes are filled then it is 10.

### Activity

- Display image.
- "Discuss your thinking with your partner."
- 1 minute: partner discussion
- Record responses.

### Synthesis

- "Noah created this art. He used his fingerprints in a 10-frame and then decorated them like animals."
- "Today, we will make our own fingerprint animals using ink and our thumbs."

## Activity 1

25 min

Fingerprint Zoo Book Pages

### Standards Alignments

Addressing K.CC.A.3, K.NBT.A.1, K.OA.A.1

The purpose of this activity is to make fingerprint animals for numbers 11–19. Students see these numbers as 10 ones and some more ones and fill in equations like $10 + 4 = 14$. If there is time, each group can make a title page for their book.

### Access for Students with Disabilities

*Action and Expression: Internalize Executive Functions.* Check for understanding by inviting students to rephrase directions in their own words. Keep a display of directions visible throughout the activity.
*Supports accessibility for: Memory, Organization*

### Materials to Gather

Colored pencils, crayons, or markers

### Materials to Copy

Fingerprint Animals on the 10-frame (groups of 1)

## Required Preparation

- Cut each Instructional master in half. Each group of 3 needs 9 half-
- sheets. Each group of 3 needs an ink pad.

## Student-facing Task Statement

Let's make pages for our book.

Student A: 11, 13, 18

Student B: 14, 16, 17

Student C: 12, 15, 19

## Student Responses

Answers vary. Sample response: $10 + 4 = 14$

## Launch

- Groups of 3
- Give each group of 3 students access to ink pads, colored pencils or markers, and 9 half sheets of the Instructional master.
- Demonstrate how to use the ink pad to make a fingerprint.

## Activity

- "Each group will make a fingerprint animal number book for the numbers 11-19."
- Assign each student as A, B, or C.
- "Look in your book to see which numbers you will make pages for. Use the ink pad to make fingerprints to show each number."
- "Then complete an equation to show each number."
- "Finally, decorate your fingerprints so that they look like animals."
- 15 minutes: small-group work time

## Synthesis

- Invite students to share their pages.
- As students share, ask where they see each part of the equation on the page.
- If time, invite each group of students to create a title page for their book.

# Activity 2

15 min

Order Our Pages

### Standards Alignments

Addressing K.CC.A.2, K.CC.B.4

The purpose of this activity is to put numbers 11-19 in order. Students share the fingerprint animals that they created in the previous activity and then work with their group to put all of the pages in order. Consider stapling together the book that each group makes.

### Access for English Learners

*MLR8 Discussion Supports.* Pair gestures with verbal directions to clarify the meaning of any unfamiliar terms. Students may benefit from discussing possible strategies they can use to determine order before they begin.
*Advances: Listening, Representing*

### Student Responses

Pages are in order from 11–19.

### Launch

- Groups of 3
- “Share the pages you made with your group. Describe the animal you made and how many there are on each of your pages.”
- 3 minutes: small-group discussion

### Activity

- "Work with your group to put the pages in order from 11-19 to create a book. When you are finished, check the stack to make sure the pages are in order. Then read your book together.”
- 8 minutes: small-group work time

### Synthesis

- “Let’s look at some of the books we

created."

- Invite 2-3 groups of students to share the books they created.

## Lesson Synthesis

10 min

"Today, we made fingerprint animals books for numbers 11–19."

Display student work to show 2 or 3 different numbers.

"Where do you see the equation $10 + 5 = 15$ in the fingerprints?" (I see the full 10-frame and then 5 more. So this shows $10 + 5 = 15$.)

"How can we make sure the fingerprints and the equation match?" (The equation says $10 + 2 = 12$ which means 10 and 2 is 12. I see 10 fingerprints and then 2 more.)

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# Family Support Materials

# Family Support Materials

## Numbers 0–20

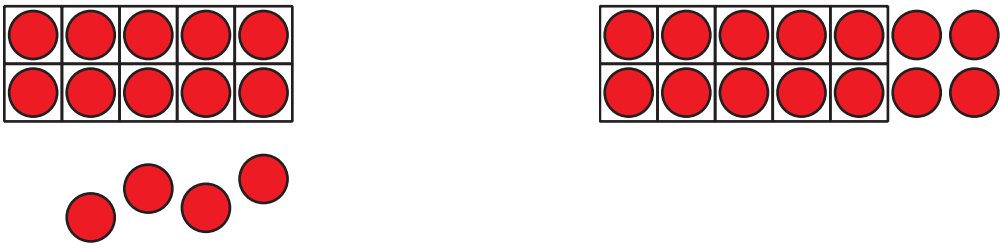
In this unit, students answer “How many?” questions and count out groups within 20. They understand that numbers 11 to 19 are made of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. They also write numbers up to 20.

## Section A: Count Groups of 11–20 Objects

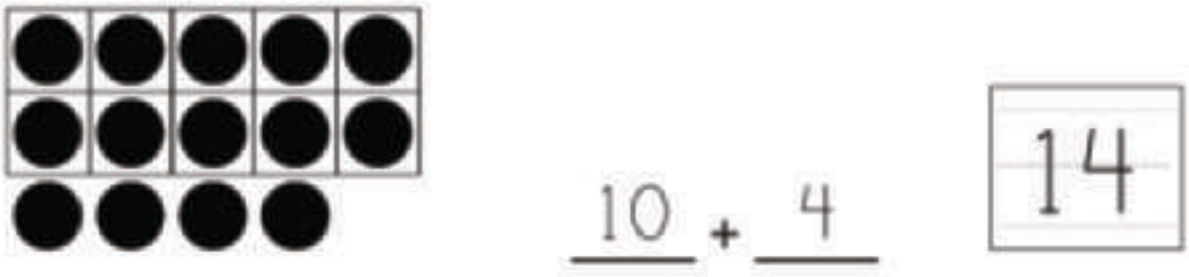
In this section, students count groups of 11–20 objects using strategies they developed in earlier units with smaller sets of objects. Students may use a counting mat or a 10-frame and think about how organizing can help them count the objects accurately.

## Section B: 10 Ones and Some More Ones

In this section, students see the numbers from 11 to 19 as 10 ones and some more ones. Students use fingers and 10-frames to represent these numbers with more emphasis on the 10-frame as the section progresses. As students represent these numbers, they fill a 10-frame and show some more ones. Students may show these ones in different ways.



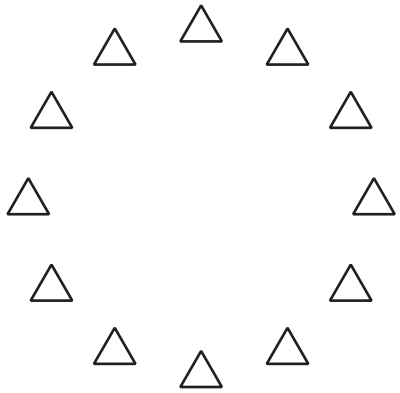
Students use objects, draw pictures, and fill in equations to show teen numbers as $10 + _____$.

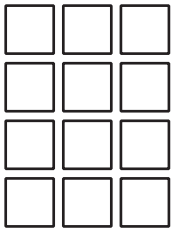



While not required in kindergarten, this work encourages students to count on from 10.

## Section C: Count Groups of 11–20 Images

In this section, students count groups of up to 20 images. Students work with images arranged in lines, arrays, circles, and on 10-frames.





Images arranged in a circle can be tricky for students as it becomes very important to keep track of which images have been counted. Students write numbers to show how many images there are.

## Try it at home!

Throughout the unit you can support your student by finding everyday opportunities to practice counting groups of up to 20 objects. For example:

Questions to ask your student:

- How many oranges do you think are in the bag?
- What can you do to figure out how many oranges there are?

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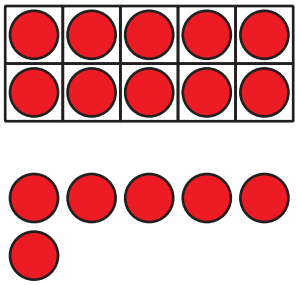
# Unit Assessments

End-of-Unit Assessment

# Numbers 0–20: End-of-Unit Assessment

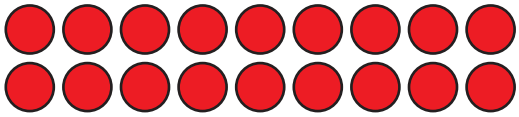
1. Draw 17 dots.
   Use the 10-frame if it helps you.

2. a. How many dots are there?
Write a number.



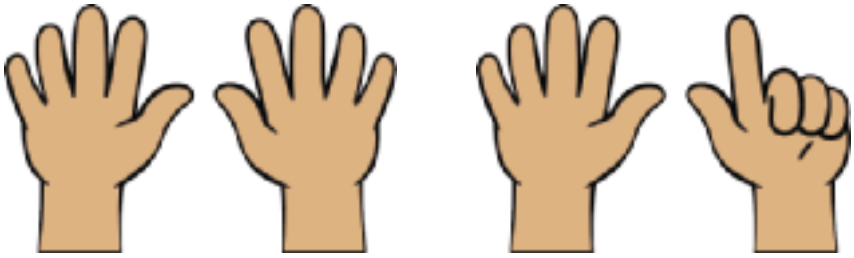
_____

b. How many dots are there?
Write a number.



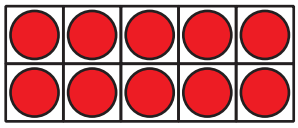
_____

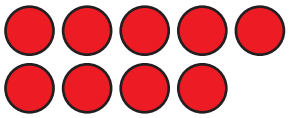
c. How many fingers are there?
Write a number.

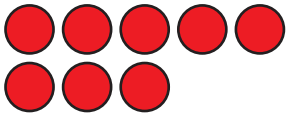


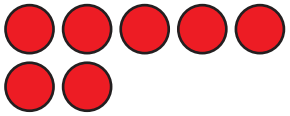
_____

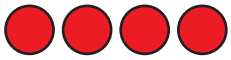
3. Circle the **2** images that make 14 dots together.

A. 

B. 

C. 

D. 

E. 

4. Find the number that makes each equation true.

a. $10 + 2 =$ _____

b. $10 + 4 =$ _____

c. $7 + 10 =$ _____

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# Assessment Answer Keys

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

# Assessment Answer Keys
## Assessment: Section A Checkpoint

### Teacher Instructions

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

- Count groups of up to 20 objects.
    - Say the count sequence to 20.
    - Answer how many without counting again.
    - Keep track of objects that have been counted.
    - After a group of objects that have been counted is rearranged, know that the total number of objects remains the same without recounting.

# Assessment: Section B Checkpoint

## Teacher Instructions

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

- Understand numbers 11–19 as 10 ones and some more ones.
    - Count all to find the total.
    - Know that a full 10-frame or all the fingers on two hands represents 10 without counting.
    - Count on from 10 to find the total.
    - Count or recognize the ones outside of the 10 ones and use a $10 + n$ fact to find the total.
    - Write numbers 11–19.

# Assessment: Section C Checkpoint

## Teacher Instructions

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

- Count groups of up to 20 images.
    - Keep track of images that have been counted.
    - Identify a group of 10 images in a group of 11–19 images.
    - Count all to find the total.
    - Count on from 10 to find the total.
    - Write numbers 11–20.

# Assessment: End-of-Unit Assessment

## Teacher Instructions

Give students access to 10-frames and connecting cubes or two-color counters.

### Problem 1

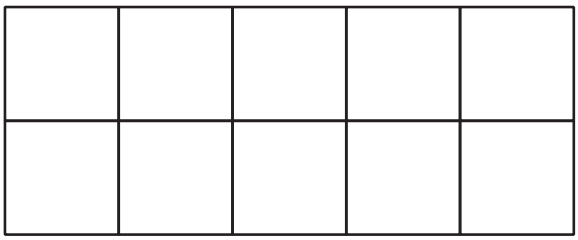
#### Standards Alignments

Addressing K.NBT.A.1

#### Narrative

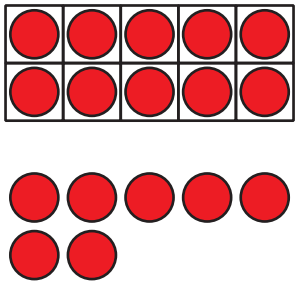
Students draw 17 dots. They are given a blank 10-frame which they may use but do not need to. If they do fill the 10-frame, they may draw the extra 7 dots below the 10-frame, as in the sample response, or somewhere else. The sample response is the representation students have most often seen in the materials.

Draw 17 dots.
Use the 10-frame if it helps you.



### Solution

Sample response:



## Problem 2

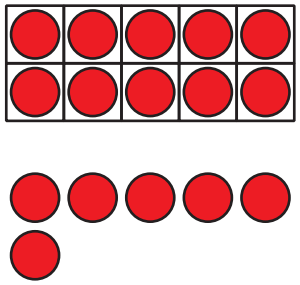
### Standards Alignments

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

### Narrative

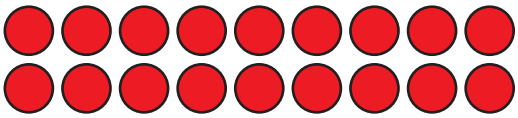
Students count dots presented in a 10-frame and in two rows. For the first image students may use the structure of the 10-frame and what they have learned about teen numbers as 10 and some more to help figure out how many dots there are. For the last image as well, the fingers come in groups of 5 which can support effective counting. For the second image, they likely need to count but the rows of dots are arranged to facilitate accurate counting. If students answer one or more of the problems incorrectly, they may need to count more carefully or may need more practice using the structure of the images to help count.

a. How many dots are there?
Write a number.



_____

b. How many dots are there?
Write a number.



_____

c. How many fingers are there?
Write a number.

_____

## Solution

a. 16
b. 18
c. 17

## Problem 3

### Standards Alignments

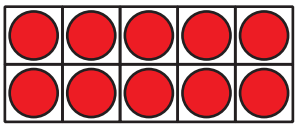
Addressing K.CC.B.5, K.NBT.A.1

### Narrative

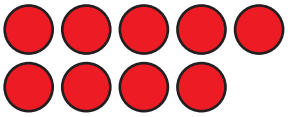
Students make 14 using 10 and some more. The only two images which make 14 are the full 10-frame and the 4 extra dots. If students choose different options then they probably have made a counting error and need more practice writing a teen number as 10 ones and some more.

Circle the **2** images that make 14 dots together.

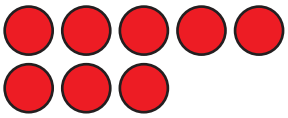
A.



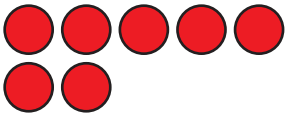
B.



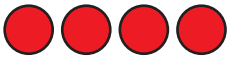
C.



D.



E.



## Solution

["A", "E"]

## Problem 4

### Standards Alignments

Addressing K.NBT.A.1

### Narrative

Students express numbers from 11 to 19 using an equation. In each case, the number is expressed as 10 ones and some more ones, with the total missing.

Find the number that makes each equation true.

a. $10 + 2 =$ _____

b. $10 + 4 =$ _____

c. $7 + 10 =$ _____

## Solution

a. $10 + 2 = 12$

b. $10 + 4 = 14$

c. $7 + 10 = 17$

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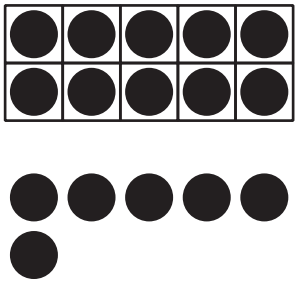
# Lesson Cool Downs

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

## Cool Down: How Many?

Circle the number that shows how many dots there are.

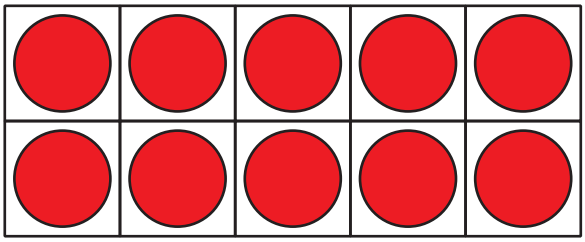


12 18 16

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

## Cool Down: Make 14

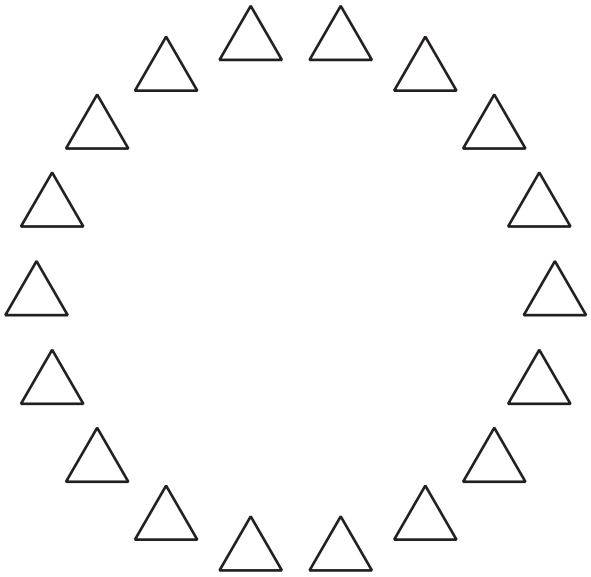
Draw more dots to show 14.



# Lesson 12: Count Images (Part 2)

## Cool Down: How Many Triangles?

How many triangles are there?



There are _____ triangles.

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# Instructional Masters

# Instructional Masters for Numbers 0–20

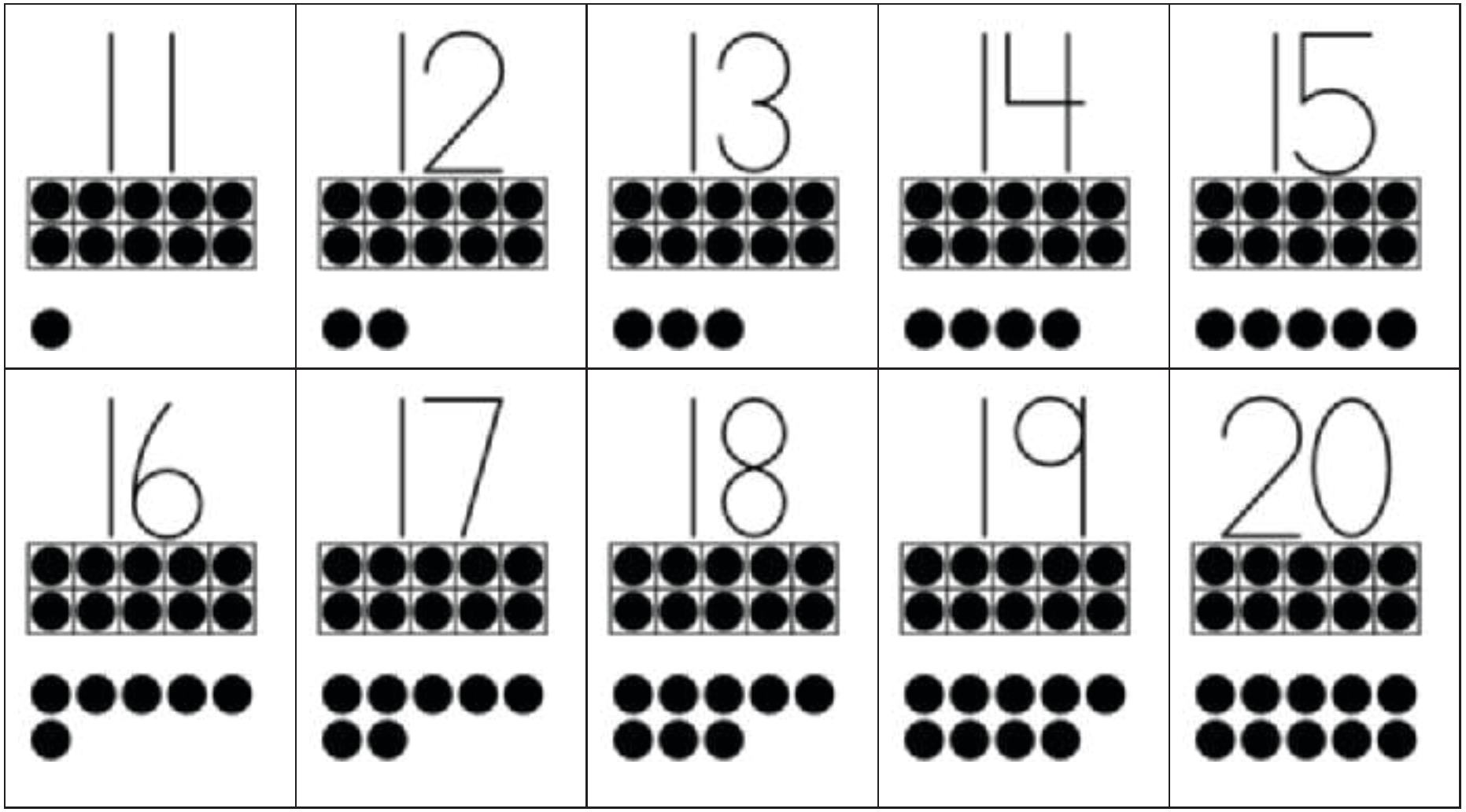
| address | title | students per copy | written on? | requires cutting? | card stock recommended? | color paper recommended? |
|---|---|---|---|---|---|---|
| Activity Kindergarten.6.7.2 | Reference Sheet Numbers 11–20 with 10-frames | 1 | no | yes | no | no |
| Activity Kindergarten.6.6.3 | Number Race Stage 2 Recording Sheet for Writing | 1 | yes | no | no | no |
| Center | Number Race Stage 2 Recording Sheet for Writing | 1 | yes | no | no | no |
| Assessment Kindergarten.6 | Checkpoint | 0 | yes | no | no | no |
| Activity Kindergarten.6.8.3 | Bingo Stage 4 Gameboard | 4 | no | no | no | no |
| Center | Bingo Stage 4 Gameboard | 4 | no | no | no | no |
| Assessment Kindergarten.6 | Checkpoint | 0 | yes | no | no | no |
| Assessment Kindergarten.6 | Checkpoint | 0 | yes | no | no | no |
| Activity Kindergarten.6.1.3 | Number Mat 11–20 | 2 | no | no | no | no |
| Activity Kindergarten.6.6.3 | Number Mat 11–20 | 2 | no | no | no | no |
| Activity Kindergarten.6.7.1 | 10-frame and More Dots Cards | 2 | no | yes | yes | no |
| Activity Kindergarten.6.8.1 | 10-frame and More Dots Cards | 2 | no | yes | yes | no |
| Activity Kindergarten.6.9.1 | Numbers and Expressions Cards | 4 | no | yes | no | no |

| | | | | | | |
|---|---|---|---|---|---|---|
| Activity Kindergarten.6.3.3 | Find the Pair Stage 1 Recording Sheet | 1 | yes | no | no | no |
| Center | Find the Pair Stage 1 Recording Sheet | 1 | yes | no | no | no |
| Activity Kindergarten.6.5.3 | Grab and Count Stage 1 Recording Sheet | 1 | yes | no | no | no |
| Center | Grab and Count Stage 1 Recording Sheet | 1 | yes | no | no | no |
| Activity Kindergarten.6.9.3 | Make or Break Apart Numbers Stage 2 Gameboards | 4 | no | no | no | no |
| Center | Make or Break Apart Numbers Stage 2 Gameboards | 4 | no | no | no | no |
| Activity Kindergarten.6.13.1 | Fingerprint Animals on the 10-frame | 1 | yes | yes | yes | no |
| Activity Kindergarten.6.8.1 | Make Number Cards | 1 | yes | yes | no | no |
| Activity Kindergarten.6.1.3 | Number Race Stage 2 Recording Sheet for Tracing | 1 | yes | no | no | no |
| Center | Number Race Stage 2 Recording Sheet for Tracing | 1 | yes | no | no | no |
| Activity Kindergarten.6.12.3 | Find the Pair Stage 2 Recording Sheet | 1 | yes | no | no | no |
| Center | Find the Pair Stage 2 Recording Sheet | 1 | yes | no | no | no |
| Activity Kindergarten.6.9.3 | Make or Break Apart Numbers Stage 2 Number Mat 11-19 | 1 | no | no | no | no |

