Counting Arrangements (ECR)

Overview

Students will count objects arranged in different ways and record the number of objects in the group. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with counting 1 to 10 objects and recognizing numerals from 5 to 10.

Standards

Know number names and the count sequence.

K.CC.A.3 Write numbers from 0 to 20. Represent the number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

K.CC.B.5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1 to 20, count out that many objects.

Prior to the Task

Standards Preparation: The material in the chart below illustrates the standards and sample tasks that are prerequisites for student success with this task's standards.

GradeLevel Standards	The Following Standards Will Prepare Them	Items to Check for Task Readiness
K.CC.A.3	• K.CC.B.5	1. http://www.illustrativemathematics.org/illustrations/452 2. http://www.illustrativemathematics.org/illustrations/1397
K.CC.B.5	• K.CC.B.4b	1. http://www.illustrativemathematics.org/illustrations/1420

Task Materials:

- A variety of manipulatives to be counted
- Copy of the Counting Arrangements Picture Cards (run on cardstock and cut out prior to task—three pages)
- Copy of the Counting Arrangements Number Cards (run on cardstock and cut out prior to task—one page)
- One copy of the Teacher Recording Sheet for each student

Task Procedure:

By the end of this task, students will demonstrate their ability to count a set of objects arranged in a line, a rectangular array, and a circle and identify written numerals that represent a given set of objects. Students will also demonstrate the ability to count out a given number of objects. This task is designed to be completed as an interview with a student in a one-on-one situation. There will be three rounds for this task. For each round, the counting activity should be repeated multiple times.

Round 1:

1. Explain the task to the student. Say, "I will put some counters on the table. You will count to tell me how many counters are on the table."

2. Place five counters on the table in a line. Ask, "How many counters are on the table?"

    a. If the student states the correct number of counters without showing a clear strategy for counting, ask, "How do you know?" Note his or her response on the recording sheet.

    b. If the student states an incorrect number of counters, say, "Count the counters out loud for me." After the student counts the counters, ask, "How many counters did you count?" Students who are able to count the counters correctly but do not recognize the last number said as the number of objects counted have not mastered K.CC.B.4b, which is a prerequisite for K.CC.B.5.

3. Repeat step 2 five additional times, changing both the number of objects to be counted and the arrangement of the objects each time. The number of objects used each time should be from one to 10. The arrangements should be a line, a rectangular array, and a circle.

Round 2:

1. Lay the Counting Arrangements Number Cards on the table in front of the student. Say, "As I point to each numeral, say the number name of each numeral aloud with me." Say the number name of the numerals with the student as you point to each numeral. The numeral cards include only the numbers 5 through 10.

2. Explain the task to the student. Say, "You will select a picture card from this pile. When you turn the card over, you will count the number of objects on the picture card. Then you will match the number of objects on the picture card to the correct numeral card."

3. Mix up the pile of Counting Arrangements Picture Cards. Have the student select a card. Say, "Count the number of [smileys, blocks, or stars] on the card." After the student counts, ask, "Which numeral matches the number of [smileys, blocks or, stars] on the card?" To select the numeral, students may point to the correct numeral, move the numeral to the picture card, or move the picture card to the correct numeral card.

4. Have the student select a picture card and match it to the correct numeral three additional times.

Round 3:

1. Place 15 counters on the table. Explain the task to the student. Say, "Using these counters, you will count out the number of counters that matches the number I say."

2. Say, "Please count out seven counters for me." Allow the student time to count out the number of counters using the manipulatives provided.

    a. If the student counts out an incorrect number of manipulatives, have the student count the manipulatives he or she selected out loud. Then ask, "Is that seven counters?" Then have the student count out seven counters again.

3. Repeat this activity with the remaining numbers five through 10 until all numbers have been counted.

Task Notes:

This task should be used after students have had experience with counting five to 10 objects and recognizing/writing the numerals 0 to 10.