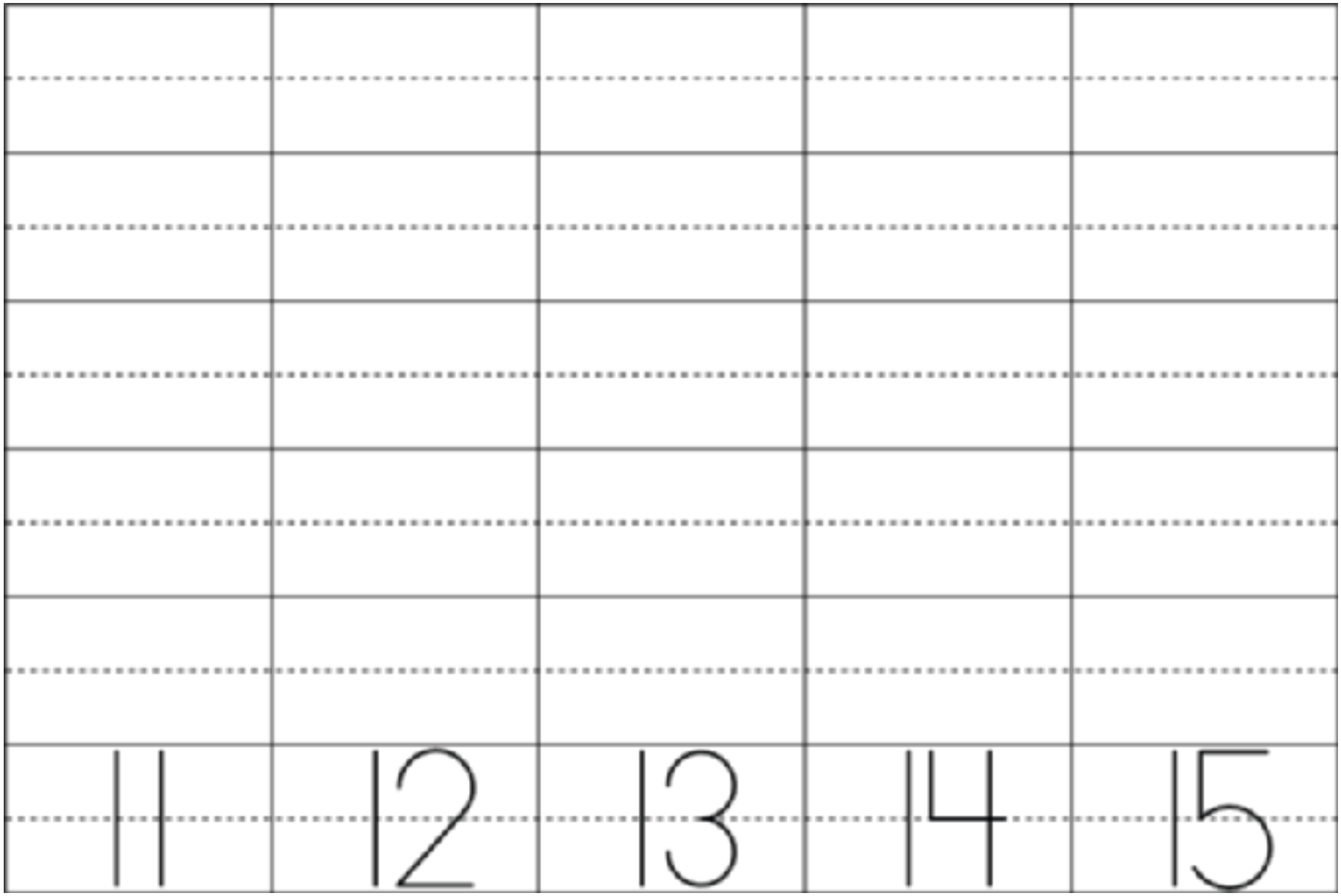
| | | | | | | |
|---|---|---|---|---|---|---|
| Center | Make or Break Apart Numbers Stage 2 Number Mat 11-19 | 1 | no | no | no | no |
| Activity Kindergarten.6.4.3 | Number Mat 1-10 | 2 | no | no | no | no |
| Center | Number Mat 1-10 | 2 | no | no | no | no |
| Center | Number Mat 1-10 | 2 | no | no | no | no |
| Activity Kindergarten.6.9.3 | Make or Break Apart Numbers Stage 2 Recording Sheet | 1 | yes | no | no | no |
| Center | Make or Break Apart Numbers Stage 2 Recording Sheet | 1 | yes | no | no | no |
| Activity Kindergarten.6.7.2 | Number Cards 1–9 | 2 | no | yes | yes | no |
| Activity Kindergarten.6.8.3 | Number Cards 11-19 | 2 | no | yes | yes | no |
| Center | Number Cards 11-19 | 2 | no | yes | yes | no |
| Center | Number Mat 11–20 | 2 | no | no | no | no |
| Center | Number Mat 1–5 | 2 | no | no | no | no |
| Center | Number Mat 1–5 | 2 | no | no | no | no |
| Center | Number Mat 1–5 | 2 | no | no | no | no |
| Center | Number Mat 1–5 | 2 | no | no | no | no |
| Center | 5-Frame | 1 | no | no | yes | no |
| Center | 5-Frame | 1 | no | no | yes | no |
| Center | 5-frames Stages 1 and 2 Recording Sheet | 1 | yes | no | no | no |
| Center | 5-frames Stages 1 and 2 Recording Sheet | 1 | yes | no | no | no |

| | | | | | | |
|---|---|---|---|---|---|---|
| Center | Number Race Stage 1 Recording Sheet for Writing | 1 | yes | no | no | no |
| Center | Number Race Stage 1 Recording Sheet for Tracing | 1 | yes | no | no | no |
| Center | Bingo Stages 1-3 Gameboard | 4 | no | no | no | no |
| Center | Bingo Stages 1-3 Gameboard | 4 | no | no | no | no |
| Center | Bingo Stages 1-3 Gameboard | 4 | no | no | no | no |
| Center | Bingo Stage 1 Cards | 4 | no | yes | no | no |
| Center | Dot Mat 1-5 (dots and 5-frames) | 2 | no | no | no | no |
| Center | Make or Break Apart Numbers Stage 1 Number Mat 4 - 9 | 1 | no | no | no | no |
| Center | Make or Break Apart Numbers Stage 1 Recording Sheet | 1 | yes | no | no | no |
| Center | Make or Break Apart Numbers Stage 1 Dot Page | 2 | no | no | no | no |
| Center | Find the Value of Expressions within 10 Stage 1 Cards | 2 | no | yes | no | no |
| Center | Find the Value of Expressions within 10 Stage 1 Recording Sheet | 1 | yes | no | no | no |

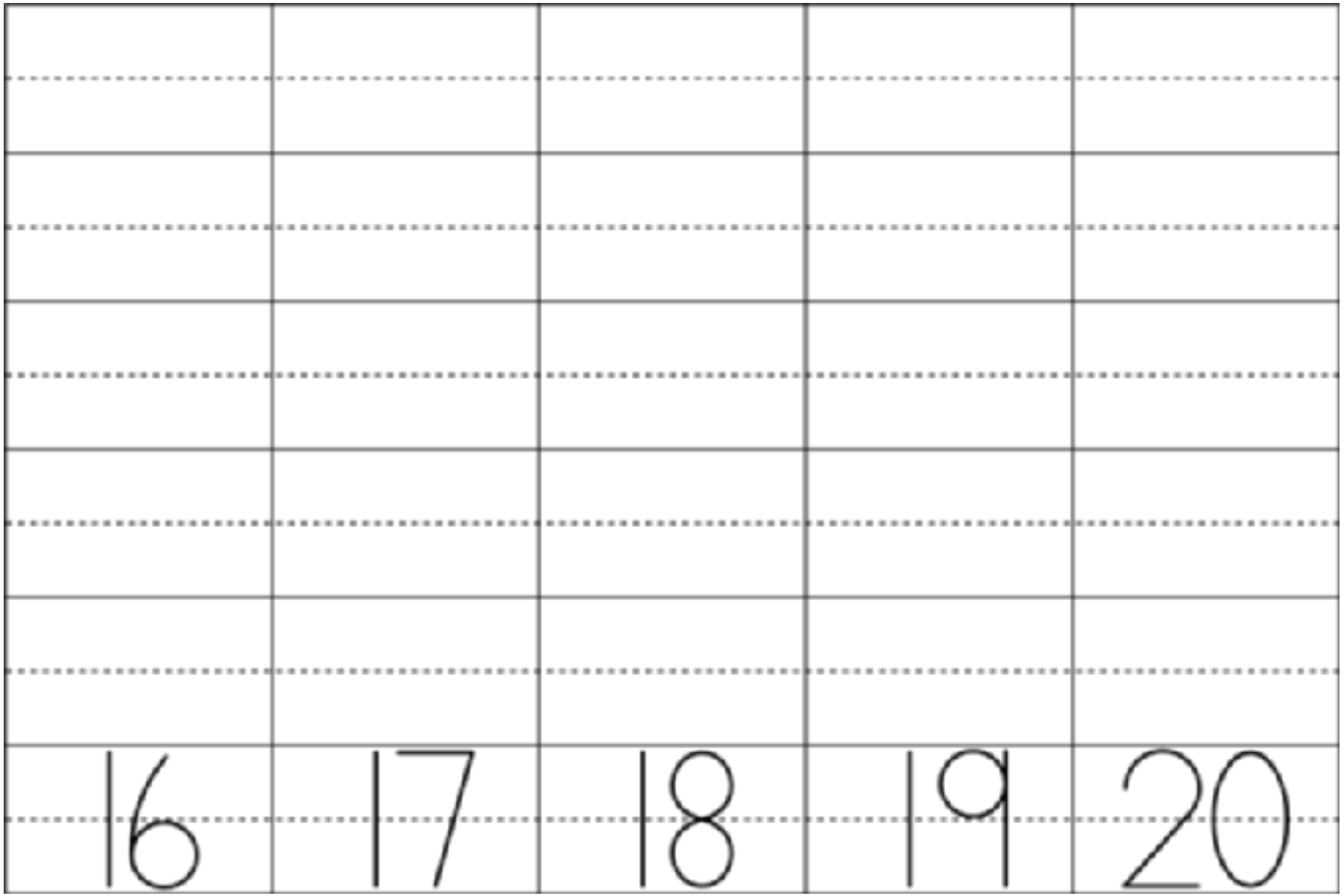
Reference Sheet Numbers 11 20 with 10-frames



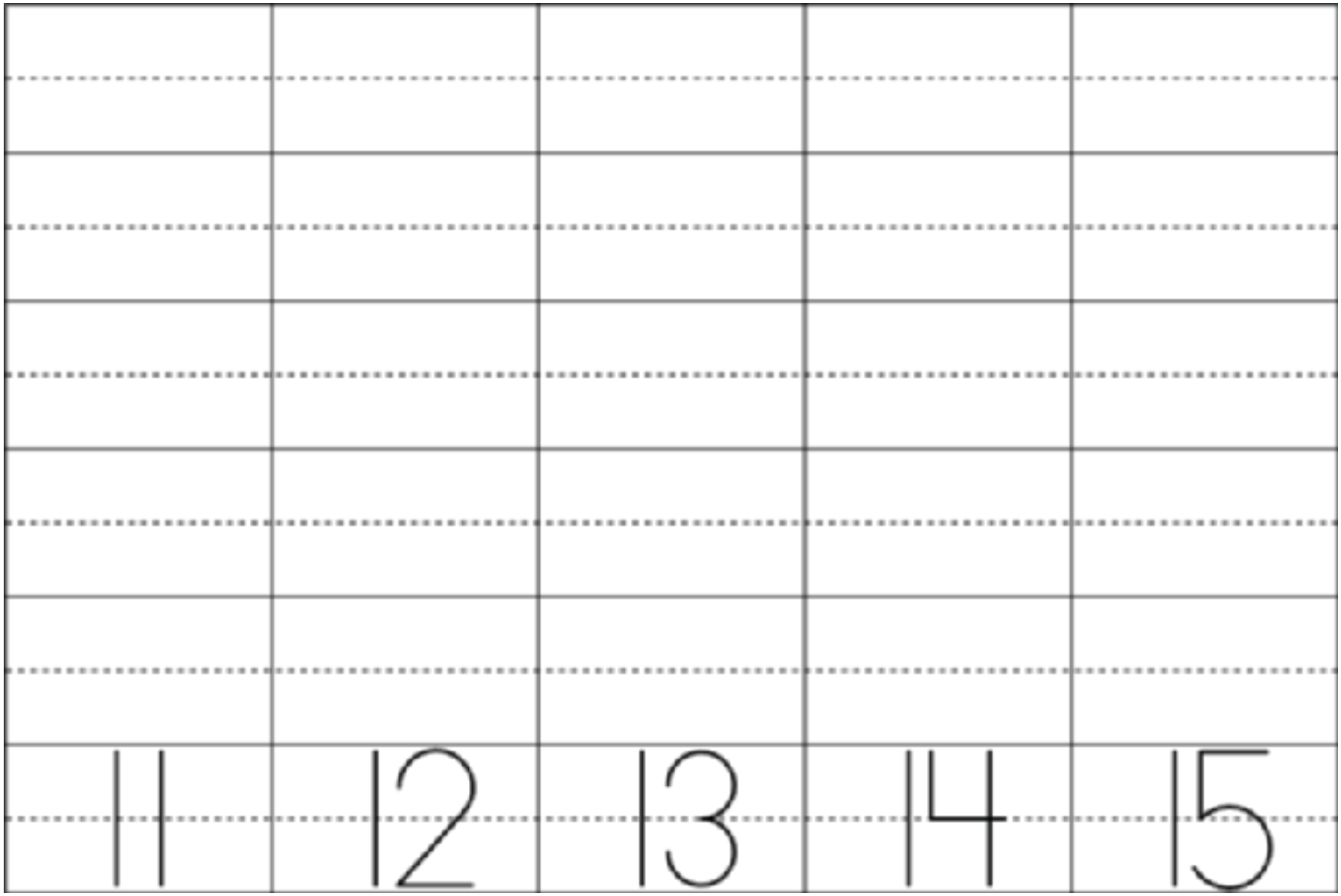
Number Race Stage 2 Recording Sheet for Writing



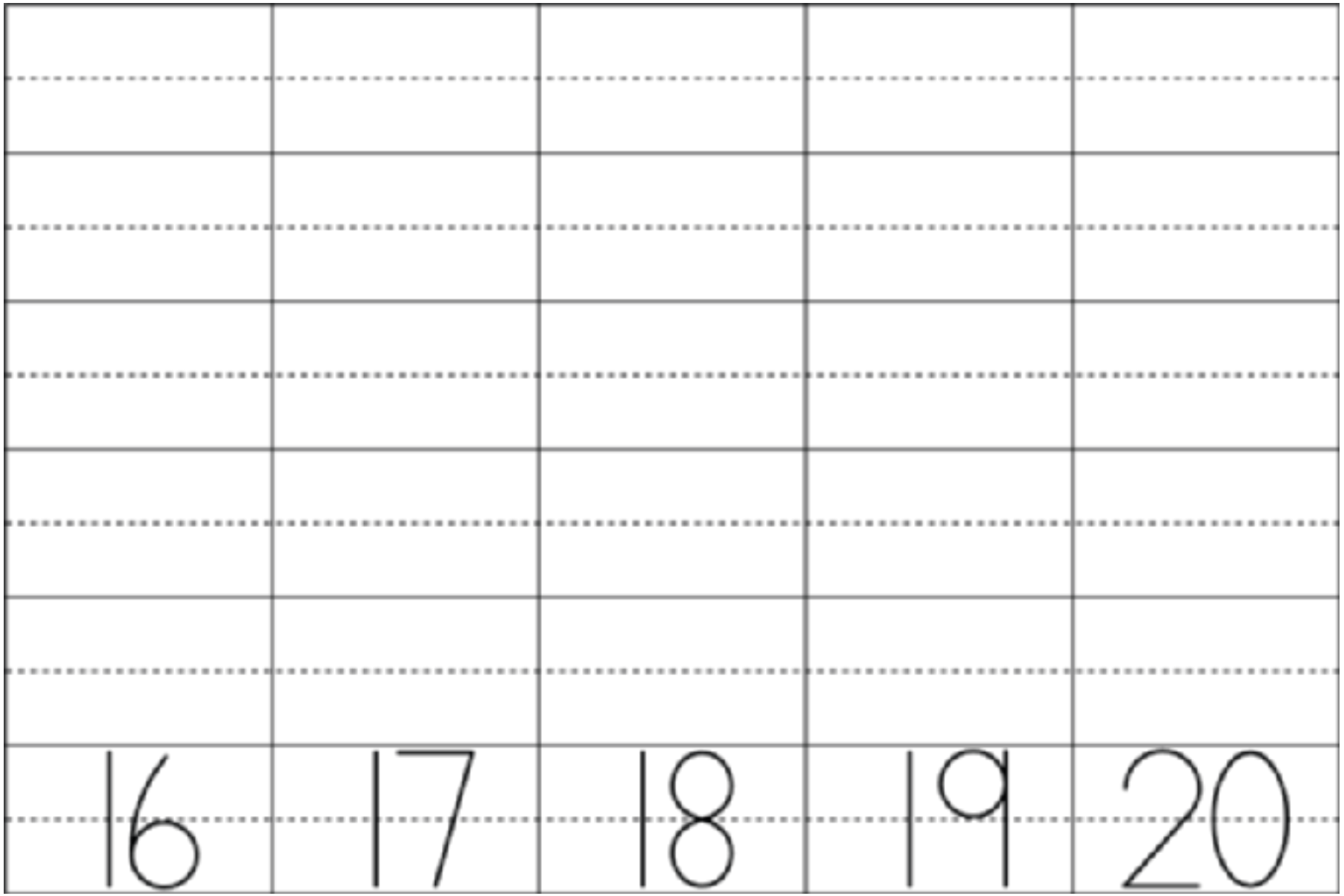
Number Race Stage 2 Recording Sheet for Writing



Number Race Stage 2 Recording Sheet for Writing



Number Race Stage 2 Recording Sheet for Writing



| **Kindergarten, Unit 6 Section A Checkpoint** | • Count groups of up to 20 objects. | | | |
|---|---|---|---|---|
| | Say the count sequence to 20. | Answer how many without counting again. | Keep track of objects that have been counted. | After a group of objects that have been counted is rearranged, know that the total number of objects remains the same without recounting. |
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Bingo Stage 4 Gameboard

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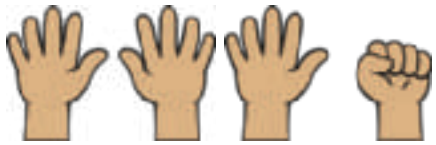
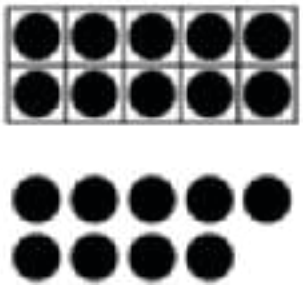
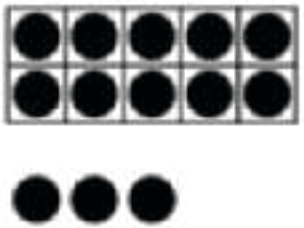
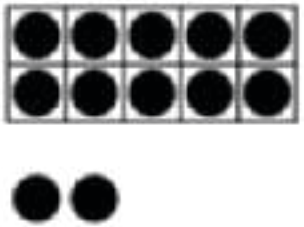
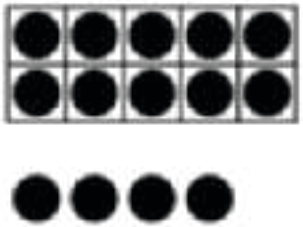
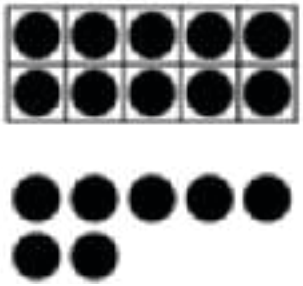
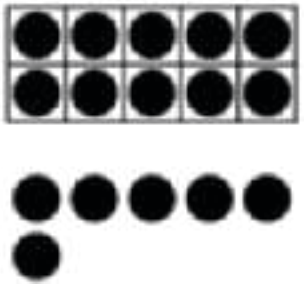
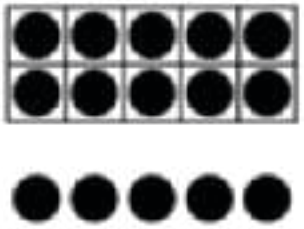
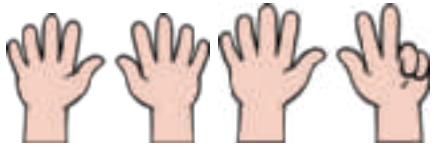
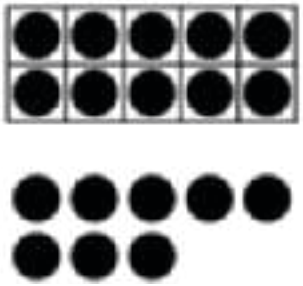
|  | |  |  |
| |  |  | |
|  |  | |  |
| |  |  | |

Bingo Stage 4 Gameboard

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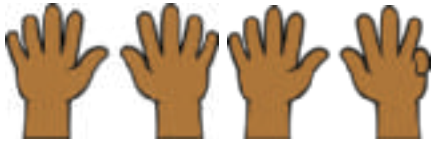
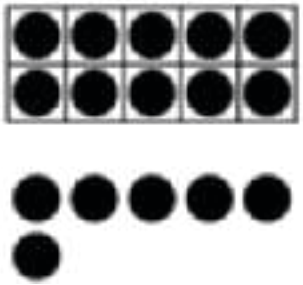
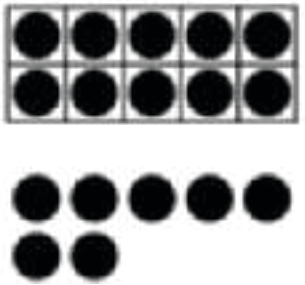
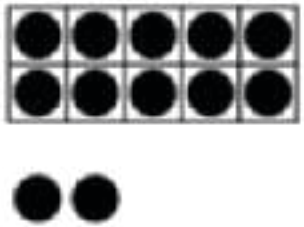
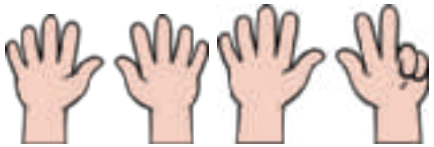
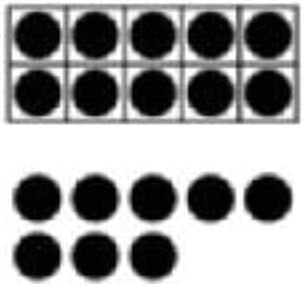
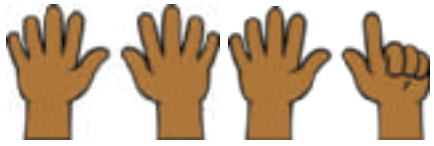
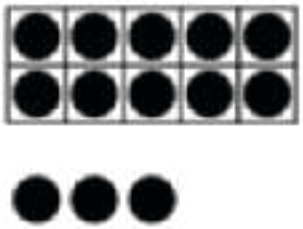
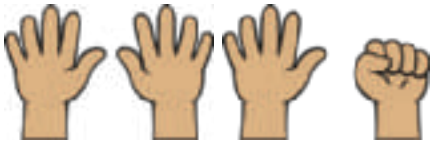
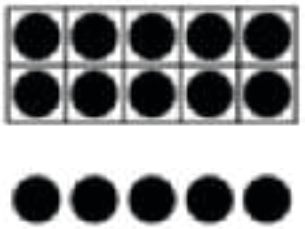
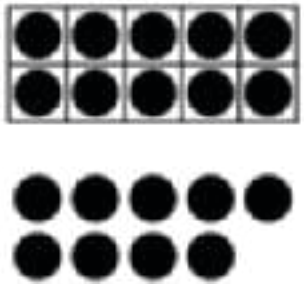
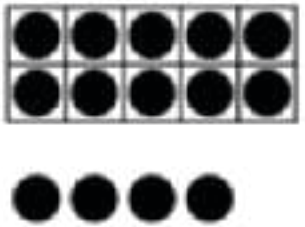
|  |  | |  |
|  |  |  | |
|  |  |  |  |
|  | | |  |

Bingo Stage 4 Gameboard

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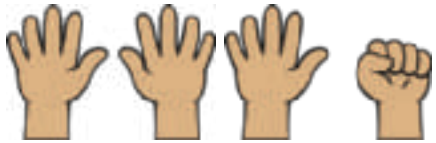
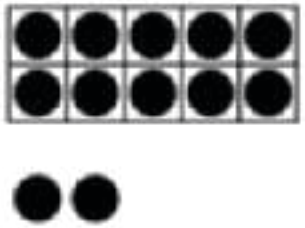
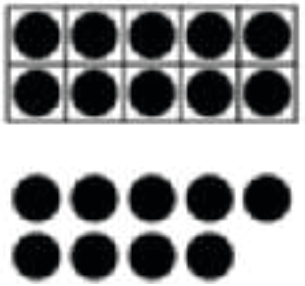
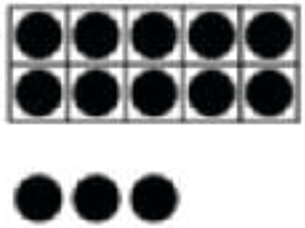
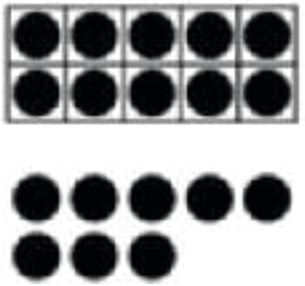
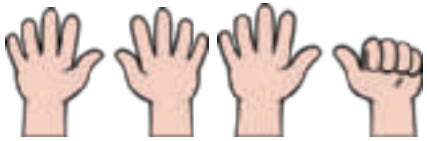
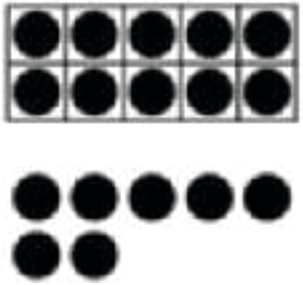
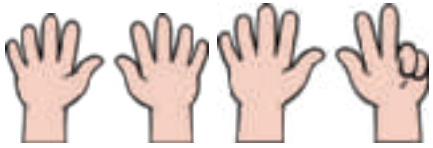
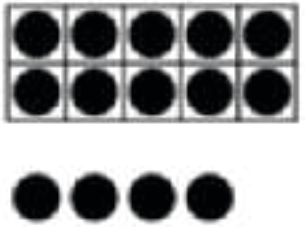
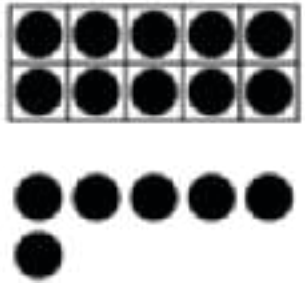
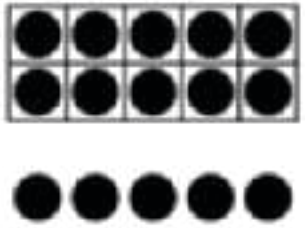
| |  |  |  |
|  | | |  |
|  |  |  |  |
|  | |  | |

Bingo Stage 4 Gameboard

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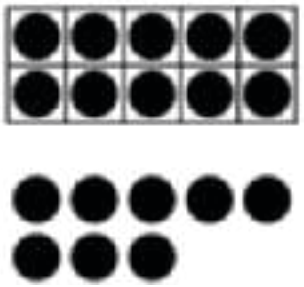
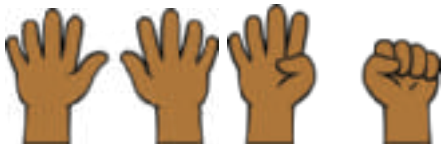
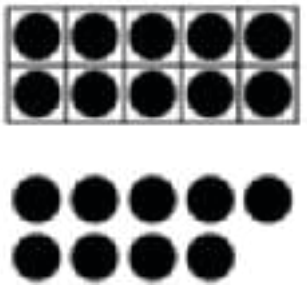
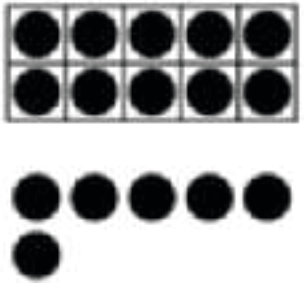
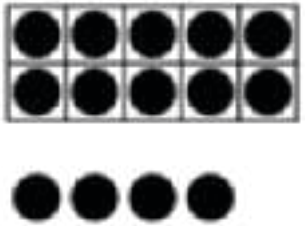
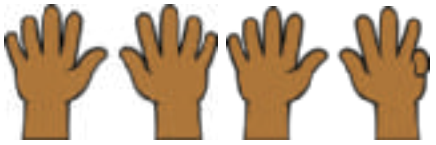
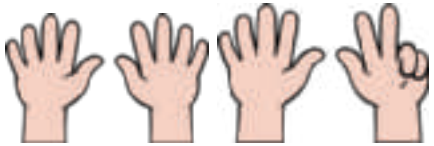
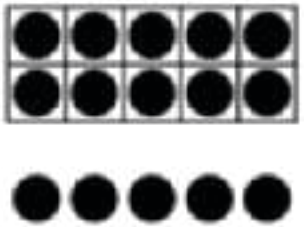
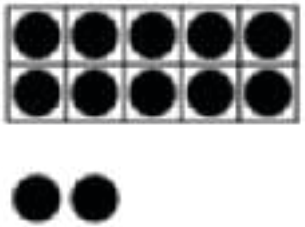
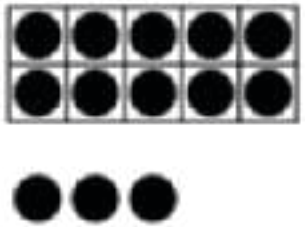
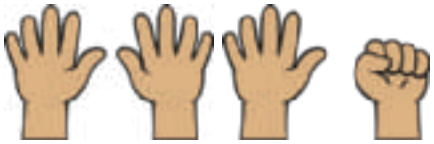
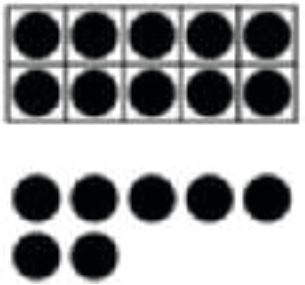
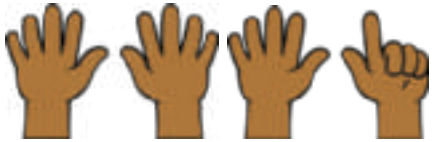
| |  |  |  |
| |  |  |  |
|  |  |  |  |
|  | |  |  |

Bingo Stage 4 Gameboard

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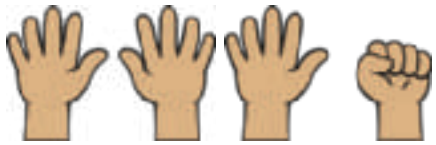
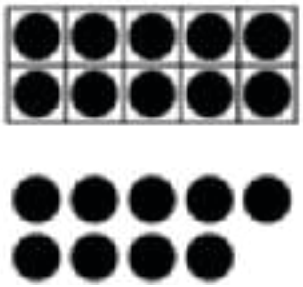
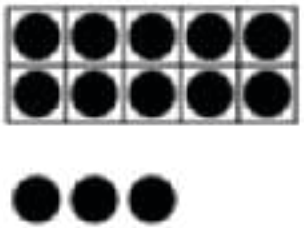
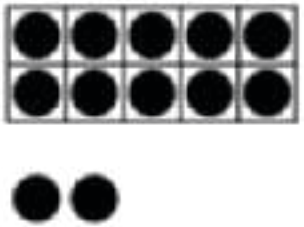
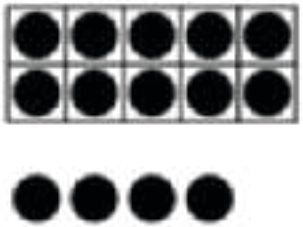
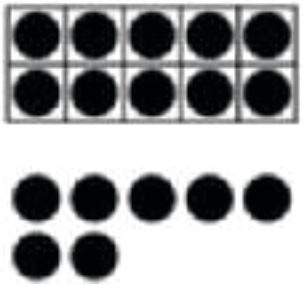
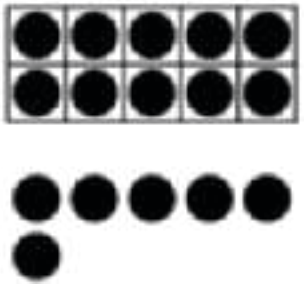
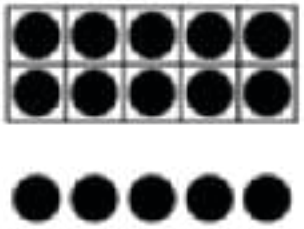
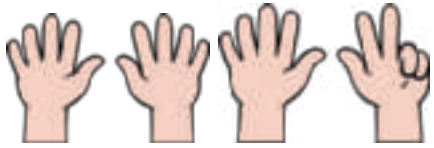
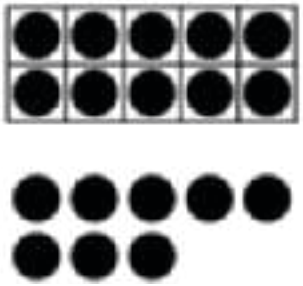
|  | |  |  |
| |  |  | |
|  |  | |  |
| |  |  | |

Bingo Stage 4 Gameboard

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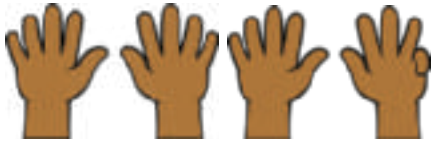
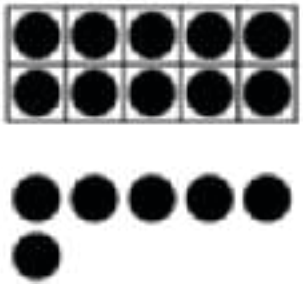
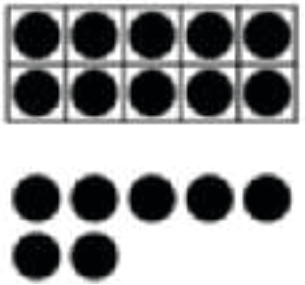
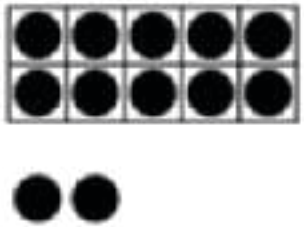
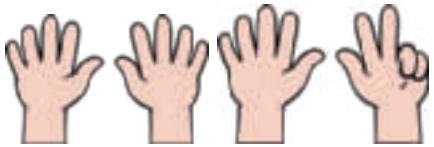
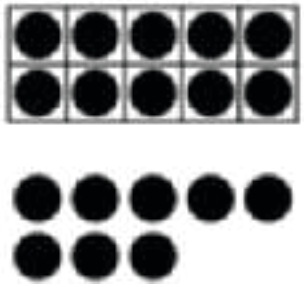
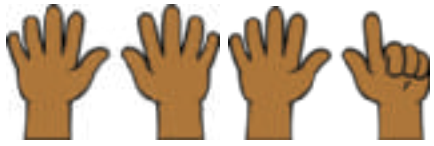
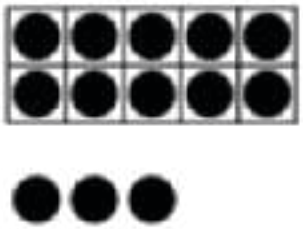
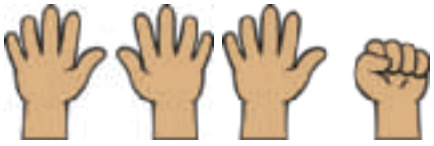
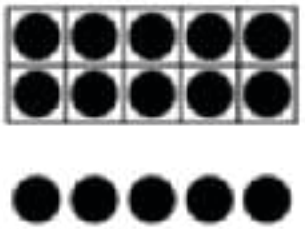
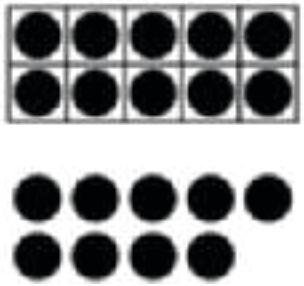
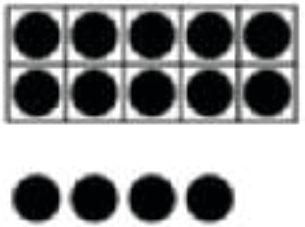
|  |  | |  |
|  |  |  | |
|  |  |  |  |
|  | | |  |

Bingo Stage 4 Gameboard

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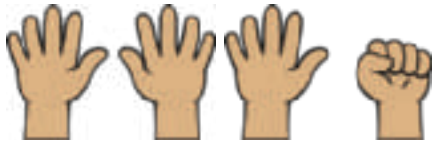
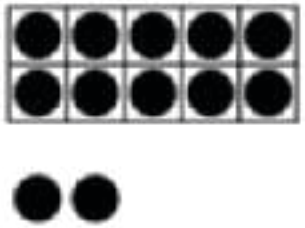
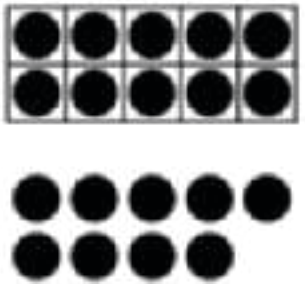
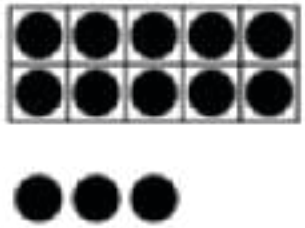
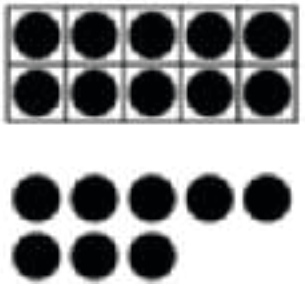
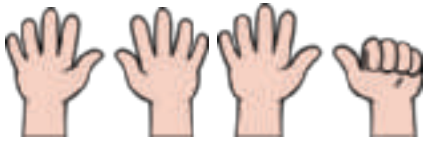
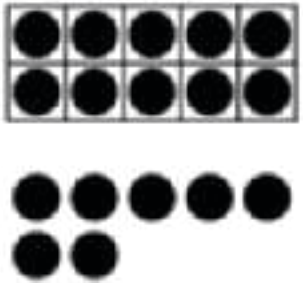
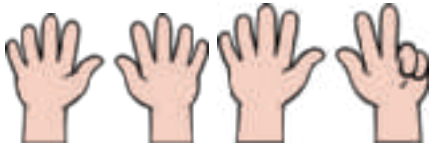
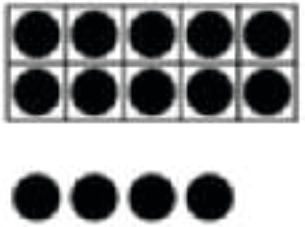
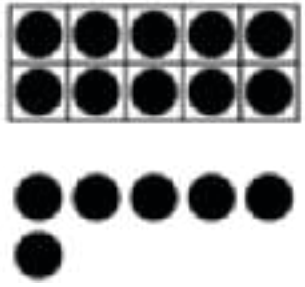
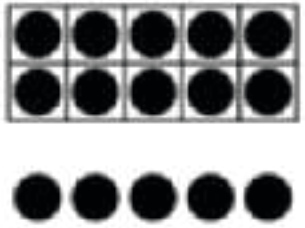
| |  |  |  |
|  | | |  |
|  |  |  |  |
|  | |  | |

Bingo Stage 4 Gameboard

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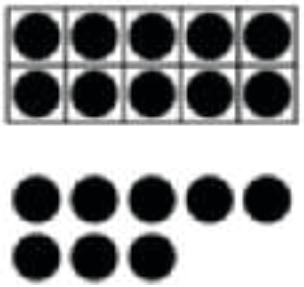
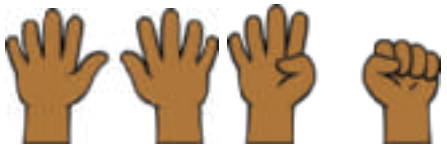
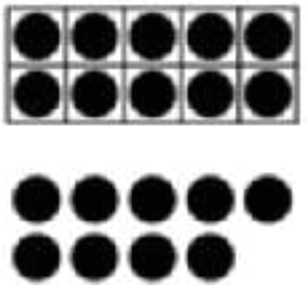
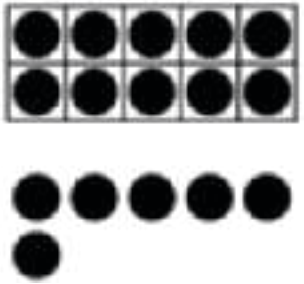
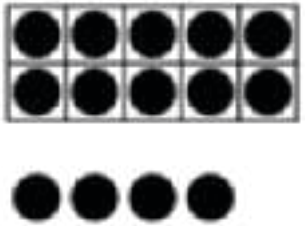
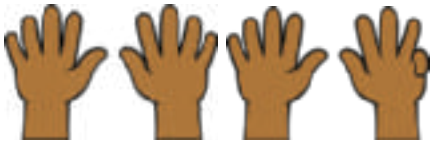
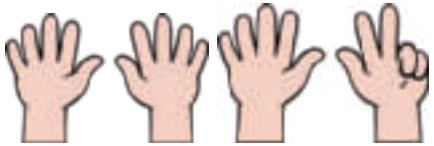
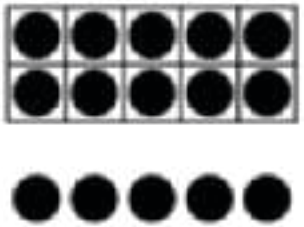
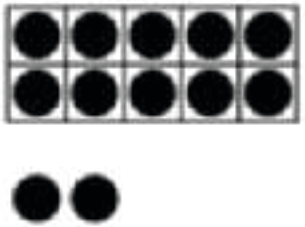
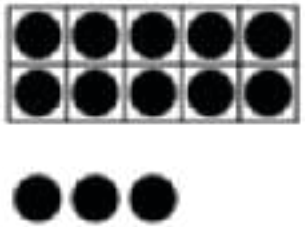
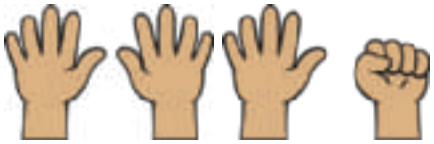
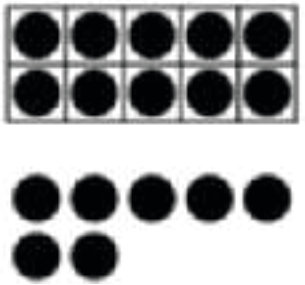
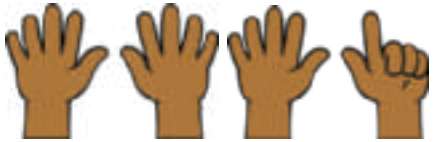
| |  |  |  |
| |  |  |  |
|  |  |  |  |
|  | |  |  |

| **Kindergarten, Unit 6 Section B Checkpoint** | • Understand numbers 11–19 as 10 ones and some more ones. | | | | |
|---|---|---|---|---|---|
| | Count all to find the total. | Know that a full 10-frame or all the fingers on two hands represents 10 without counting. | Count on from 10 to find the total. | Count or recognize the ones outside of the 10 ones and use a $10 + n$ fact to find the total. | Write numbers 11–19. |
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Checkpoint

| **Kindergarten, Unit 6 Section C Checkpoint** | • Count groups of up to 20 images. | | | | |
|---|---|---|---|---|---|
| | Keep track of images that have been counted. | Identify a group of 10 images in a group of 11–19 images. | Count all to find the total. | Count on from 10 to find the total. | Write numbers 11-20. |
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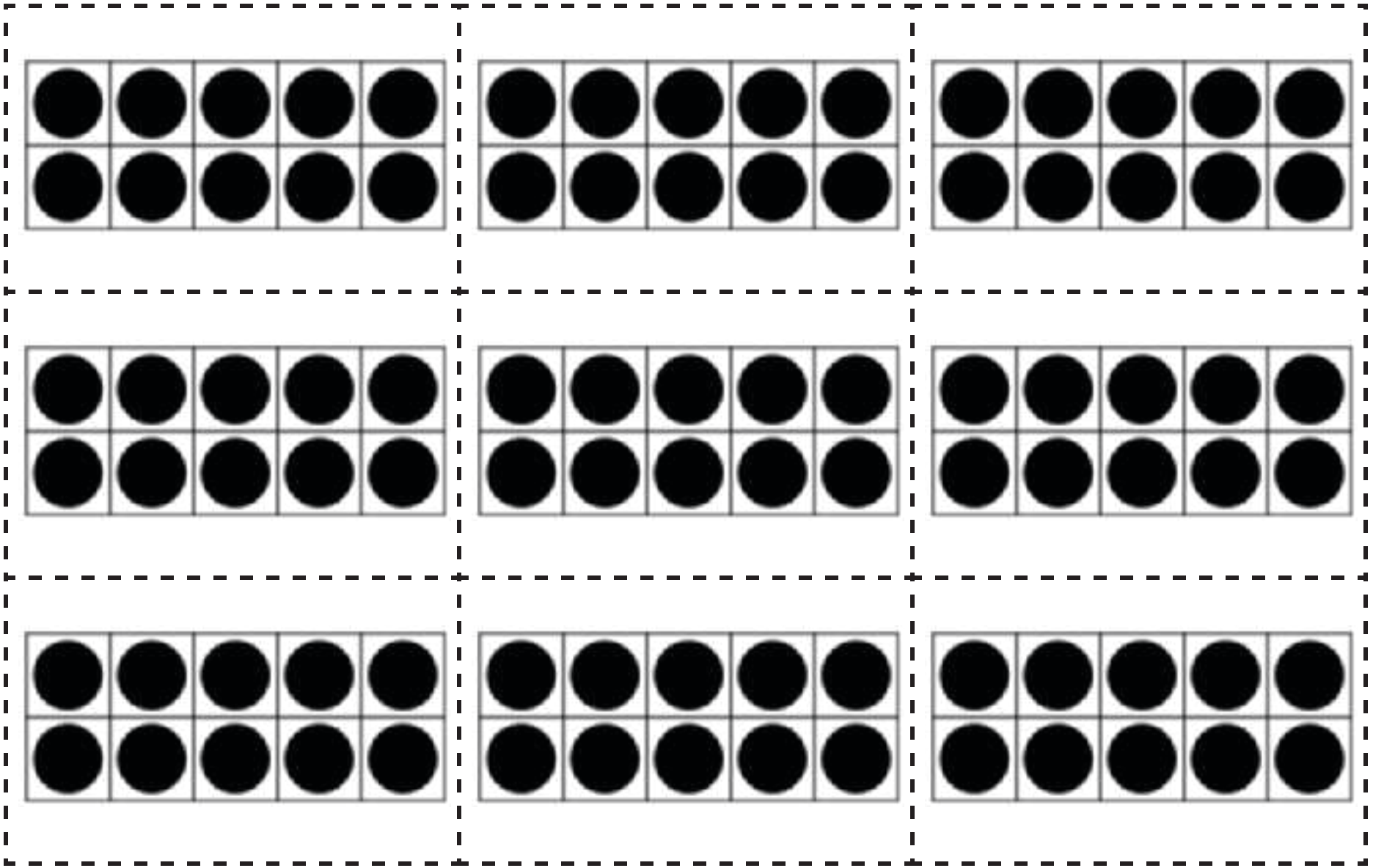
Number Mat 11 20

| | | | | |
|---|---|---|---|---|
| 17 | 18 | 20 | 15 | 11 |
| 14 | 12 | 19 | 16 | 13 |

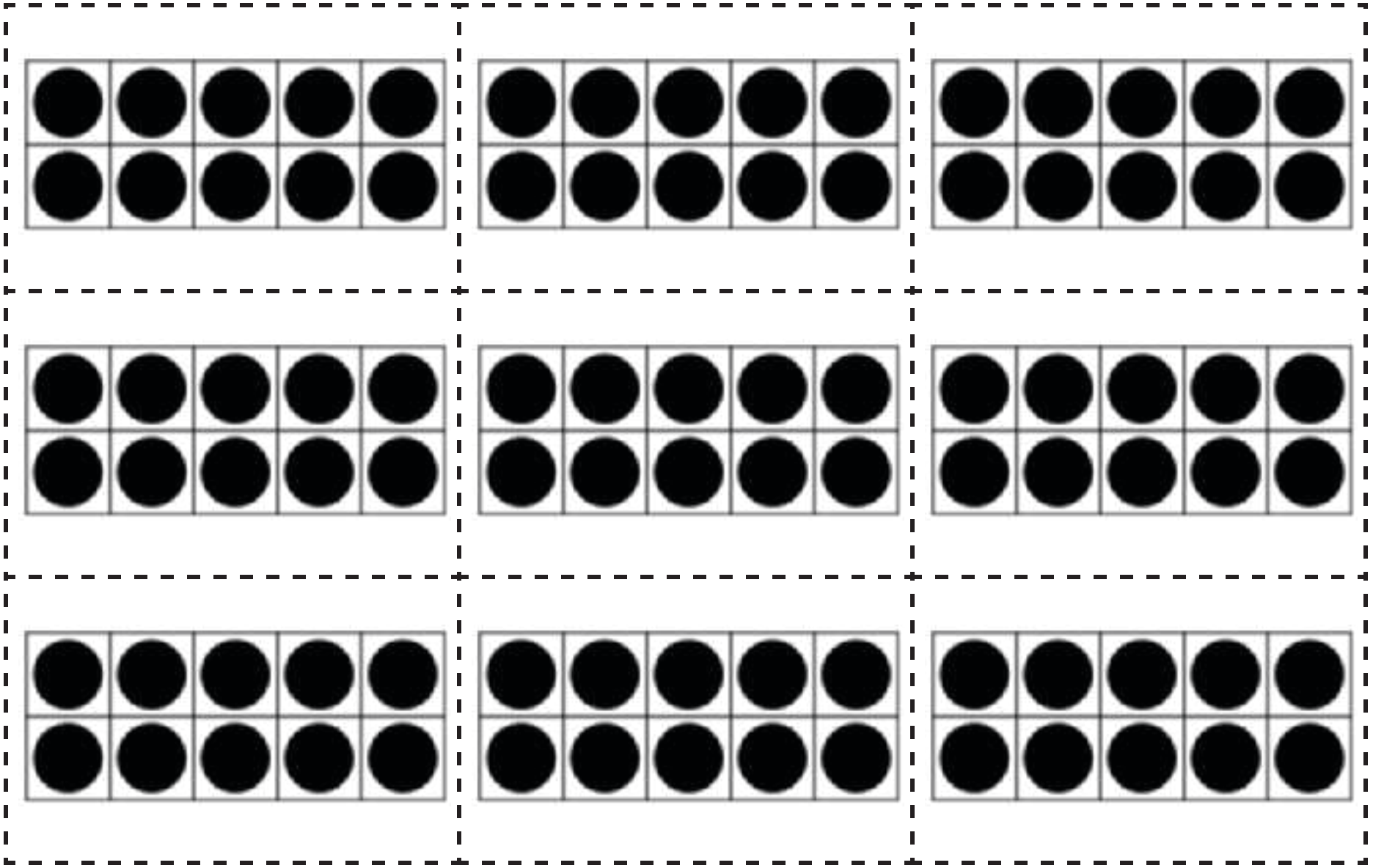
Number Mat 11 20

| | | | | |
|---|---|---|---|---|
| 17 | 18 | 20 | 15 | 11 |
| 14 | 12 | 19 | 16 | 13 |

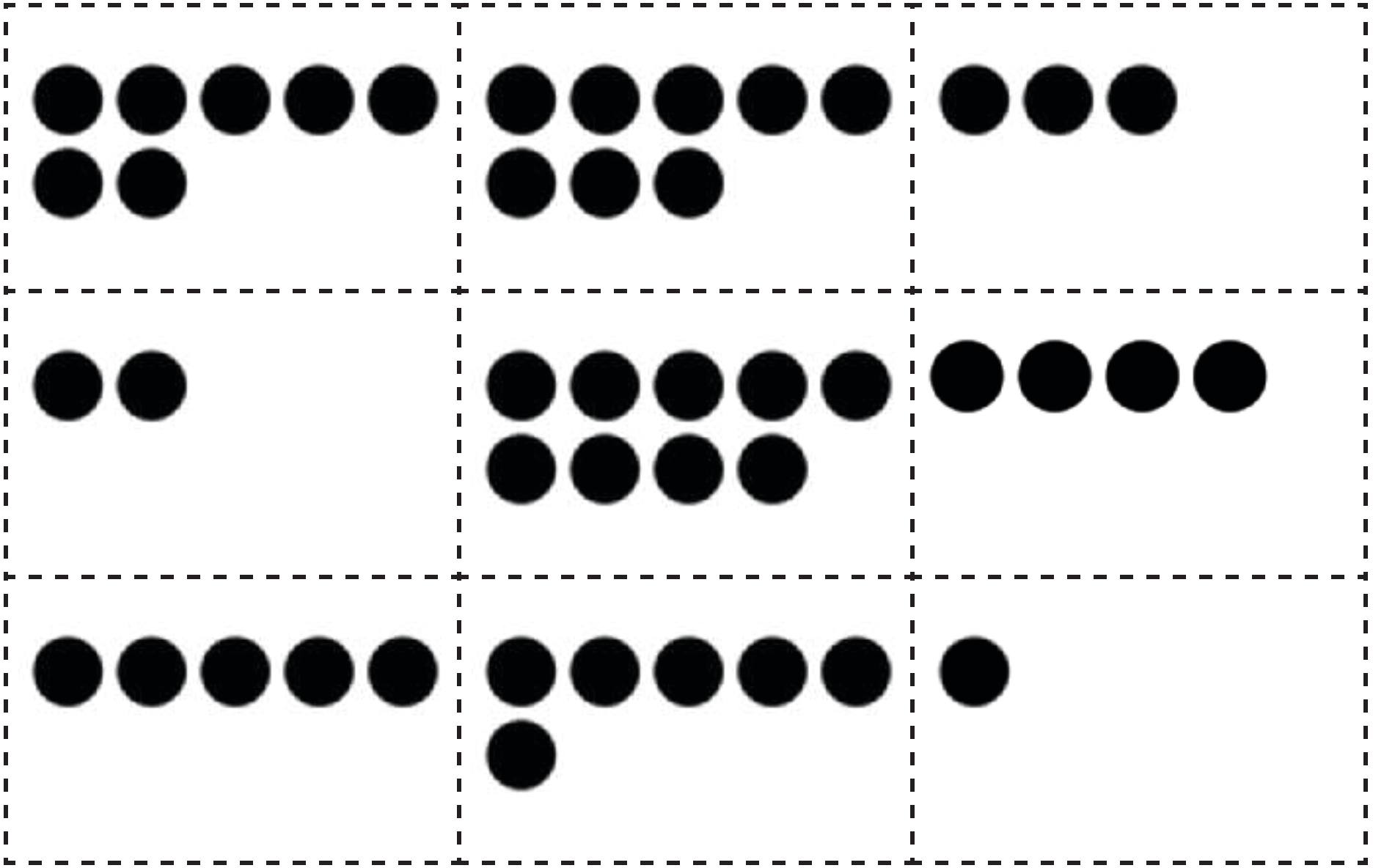
10-frame and More Dots Cards



10-frame and More Dots Cards



10-frame and More Dots Cards



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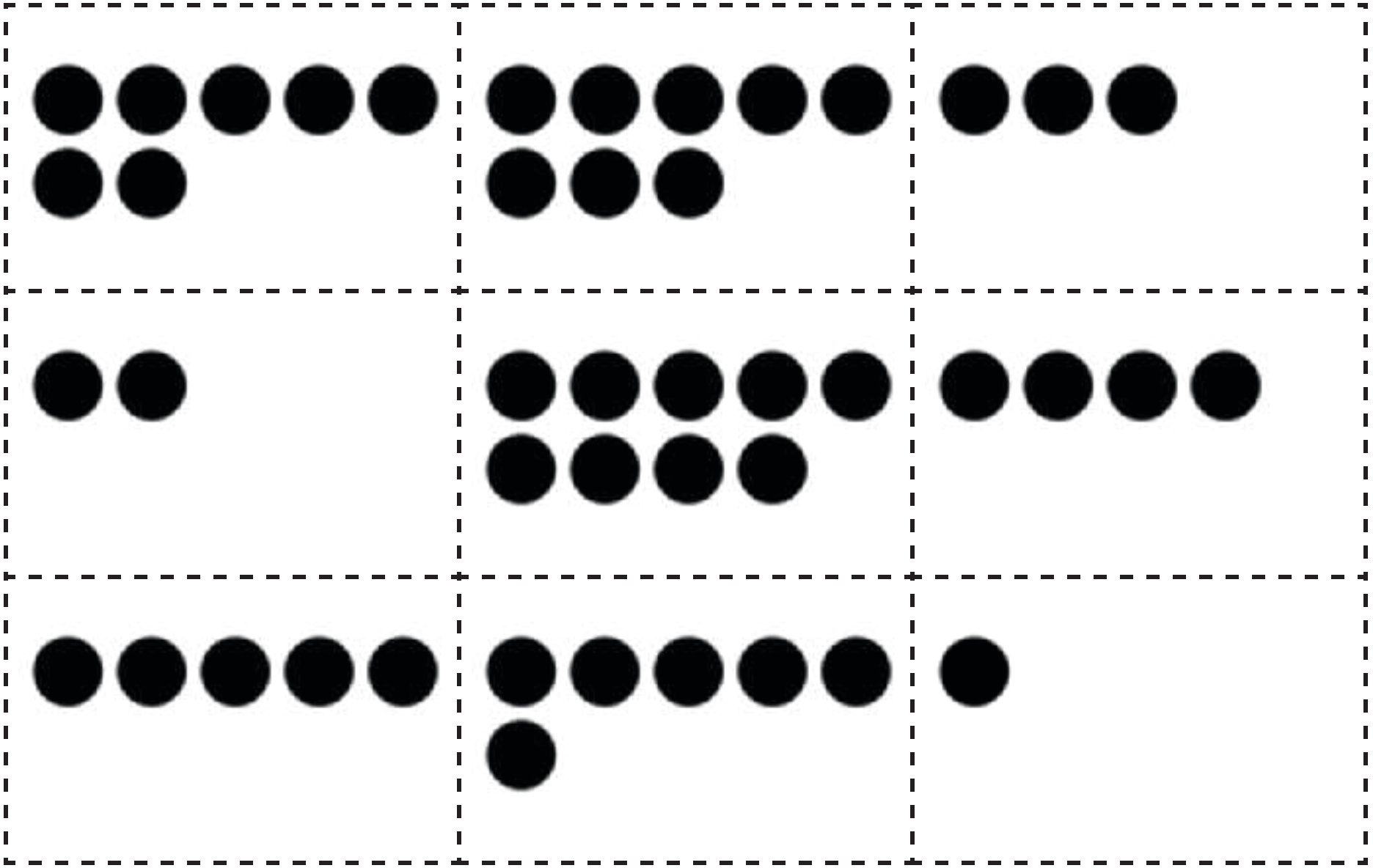
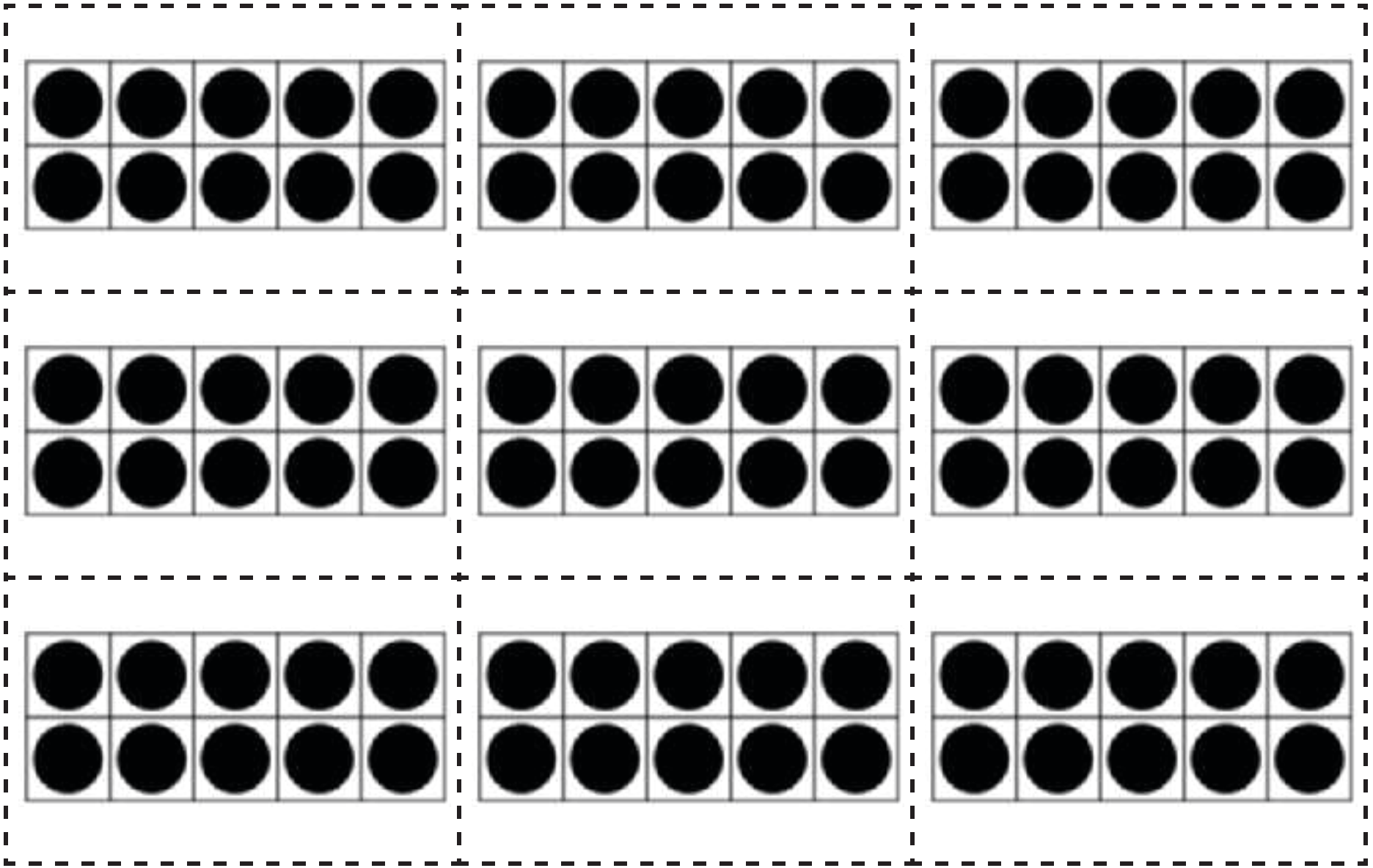
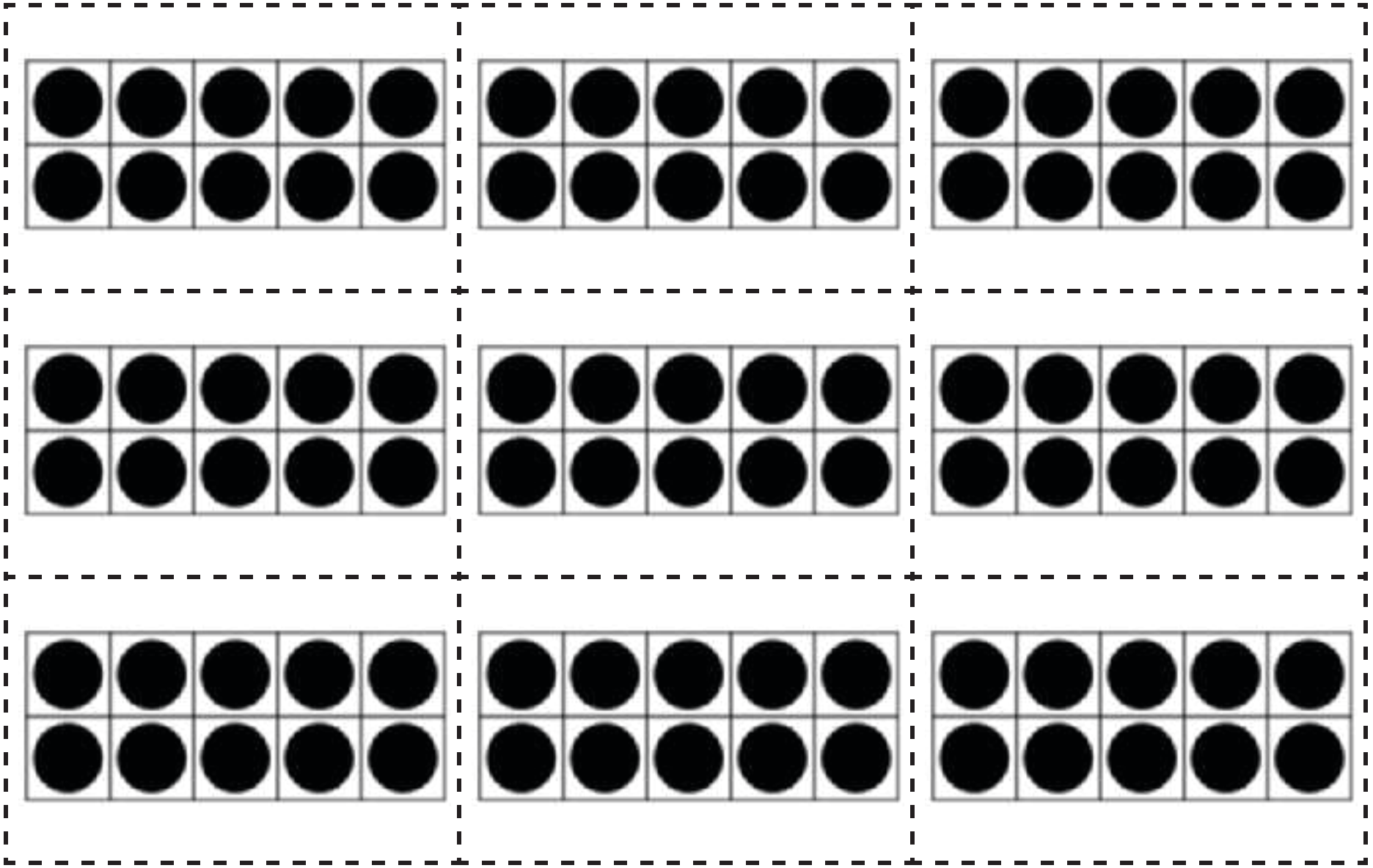


10-frame and More Dots Cards



10-frame and More Dots Cards



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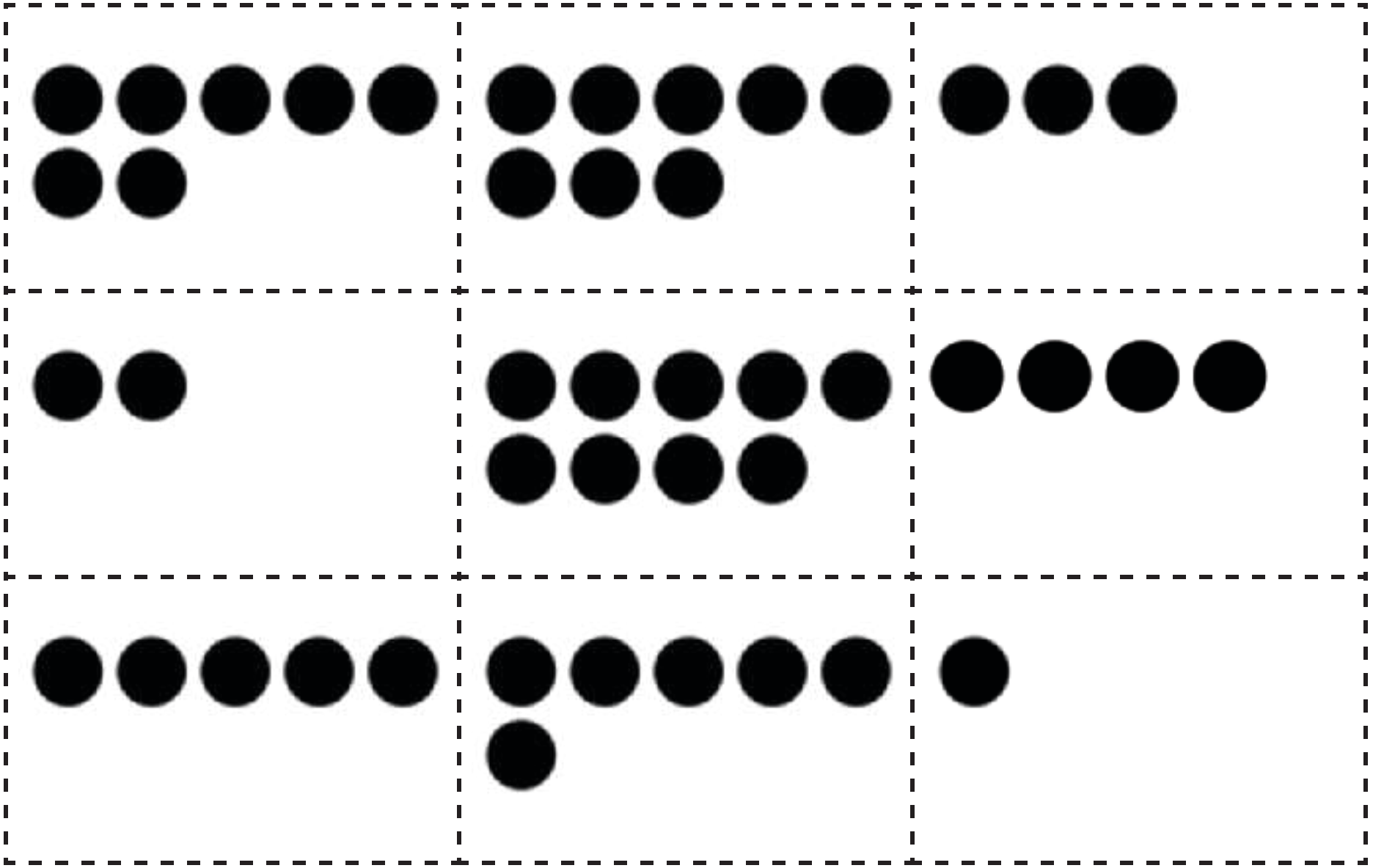
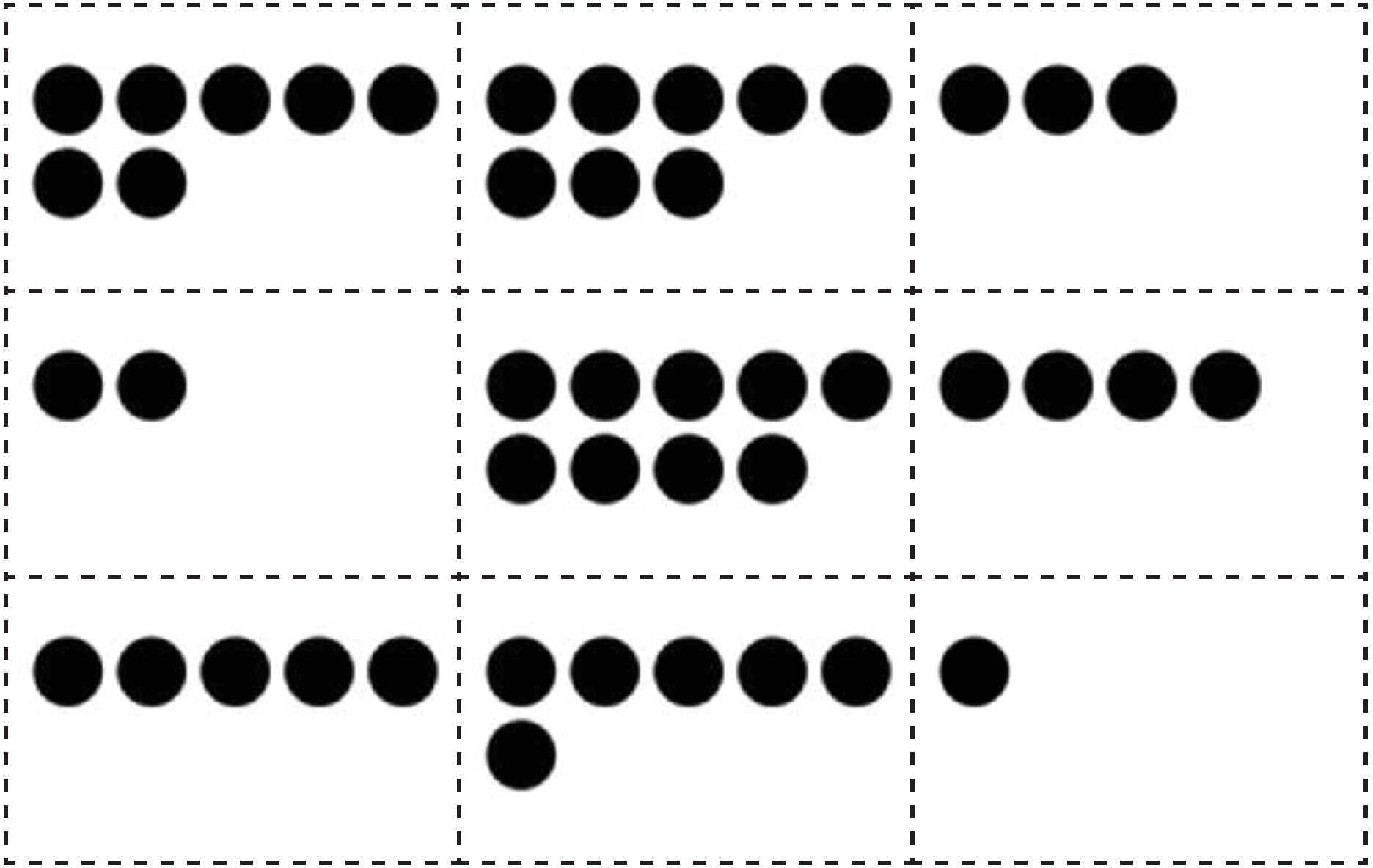


10-frame and More Dots Cards



Numbers and Expressions Cards

| | |
|---|---|
| Numbers and Expressions<br>11 | Numbers and Expressions<br>12 |
| Numbers and Expressions<br>13 | Numbers and Expressions<br>14 |
| Numbers and Expressions<br>15 | Numbers and Expressions<br>10 + 1 |
| Numbers and Expressions<br>10 + 2 | Numbers and Expressions<br>10 + 3 |
| Numbers and Expressions<br>10 + 4 | Numbers and Expressions<br>10 + 5 |

Find the Pair Stage 1 Recording Sheet

Directions:

- Take 5 cards each and put the rest in a pile face down.
- Partner A:
    - Ask your partner for a number that can be added to one of your cards to make 5.
    - If they have the card, put the pair of cards down and write an expression.
    - If they don't have that card, pick a card from a pile.
- Take turns asking for cards. The partner with the most pairs at the end of the game wins.

_____

_____

_____

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Find the Pair Stage 1 Recording Sheet

Find the Pair Stage 1 Recording Sheet

Directions:

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- Take turns asking for cards. The partner with the most pairs at the end of the game wins.

_____

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Find the Pair Stage 1 Recording Sheet

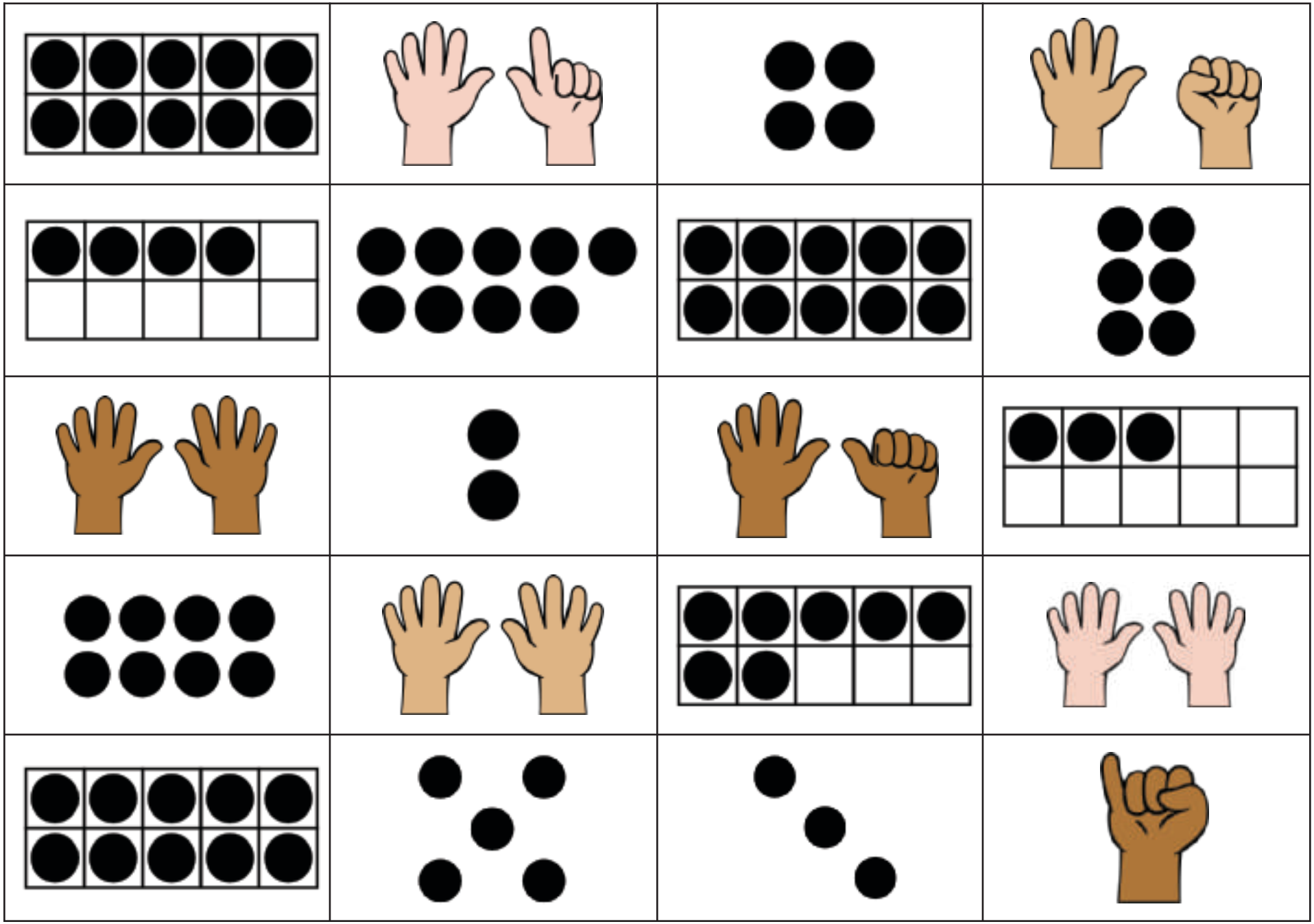
Grab and Count Stage 1 Recording Sheet

| guess | count |
| --- | --- |
| | |
| guess | count |
| | |
| guess | count |
| | |
| guess | count |
| | |
| guess | count |
| | |

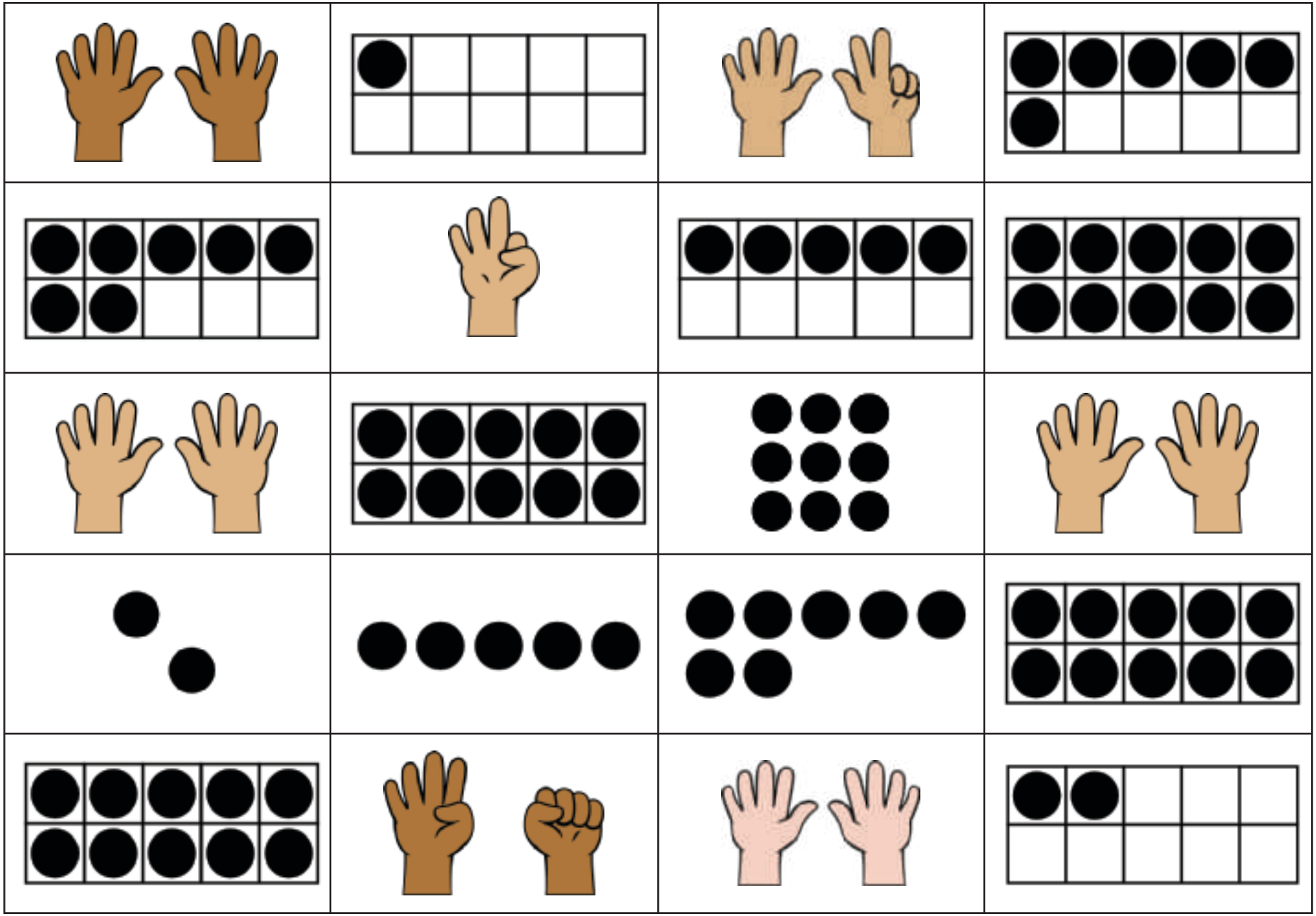
Grab and Count Stage 1 Recording Sheet

| guess | count |
| --- | --- |
| | |
| guess | count |
| | |
| guess | count |
| | |
| guess | count |
| | |
| guess | count |
| | |

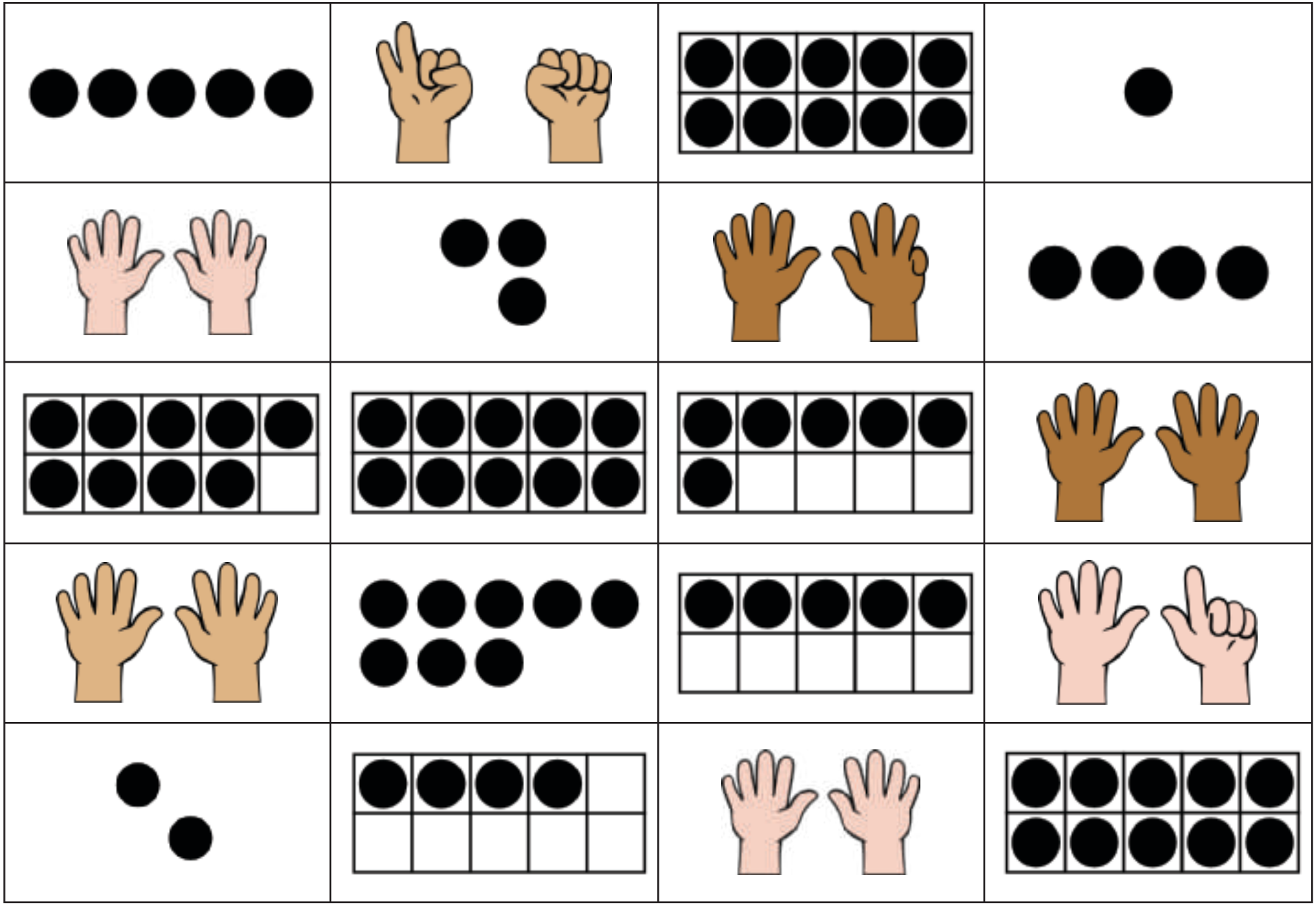
Make or Break Apart Numbers Stage 2 Gameboards



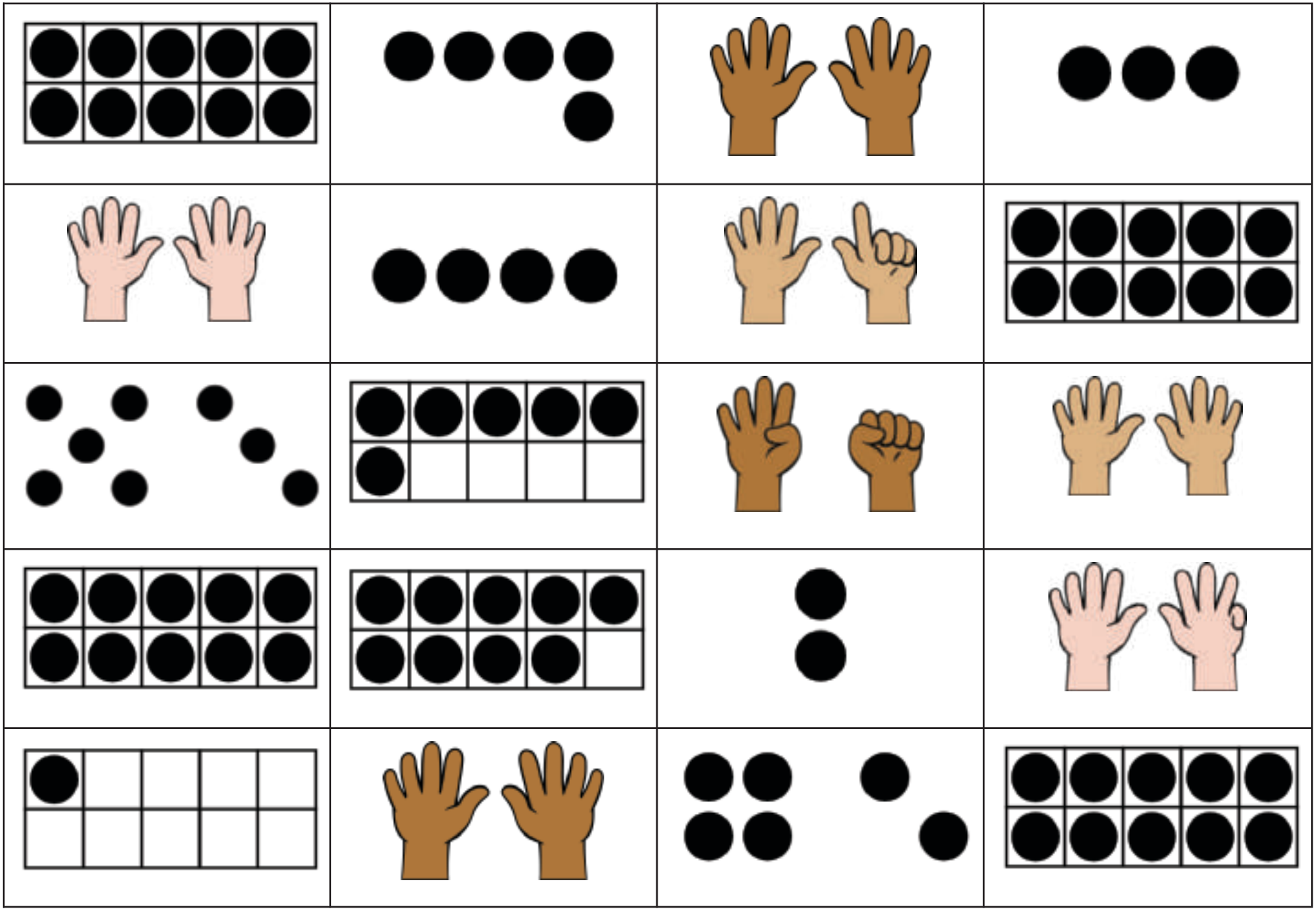
Make or Break Apart Numbers Stage 2 Gameboards



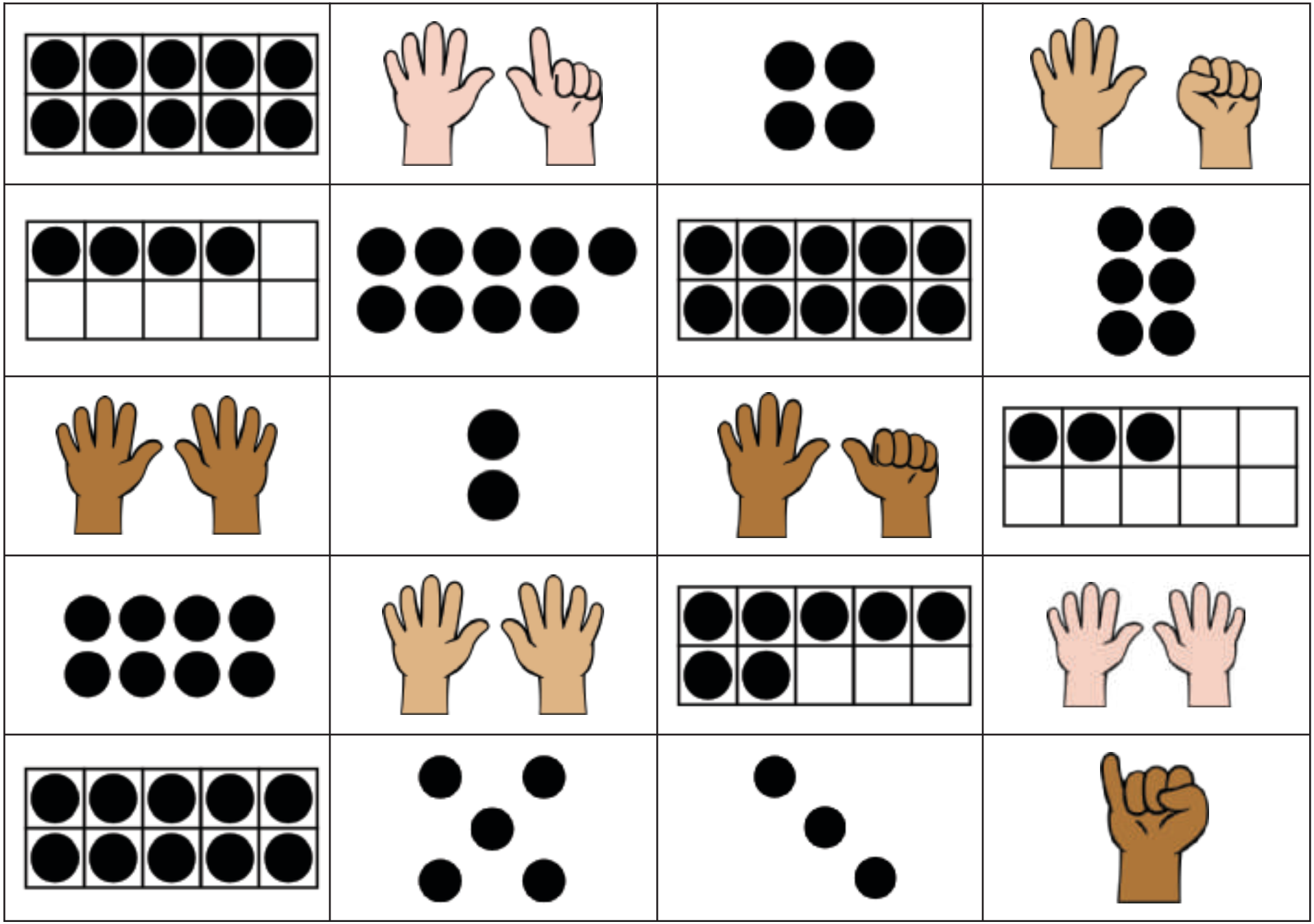
Make or Break Apart Numbers Stage 2 Gameboards



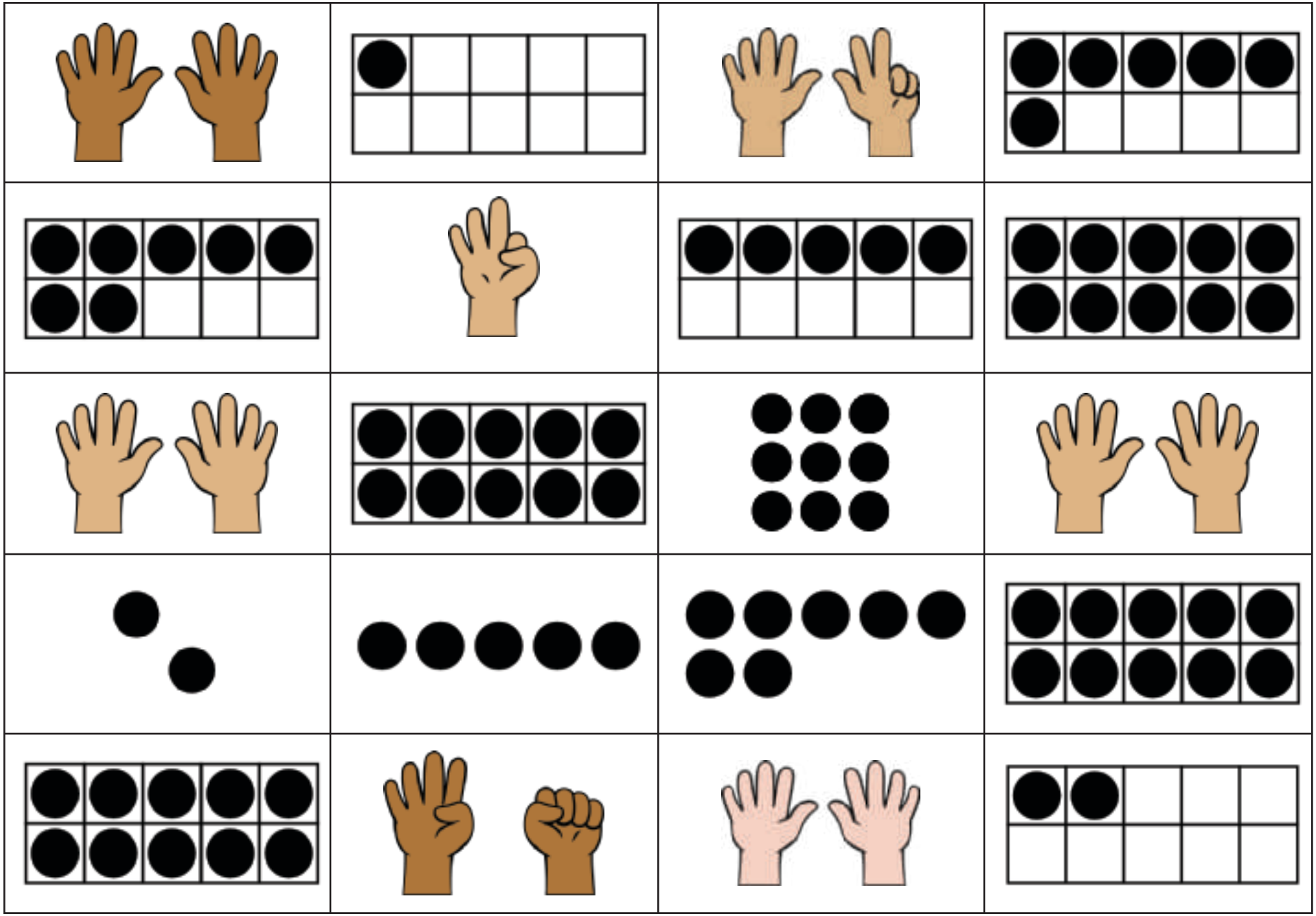
Make or Break Apart Numbers Stage 2 Gameboards



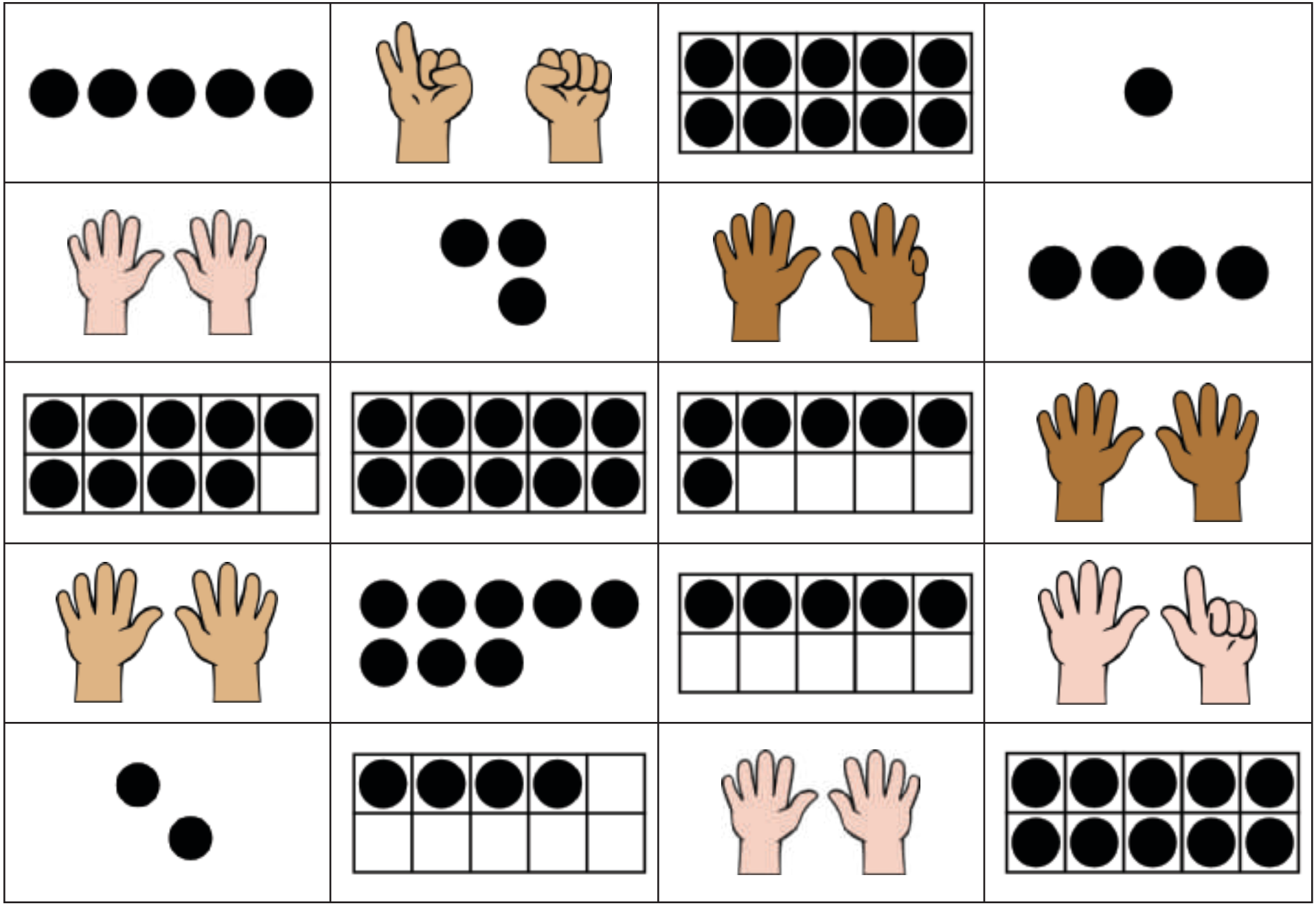
Make or Break Apart Numbers Stage 2 Gameboards



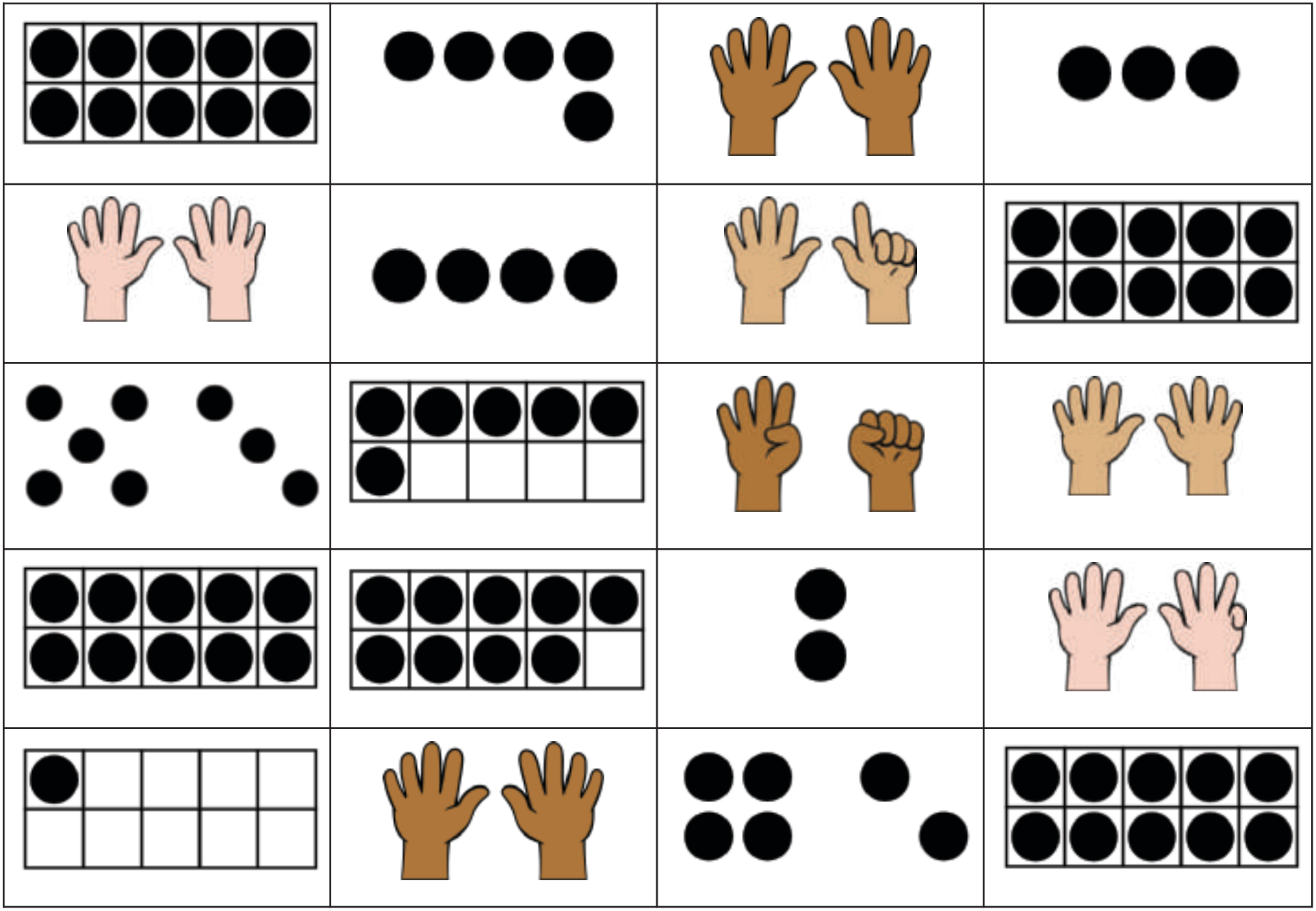
Make or Break Apart Numbers Stage 2 Gameboards



Make or Break Apart Numbers Stage 2 Gameboards

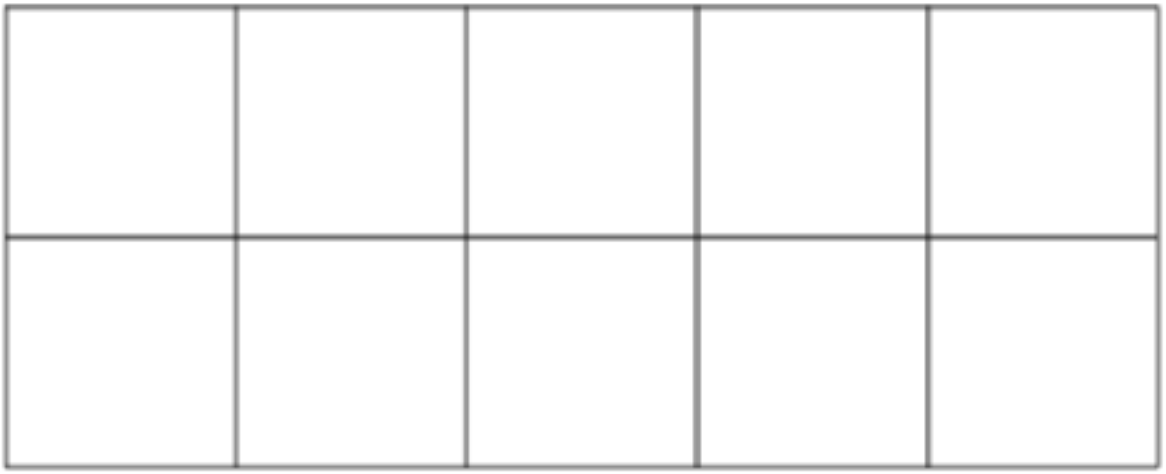


Make or Break Apart Numbers Stage 2 Gameboards

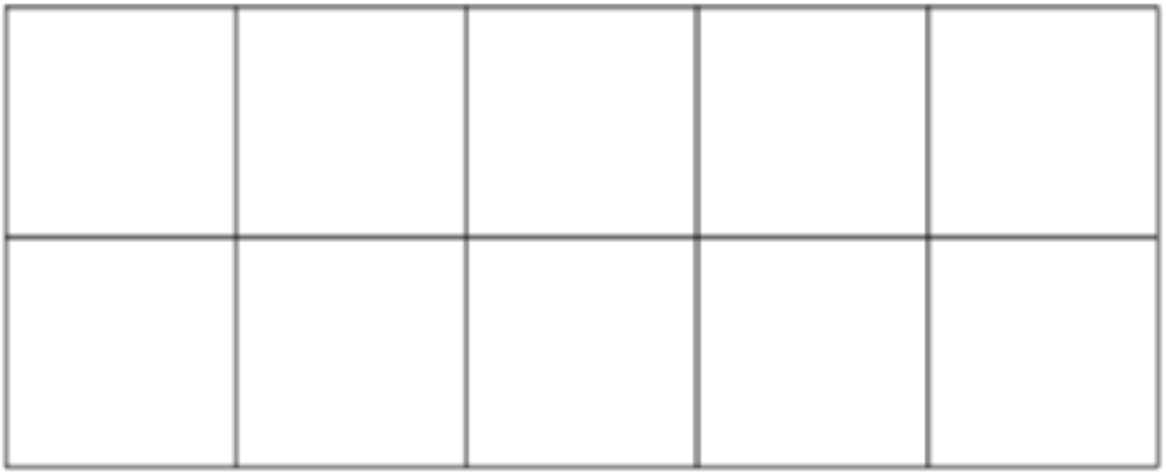


Fingerprint Animals on the 10-frame

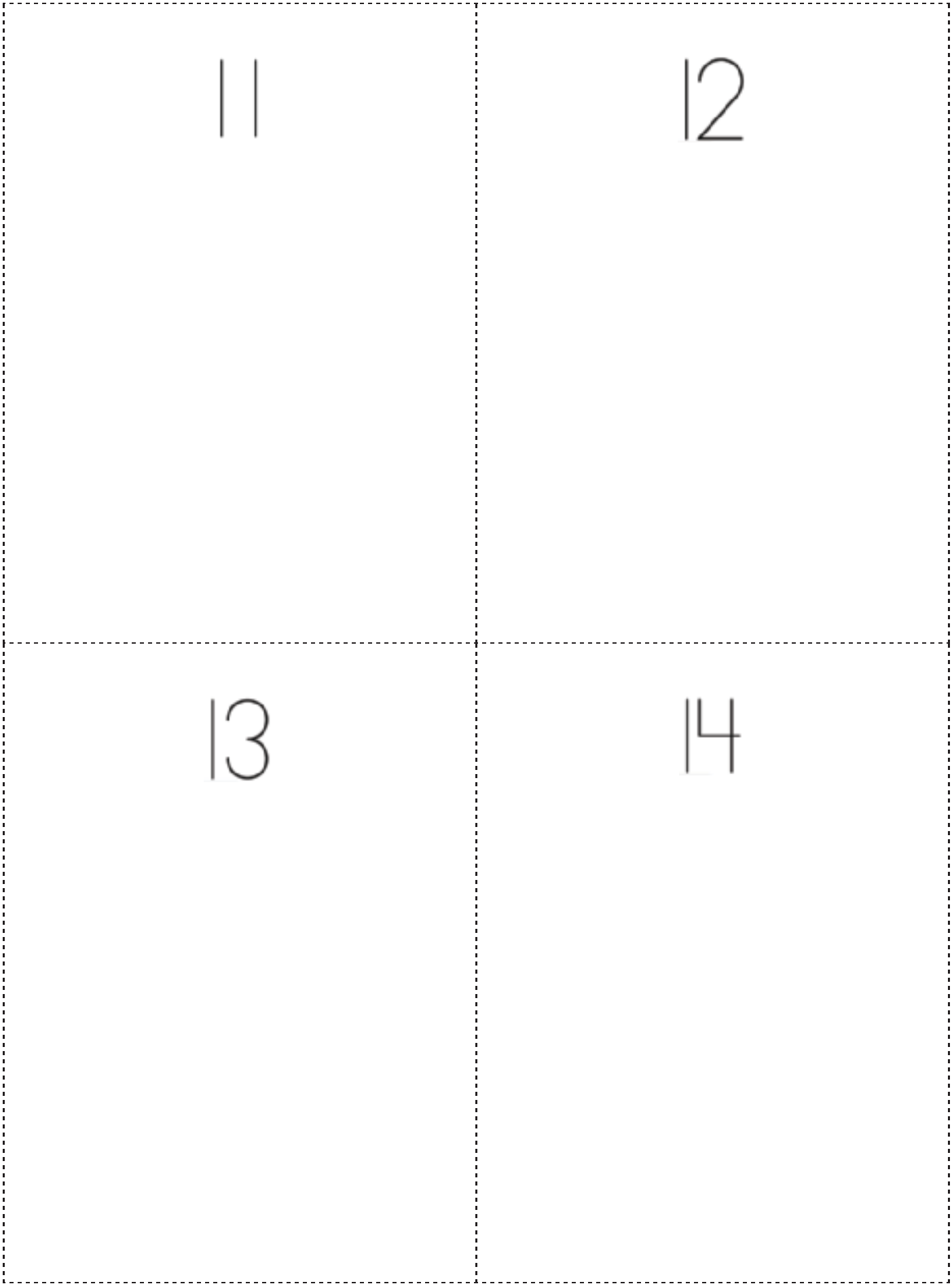
10 + _____ = _____



10 + _____ = _____



Make Number Cards



Make Number Cards

15

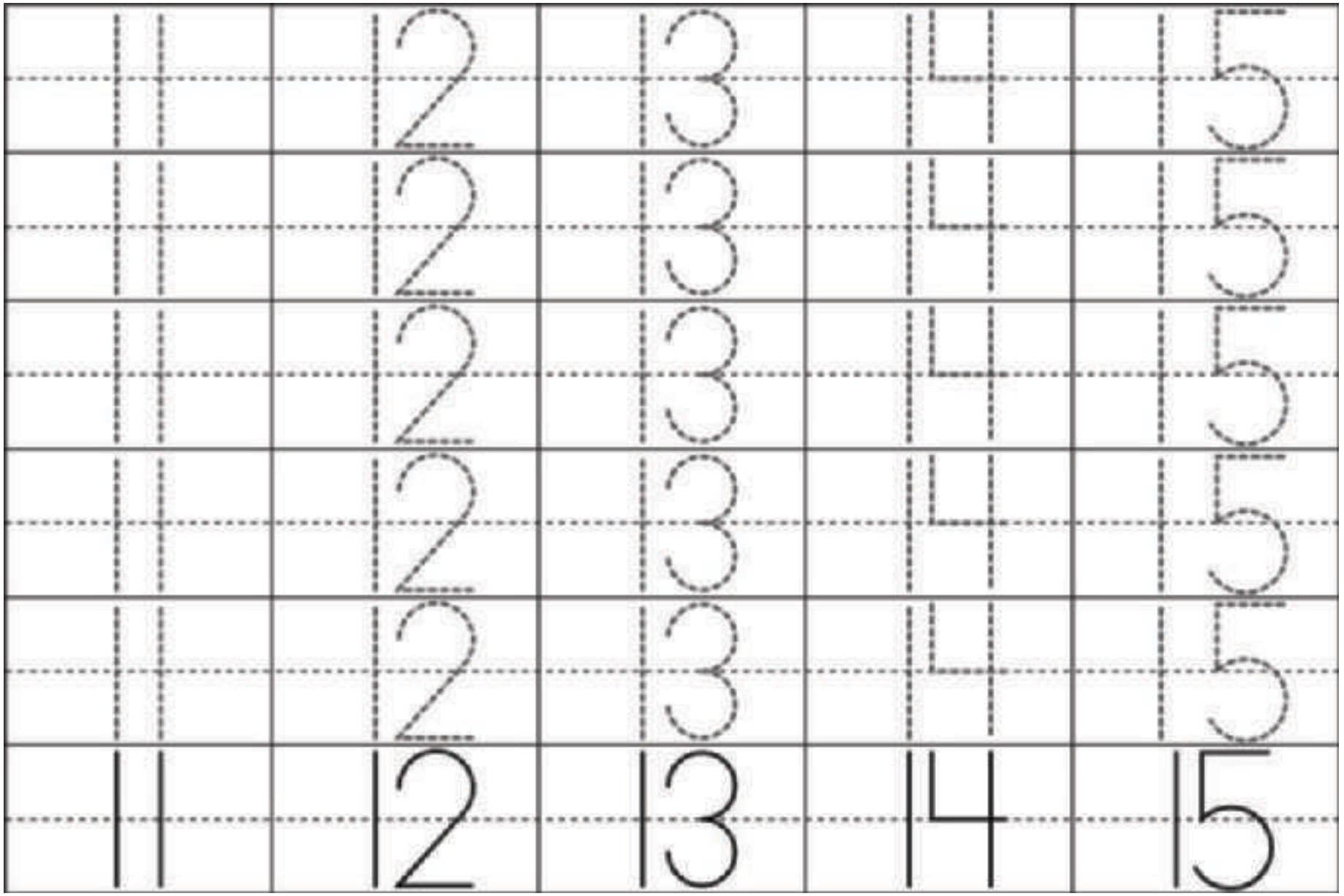
16

17

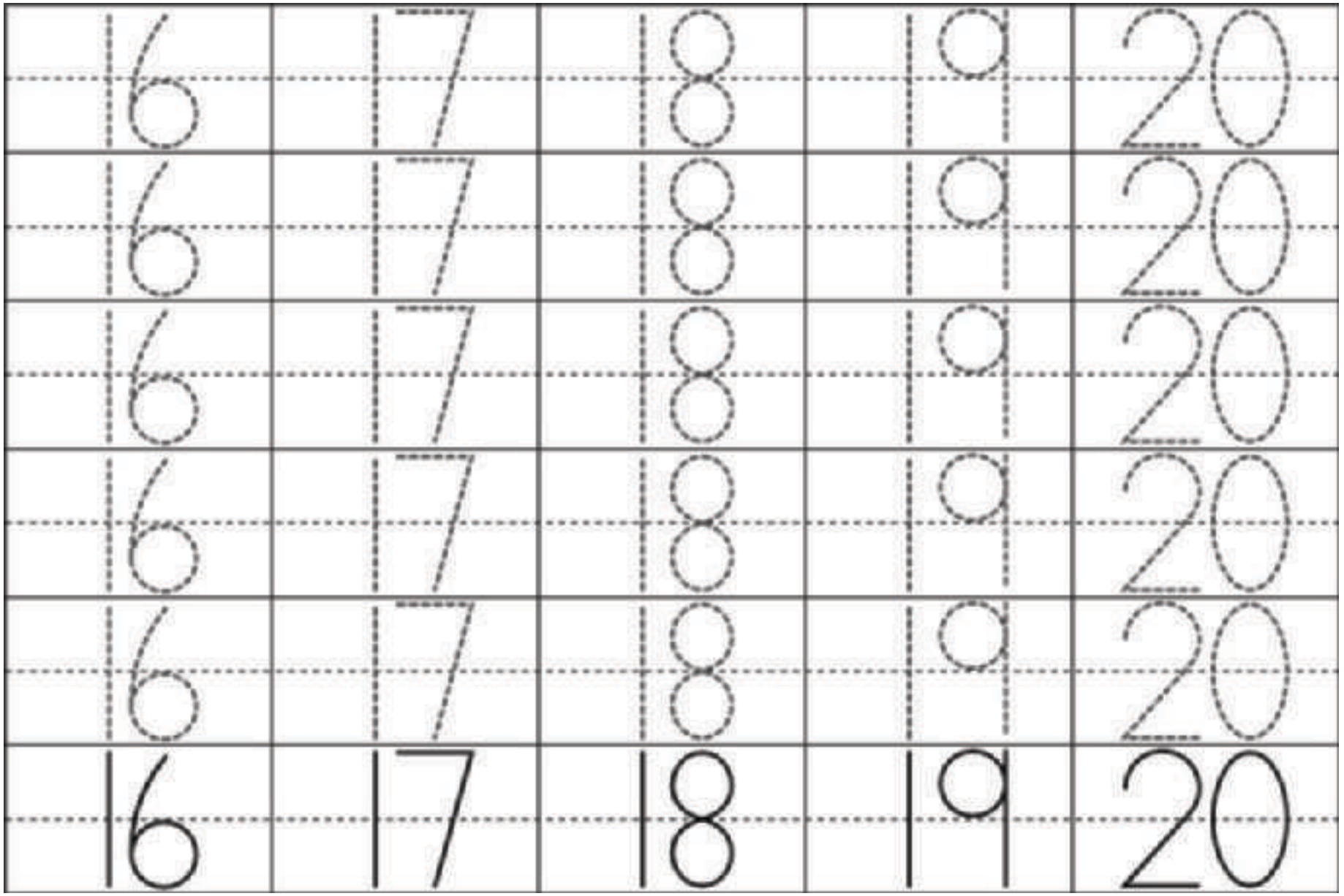
18

Make Number Cards

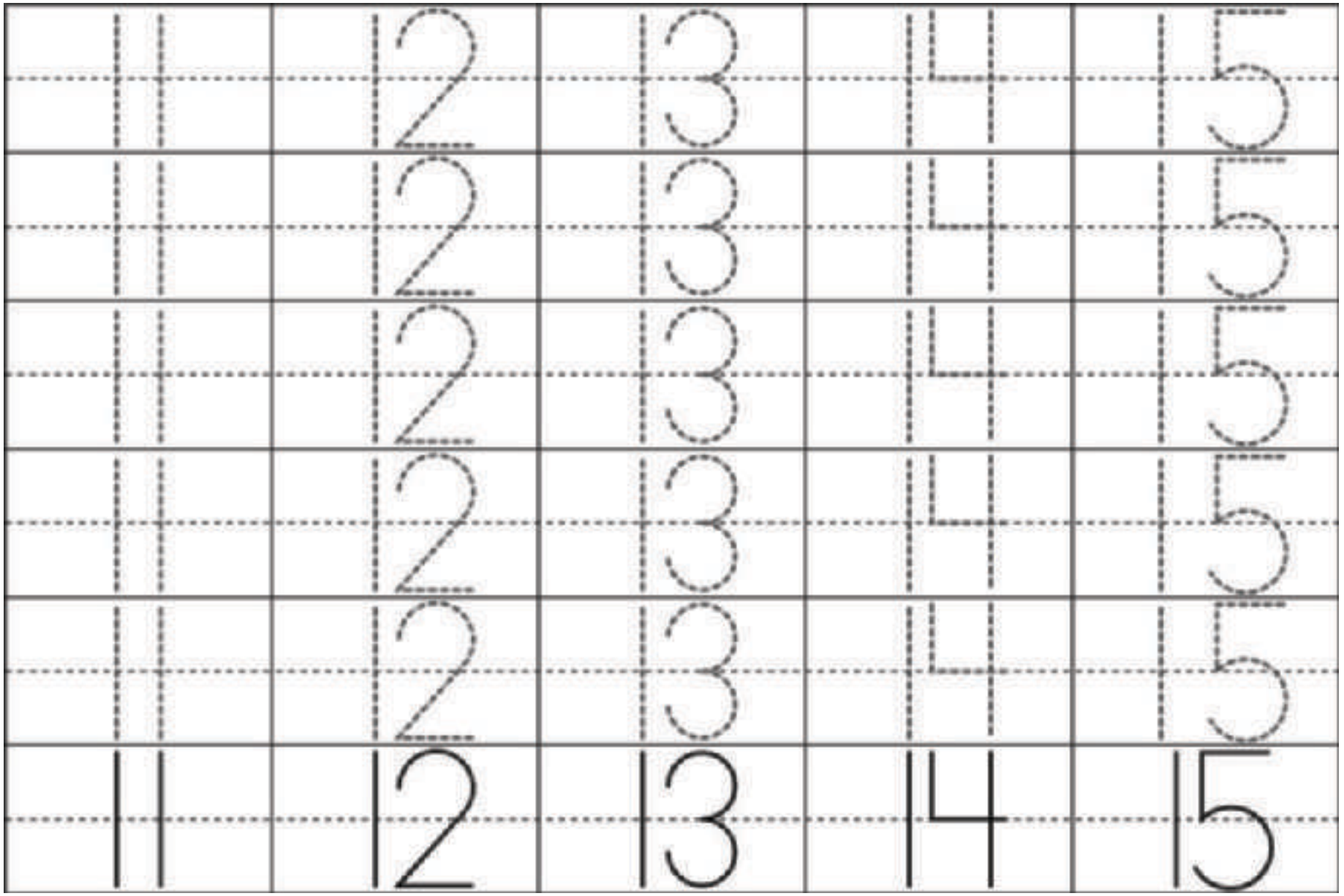
Number Race Stage 2 Recording Sheet for Tracing



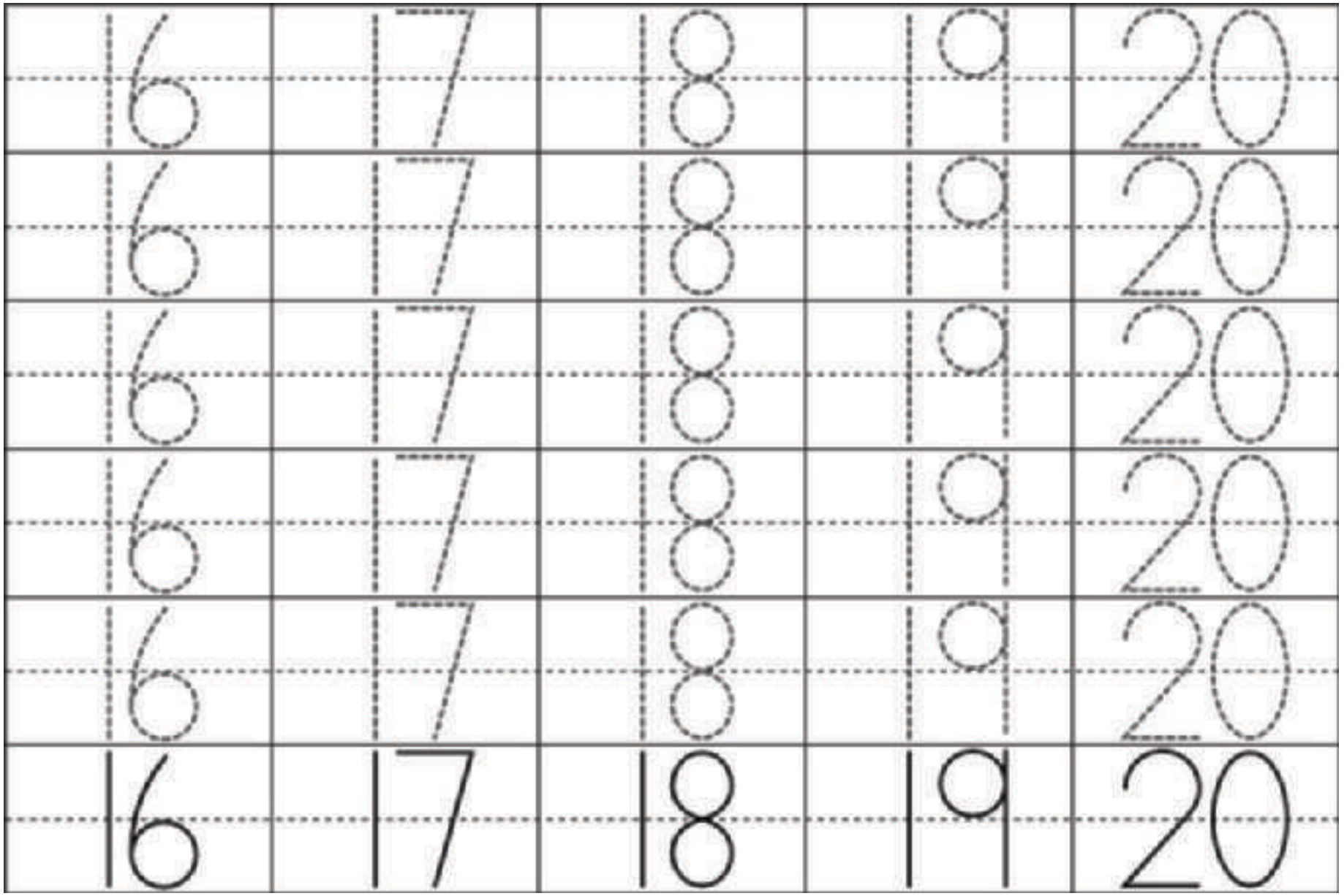
Number Race Stage 2 Recording Sheet for Tracing



Number Race Stage 2 Recording Sheet for Tracing



Number Race Stage 2 Recording Sheet for Tracing



Find the Pair Stage 2 Recording Sheet

Directions:

- Take 5 cards each and put the rest in a pile face down.
- Partner A:
  - Ask your partner for a number that can be added to one of your cards to make 10.
  - If they have the card, put the pair of cards down and fill in the equation.
  - If they don't have that card, pick a card from a pile.
- Take turns asking for cards. The partner with the most pairs at the end of the game wins.

____ + ____ = 10

____ + ____ = 10

____ + ____ = 10

Find the Pair Stage 2 Recording Sheet

____ + ____ = 10

____ + ____ = 10

____ + ____ = 10

____ + ____ = 10

Find the Pair Stage 2 Recording Sheet

Directions:

- Take 5 cards each and put the rest in a pile face down.
- Partner A:
  - Ask your partner for a number that can be added to one of your cards to make 10.
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- Take turns asking for cards. The partner with the most pairs at the end of the game wins.

____ + ____ = 10

____ + ____ = 10

____ + ____ = 10

Find the Pair Stage 2 Recording Sheet

____ + ____ = 10

____ + ____ = 10

____ + ____ = 10

____ + ____ = 10

Make or Break Apart Numbers Stage 2 Number Mat 11-19

| | | |
|---|---|---|
| 11 | 12 | 13 |
| 14 | 15 | 16 |
| 17 | 18 | 19 |

Make or Break Apart Numbers Stage 2 Number Mat 11-19

| | | |
|---|---|---|
| 11 | 12 | 13 |
| 14 | 15 | 16 |
| 17 | 18 | 19 |

Number Mat 1-10

| | | | | |
|---|---|---|---|---|
| 2 | 7 | 9 | 1 | 8 |
| 3 | 4 | 10 | 5 | 6 |

Number Mat 1-10

| | | | | |
|---|---|---|---|---|
| 2 | 7 | 9 | 1 | 8 |
| 3 | 4 | 10 | 5 | 6 |

Number Mat 1-10

| | | | | |
|---|---|---|---|---|
| 2 | 7 | 9 | 1 | 8 |
| 3 | 4 | 10 | 5 | 6 |

Make or Break Apart Numbers Stage 2 Recording Sheet

Roll a cube.

Find 2 groups that make the number.

Write an expression.

| Write an Expression (10 + 4) |
| --- |
| |
| |
| |
| |
| |
| |
| |

Make or Break Apart Numbers Stage 2 Recording Sheet

Roll a cube.

Find 2 groups that make the number.

Write an expression.

| Write an Expression (10 + 4) |
| --- |
| |
| |
| |
| |
| |
| |
| |

Number Cards 1 9

Number Cards 11-19

| | | |
|---|---|---|
| 11 | 12 | 13 |
| 14 | 15 | 16 |
| 17 | 18 | 19 |

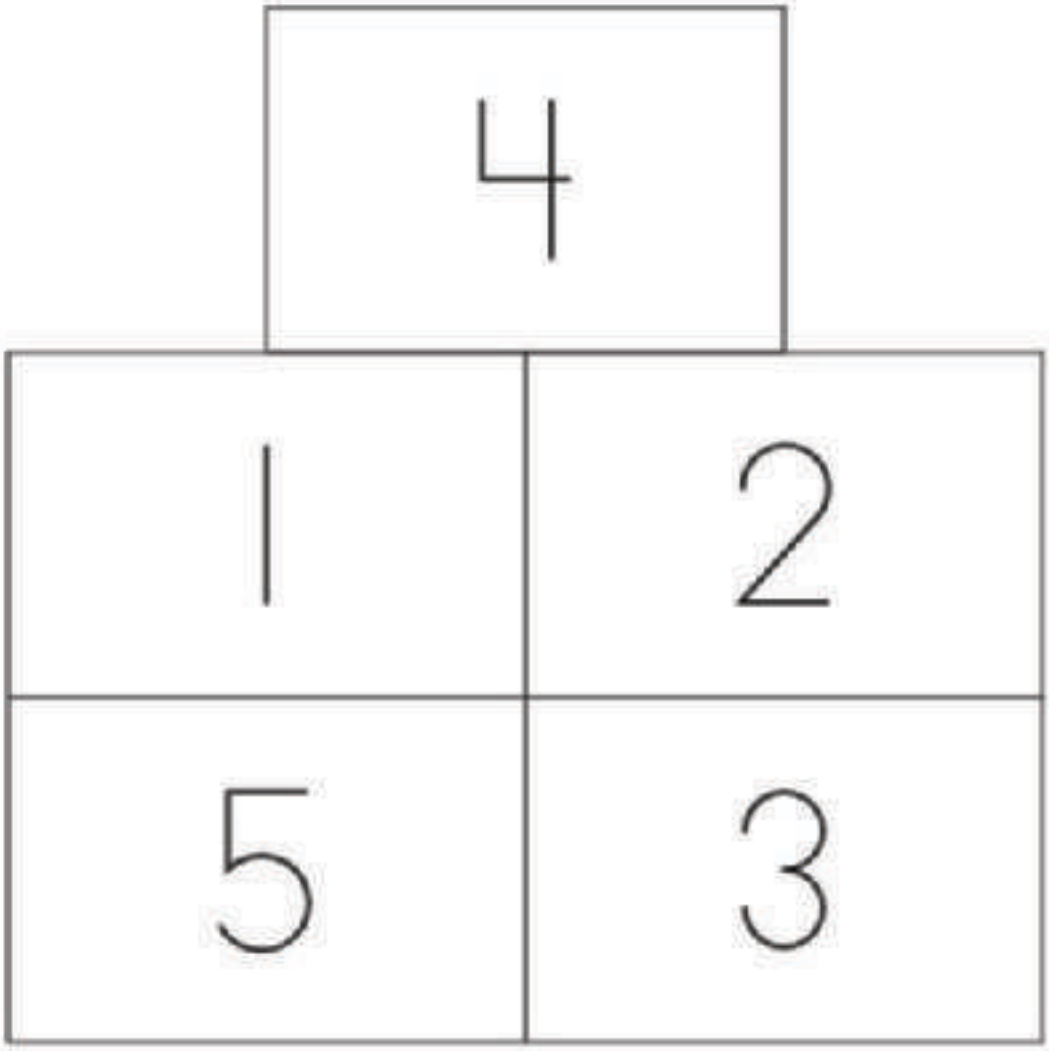
Number Cards 11-19

| | | |
|---|---|---|
| 11 | 12 | 13 |
| 14 | 15 | 16 |
| 17 | 18 | 19 |

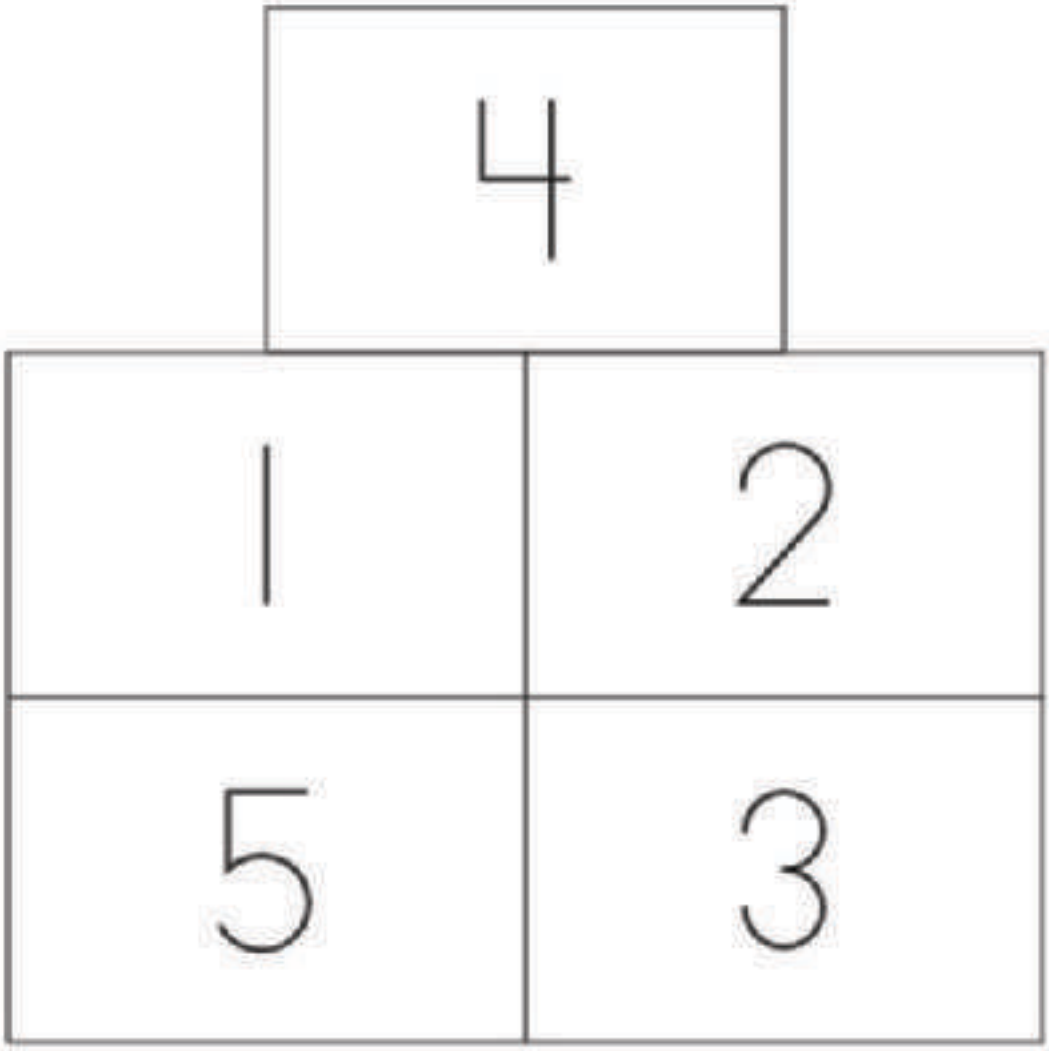
Number Mat 11 20

| | | | | |
|---|---|---|---|---|
| 17 | 18 | 20 | 15 | 11 |
| 14 | 12 | 19 | 16 | 13 |

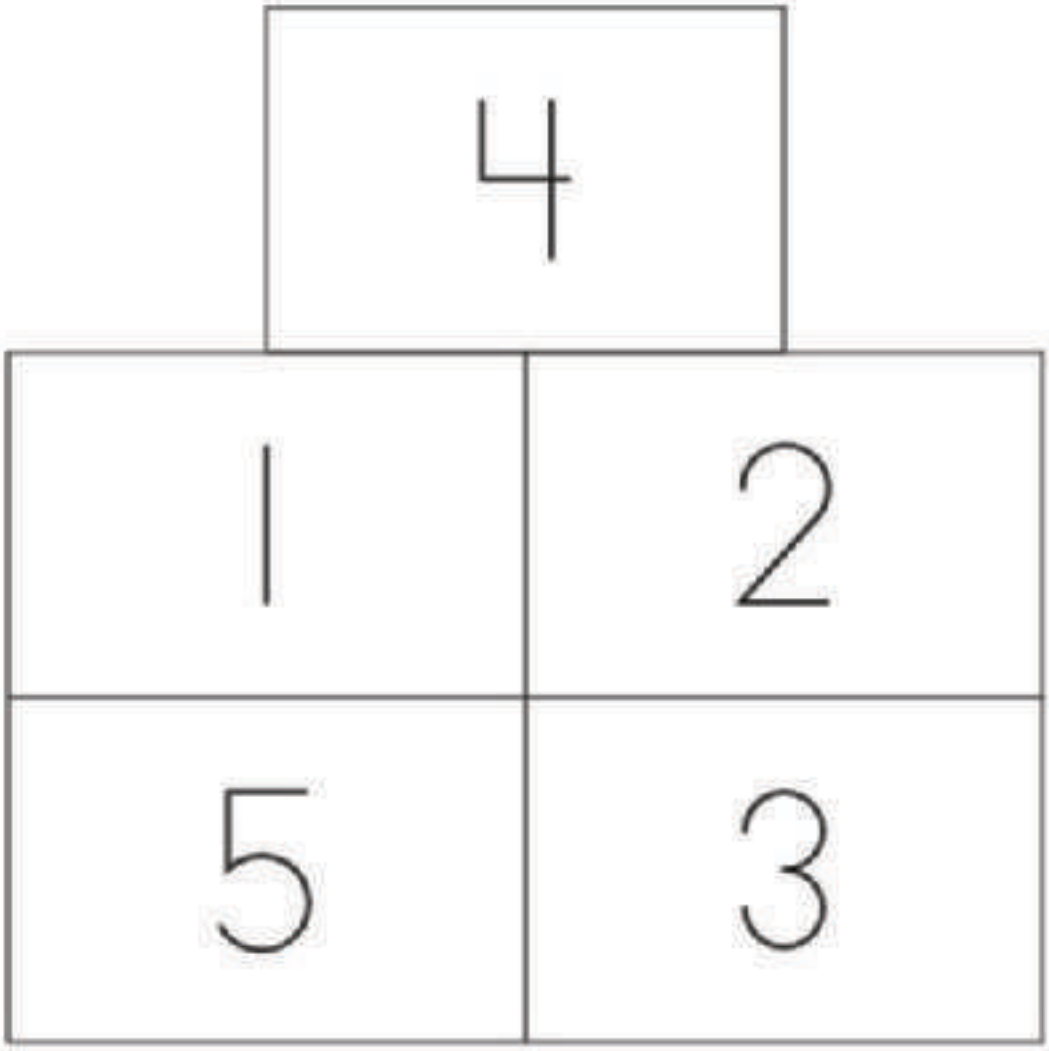
Number Mat 1 5



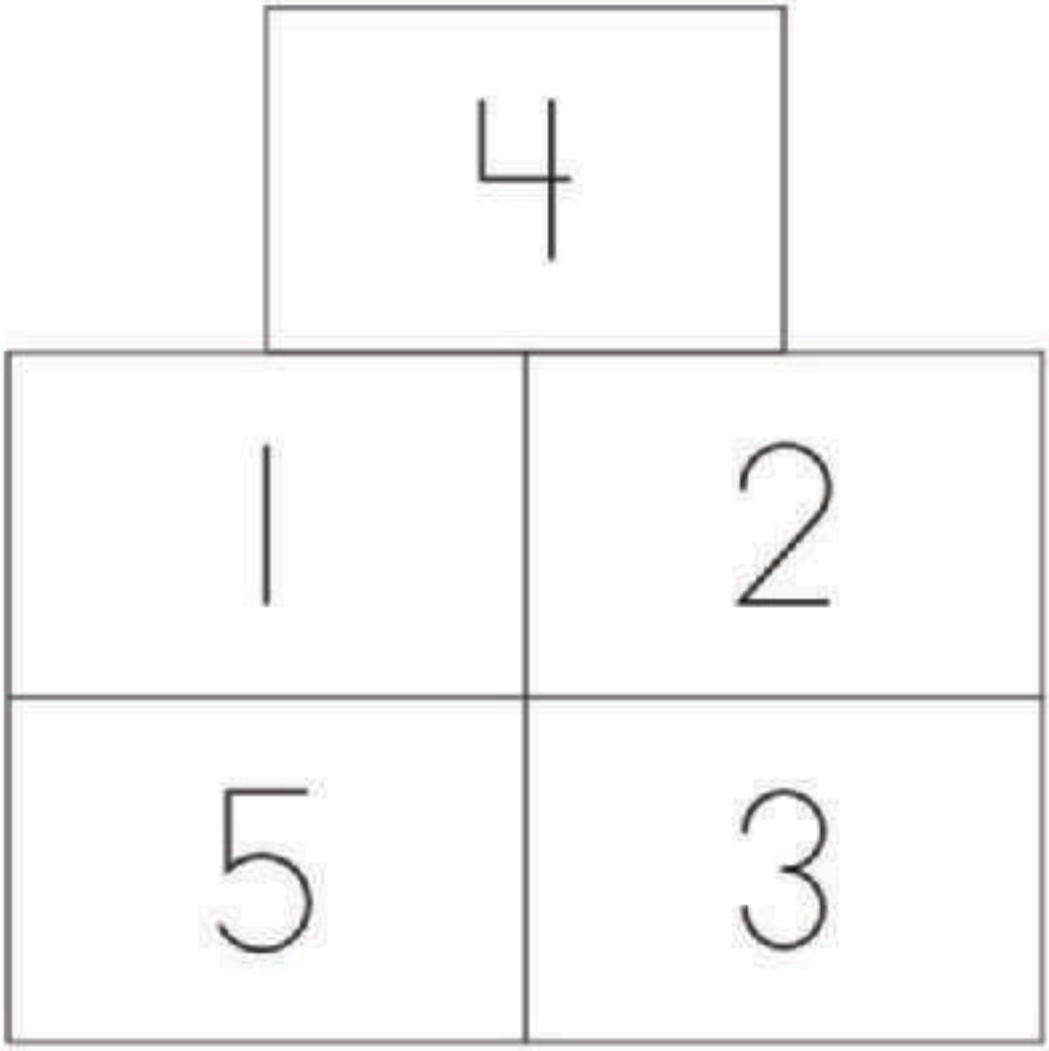
Number Mat 1 5



Number Mat 1 5



Number Mat 1 5



5-Frame

5-Frame

5-frames Stages 1 and 2 Recording Sheet

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

5-frames Stages 1 and 2 Recording Sheet

1. _____

2. _____

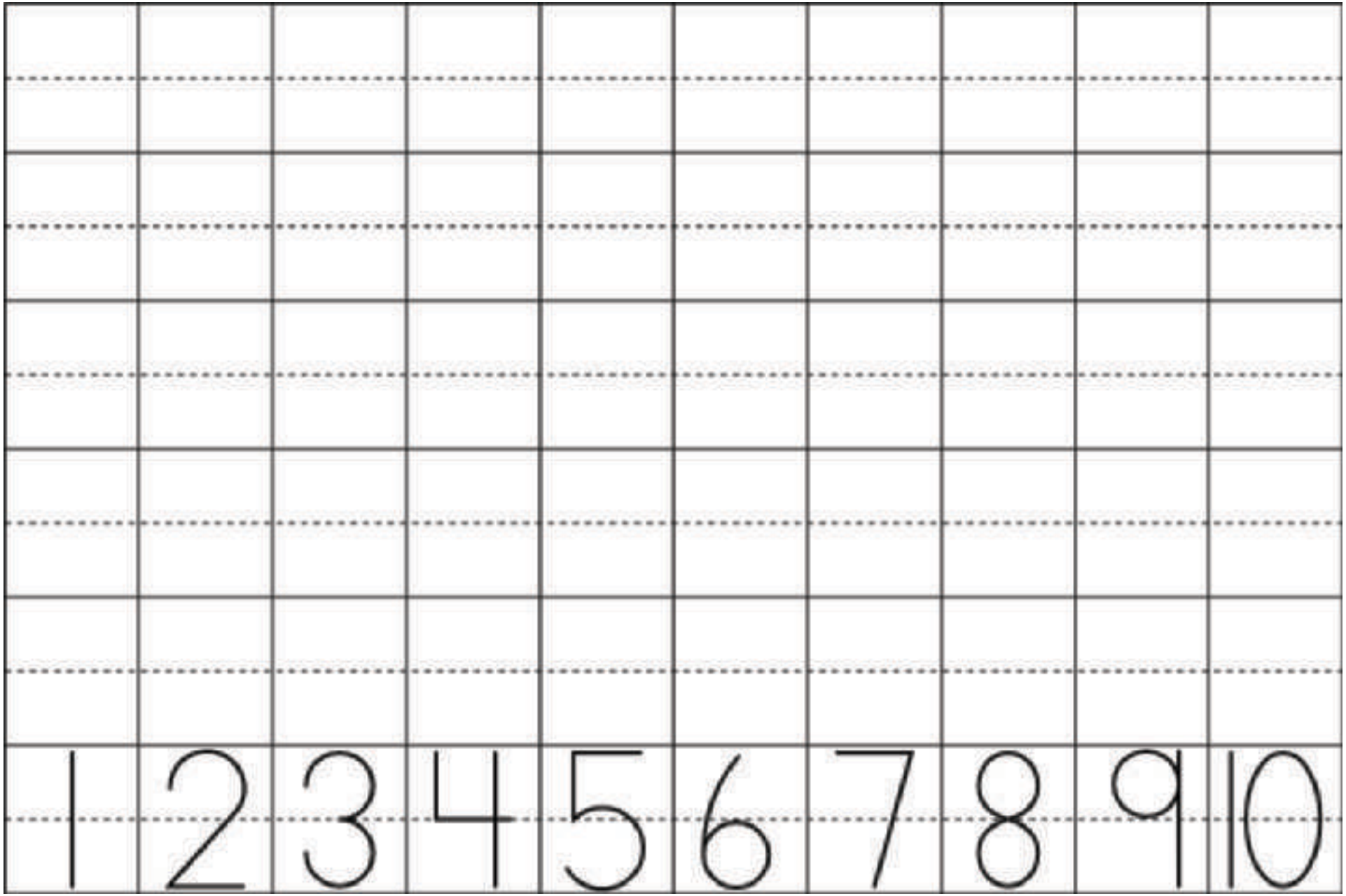
3. _____

4. _____

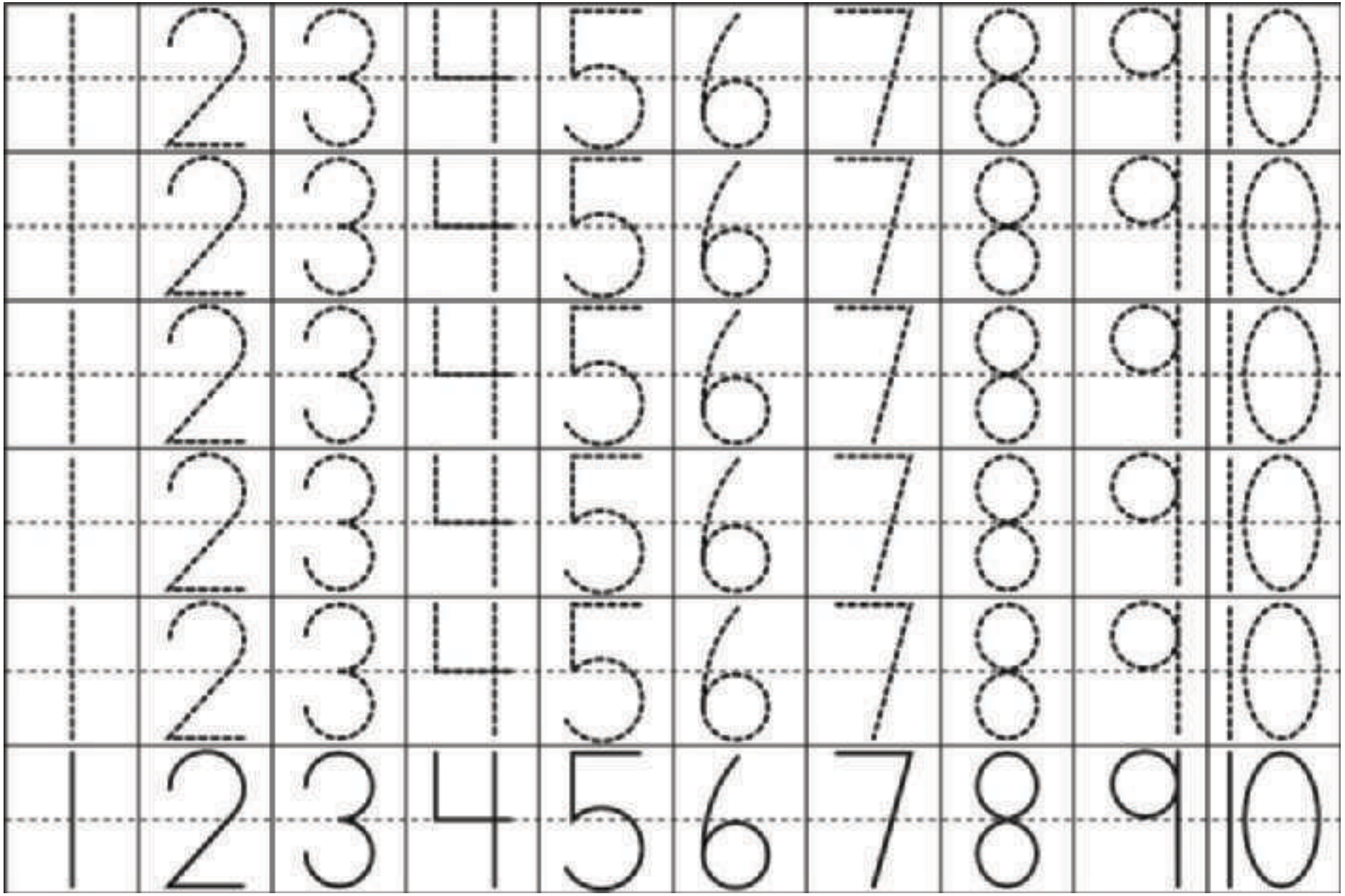
5. _____

6. _____

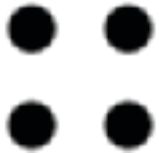
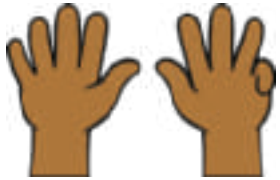
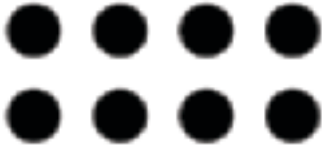
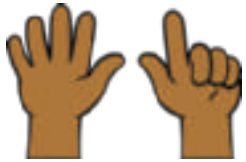
Number Race Stage 1 Recording Sheet for Writing



Number Race Stage 1 Recording Sheet for Tracing



Bingo Stages 1-3 Gameboard

| | | | |
|---|---|---|---|
| | |  | |
|  | | | |
| | | |  |
| | | |  |

Bingo Stages 1-3 Gameboard

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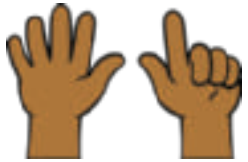
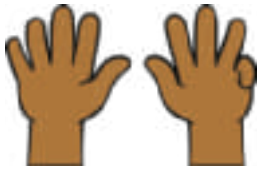
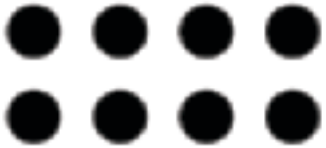
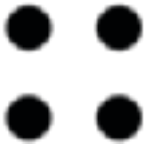
| | |  | |
| | | |  |
| | | |  |
| | | |  |

Bingo Stages 1-3 Gameboard

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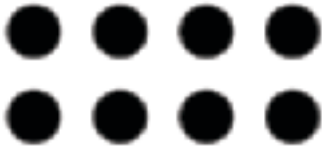
|  | | | |
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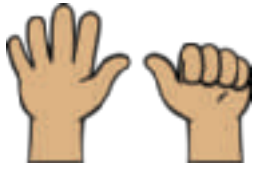
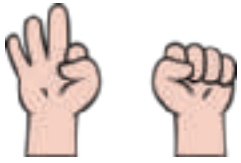
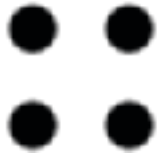
|  | |  |  |

Bingo Stages 1-3 Gameboard

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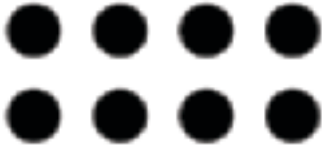
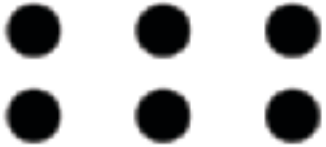
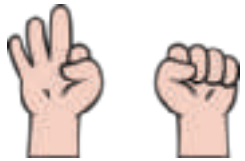
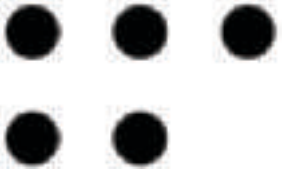
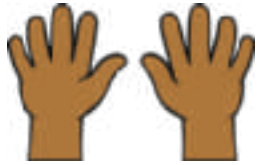
|  |  |  | |
| |  | | |
| | | |  |

Bingo Stages 1-3 Gameboard

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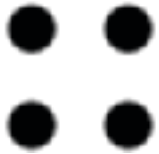
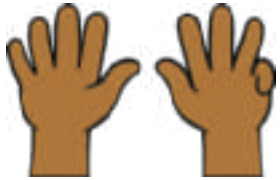
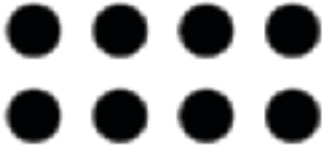
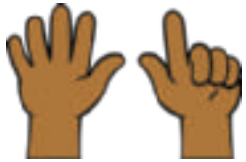
| | |  | |
|  | | | |
| | | |  |
| | | |  |

Bingo Stages 1-3 Gameboard

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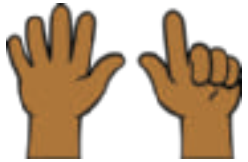
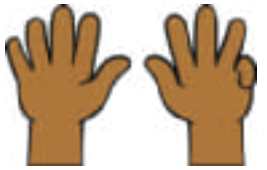
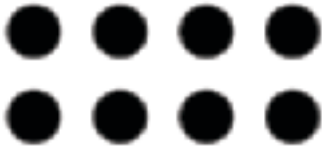
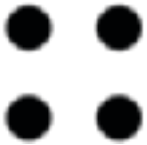
| | |  | |
| | | |  |
| | | |  |
| | | |  |

Bingo Stages 1-3 Gameboard

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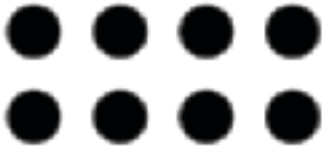
|  | | | |
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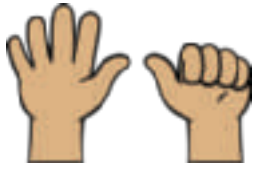
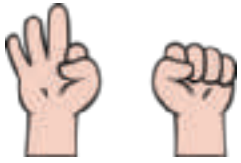
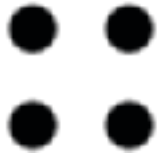
|  | |  |  |

Bingo Stages 1-3 Gameboard

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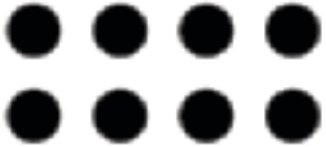
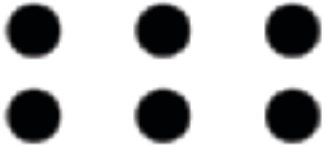
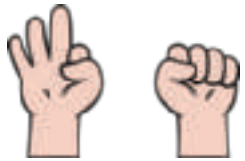
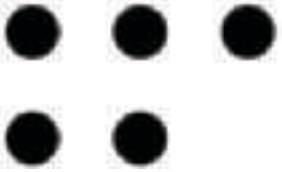
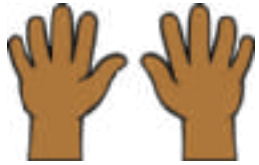
|  |  |  | |
| |  | | |
| | | |  |

Bingo Stages 1-3 Gameboard

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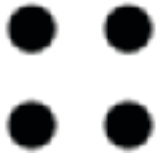
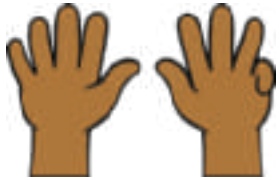
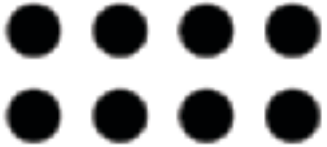
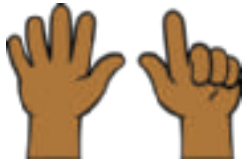
| | |  | |
|  | | | |
| | | |  |
| | | |  |

Bingo Stages 1-3 Gameboard

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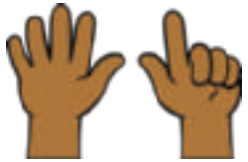
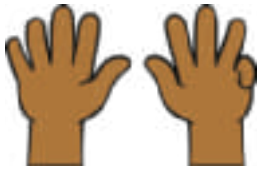
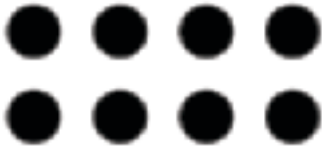
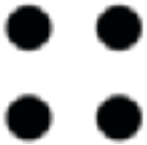
| | |  | |
| | | |  |
| | | |  |
| | | |  |

Bingo Stages 1-3 Gameboard

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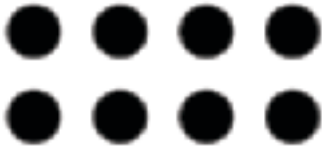
|  | | | |
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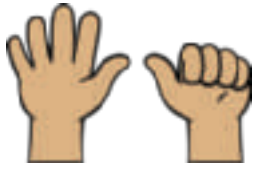
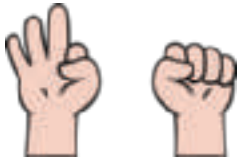
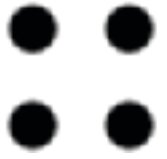
|  | |  |  |

Bingo Stages 1-3 Gameboard

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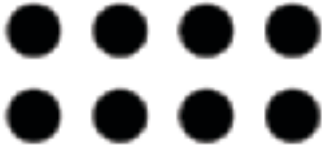
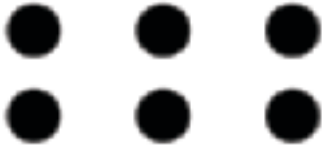
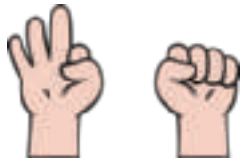
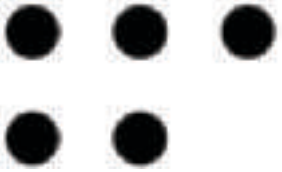
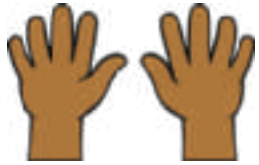
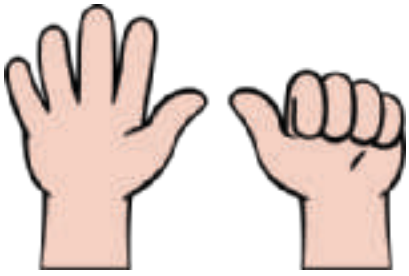
|  |  |  | |
| |  | | |
| | | |  |

# Bingo Stage 1 Cards

Bingo Image Card

Bingo Image Card

Bingo Image Card



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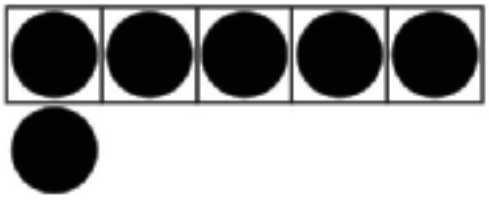

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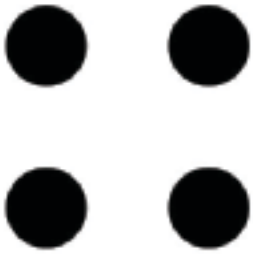
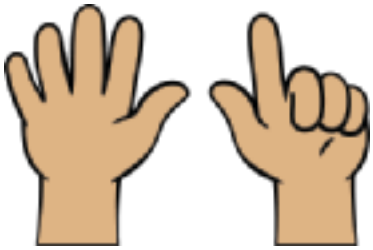


Bingo Image Card

Bingo Image Card



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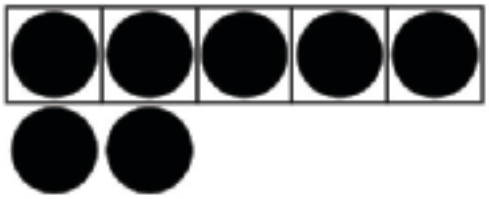
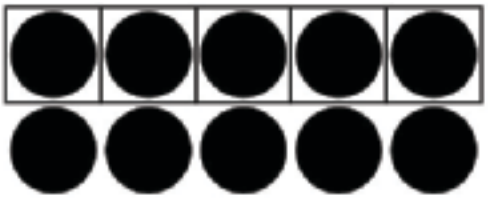


# Bingo Stage 1 Cards

Bingo Image Card

Bingo Image Card

Bingo Image Card



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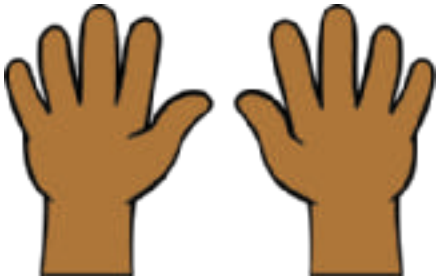

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Bingo Image Card

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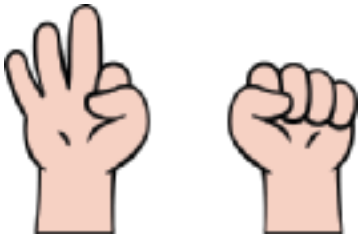
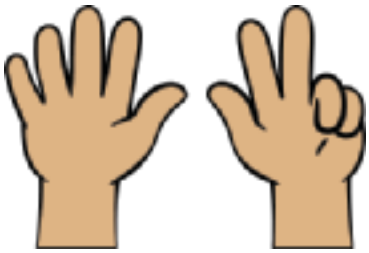


Bingo Image Card

Bingo Stage 1 Cards

Bingo Image Card



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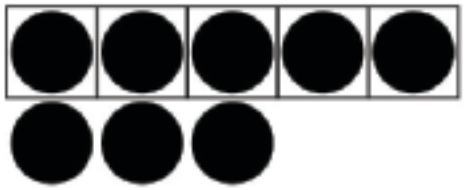

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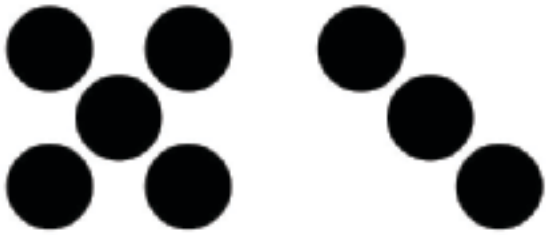
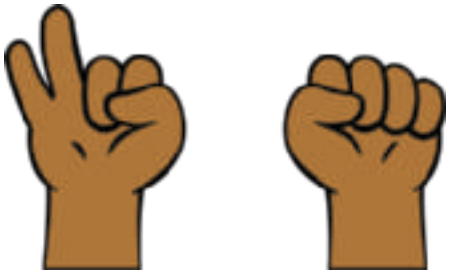


Bingo Image Card

Bingo Image Card

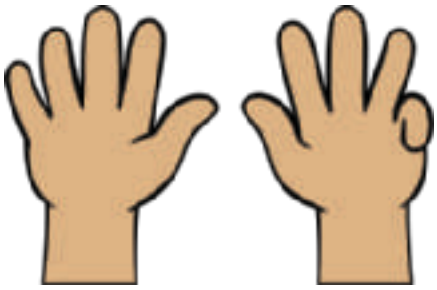
Bingo Image Card



Bingo Image Card

# Bingo Stage 1 Cards

Bingo Image Card



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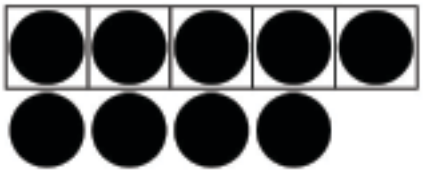
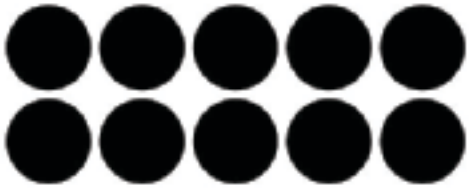


Bingo Image Card

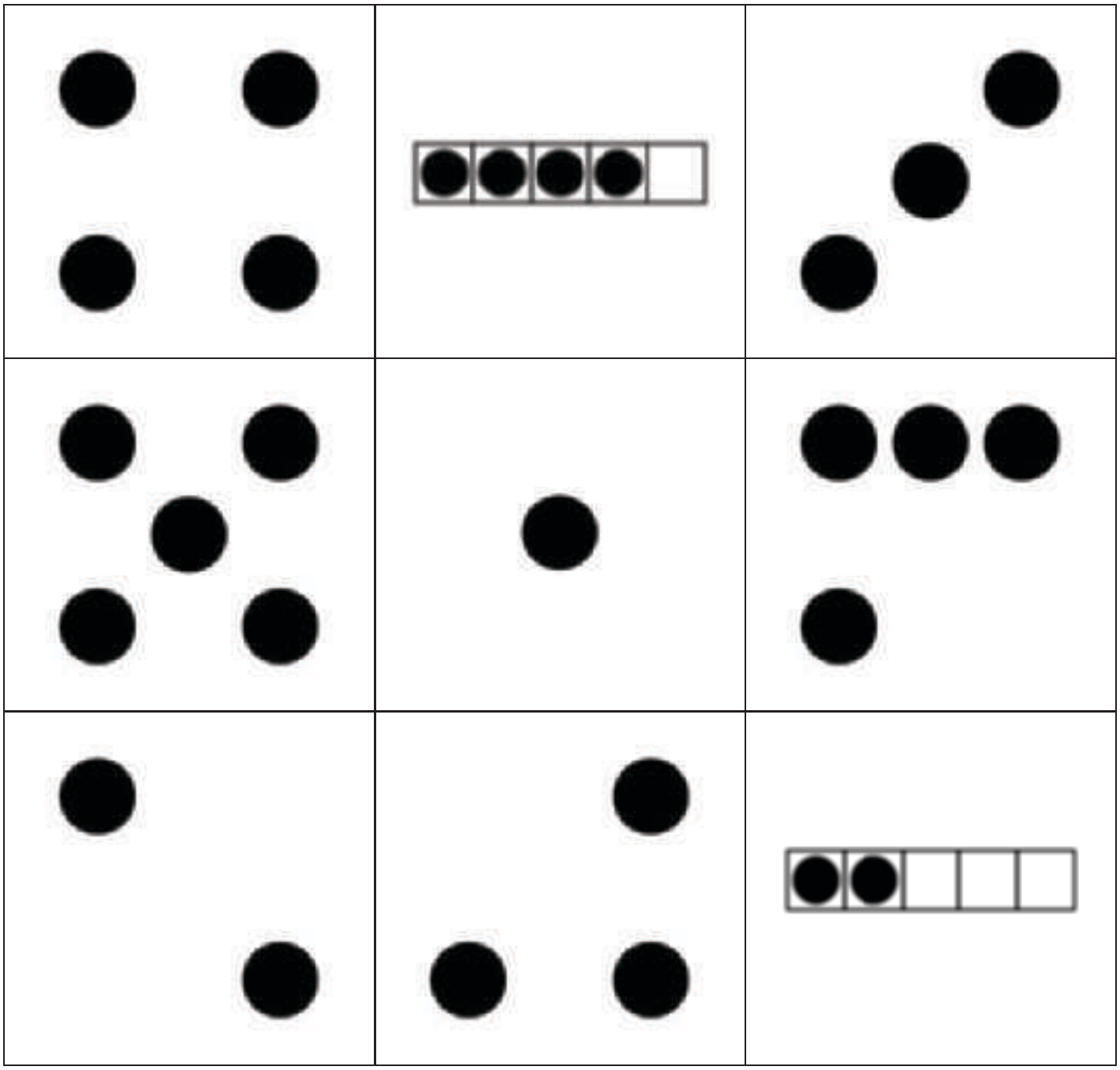
Bingo Image Card

Bingo Image Card



Bingo Image Card

Dot Mat 1-5 (dots and 5-frames)



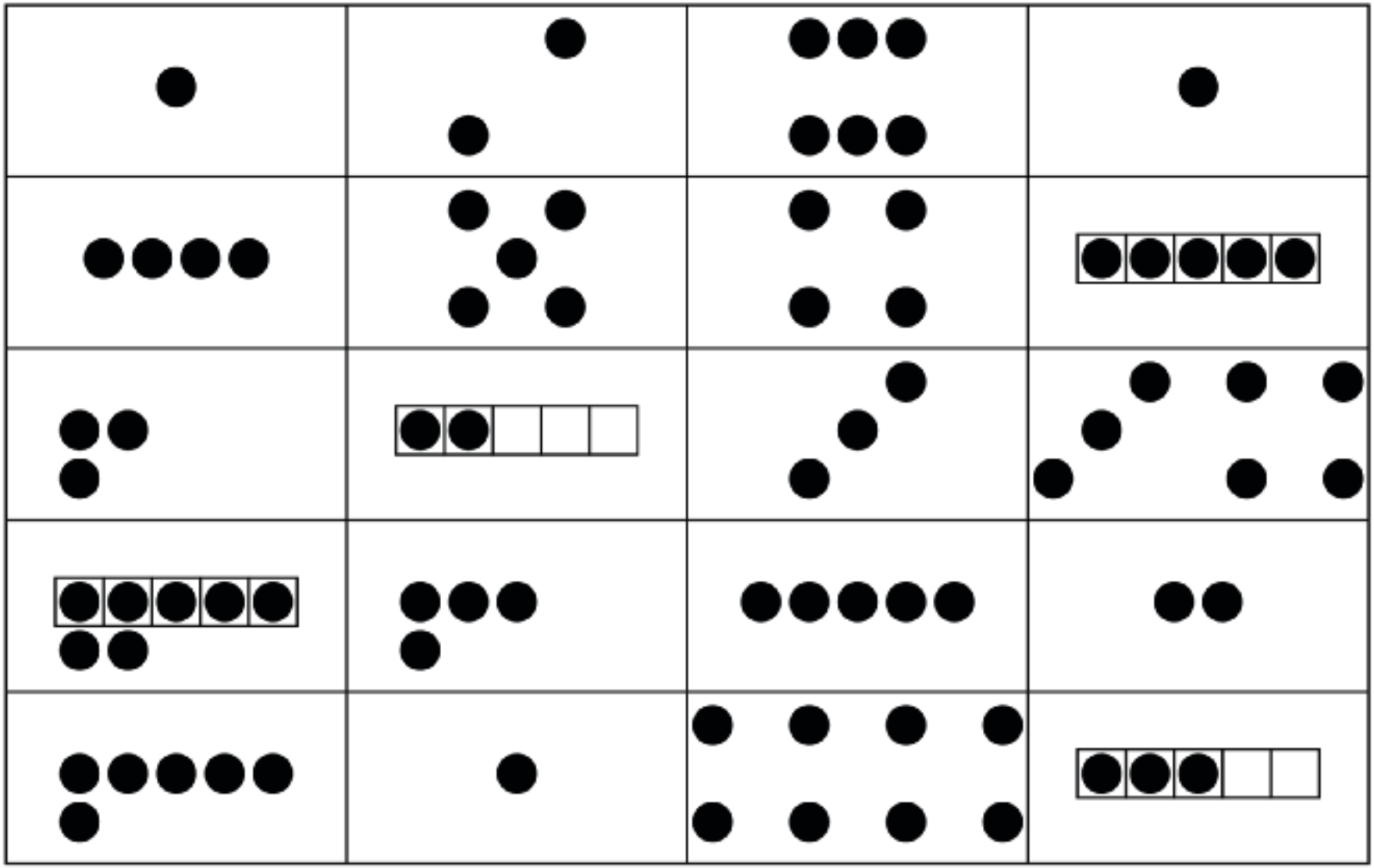
Make or Break Apart Numbers Stage 1 Number Mat 4 - 9

| | | |
|---|---|---|
| 4 | 6 | 9 |
| 7 | 8 | 5 |

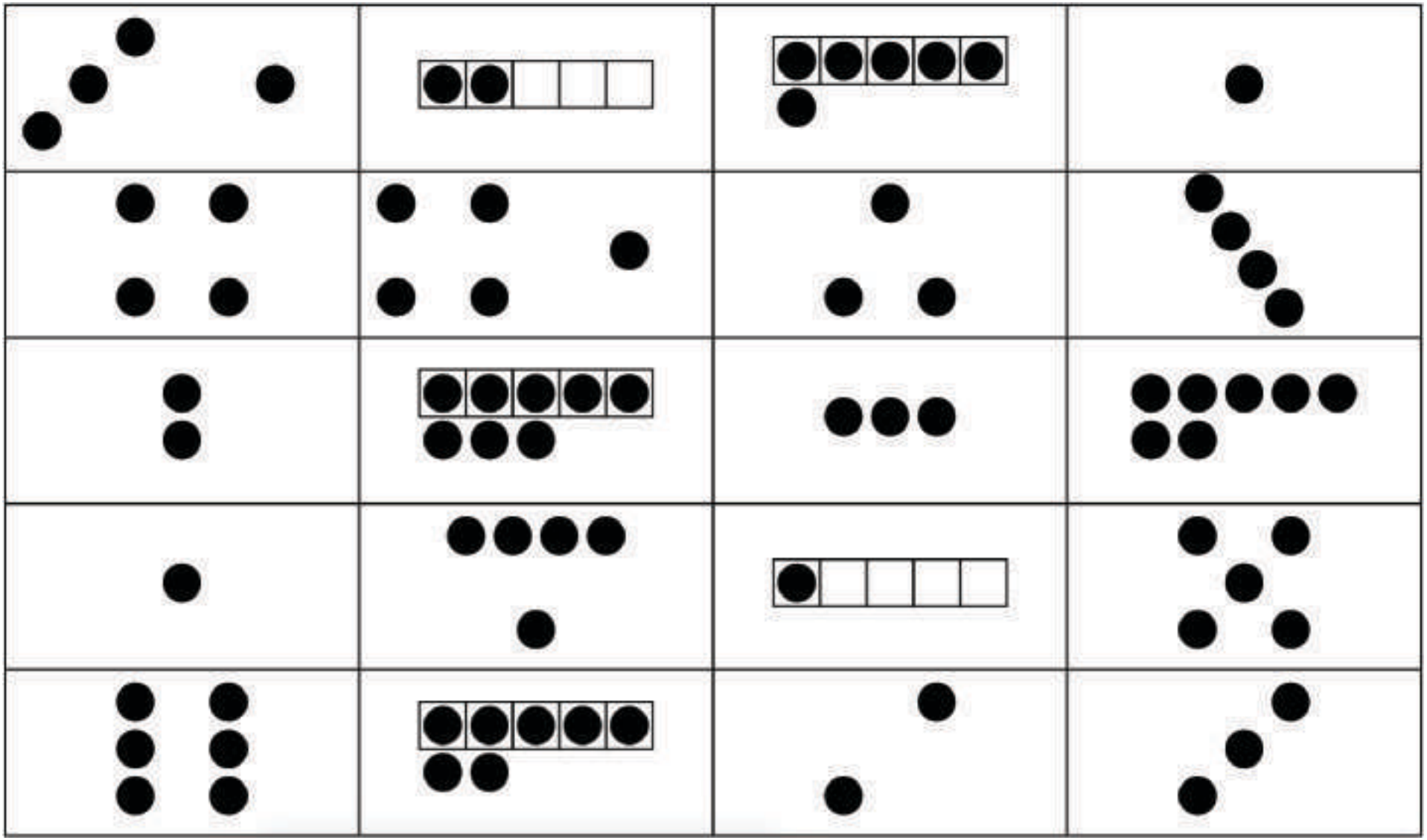
Make or Break Apart Numbers Stage 1 Recording Sheet

| Write an Expression (4 + 3) |
| --- |
| |
| |
| |
| |
| |
| |
| |
| |

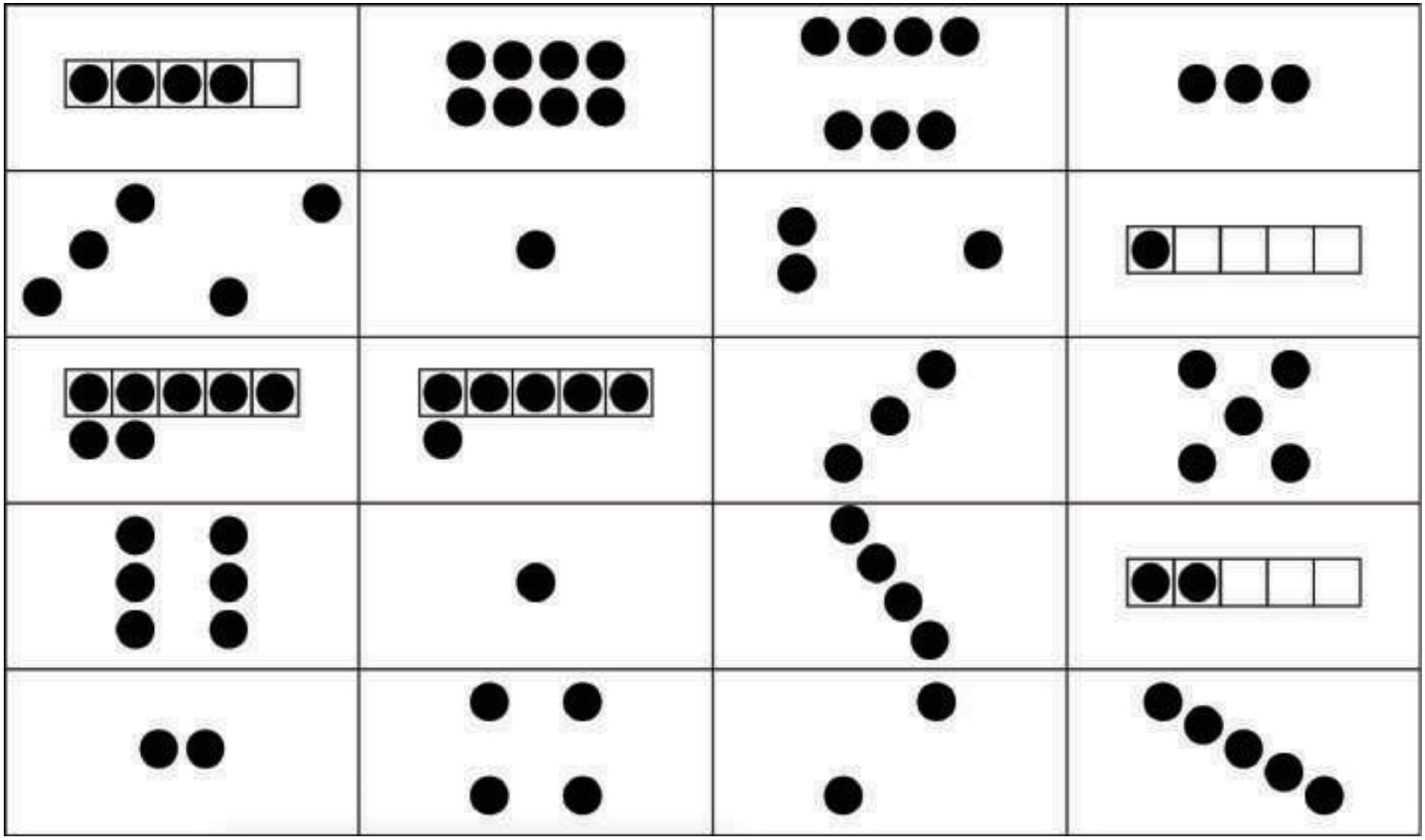
Make or Break Apart Numbers Stage 1 Dot Page



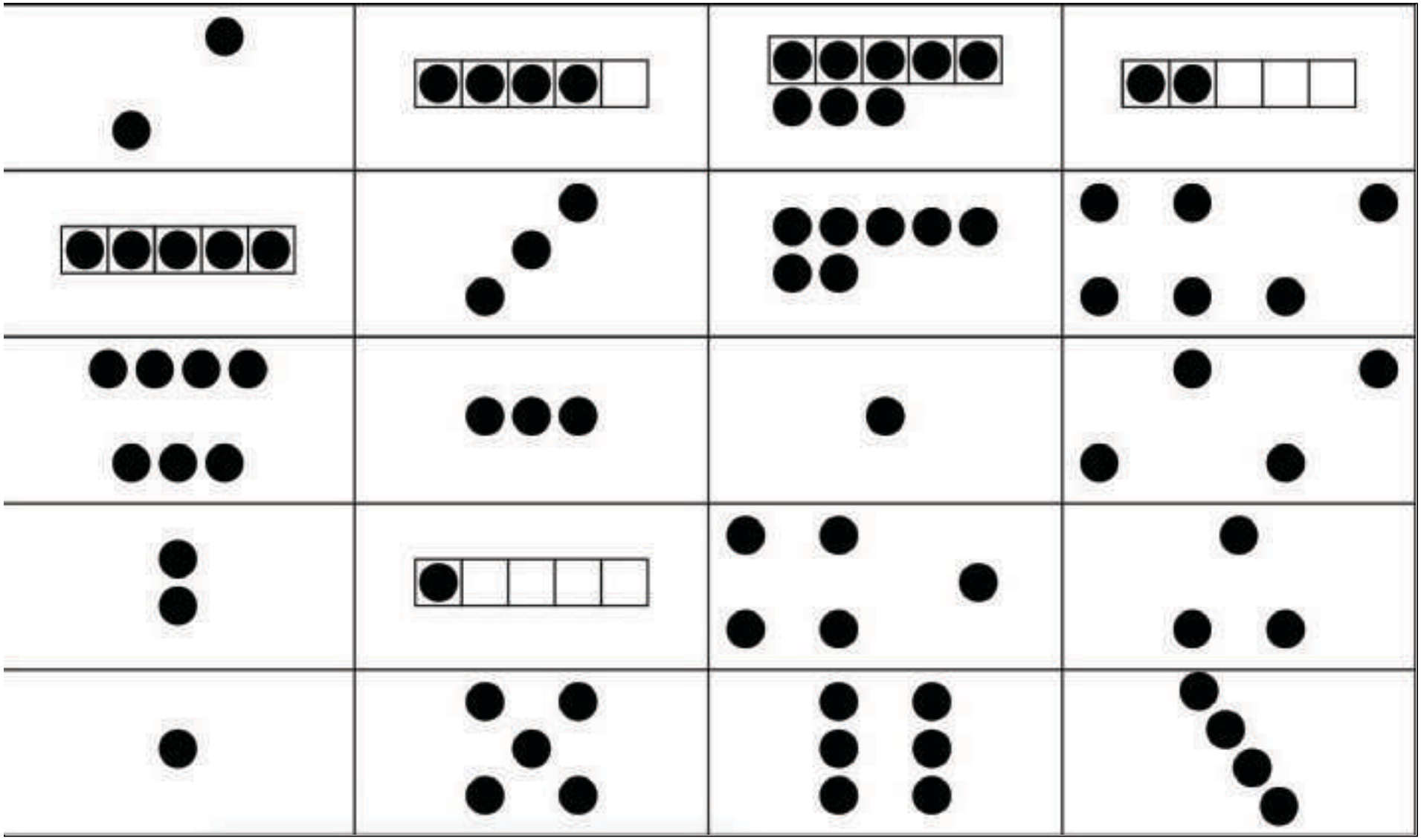
Make or Break Apart Numbers Stage 1 Dot Page



Make or Break Apart Numbers Stage 1 Dot Page



Make or Break Apart Numbers Stage 1 Dot Page



# Find the Value of Expressions within 10 Stage 1 Cards

Find the Value of Expressions

$3+5$

Find the Value of Expressions

$7-5$

Find the Value of Expressions

$1+6$

Find the Value of Expressions

$7+2$

Find the Value of Expressions

$5-2$

Find the Value of Expressions

$6+0$

Find the Value of Expressions

$4+4$

Find the Value of Expressions

$9-4$

Find the Value of Expressions

$4-0$

Find the Value of Expressions

$10-2$

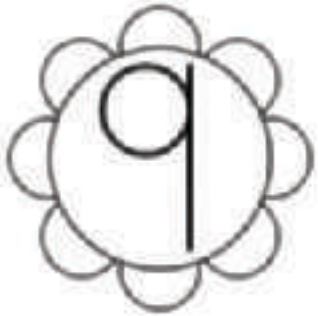
Find the Value of Expressions

$8+1$

Find the Value of Expressions

$8-4$

Find the Value of Expressions within 10 Stage 1 Recording Sheet

| | | | |
|---|---|---|---|
| | |  | |
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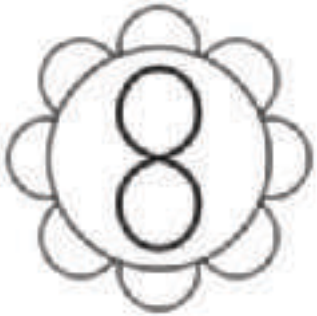
|  | | | |

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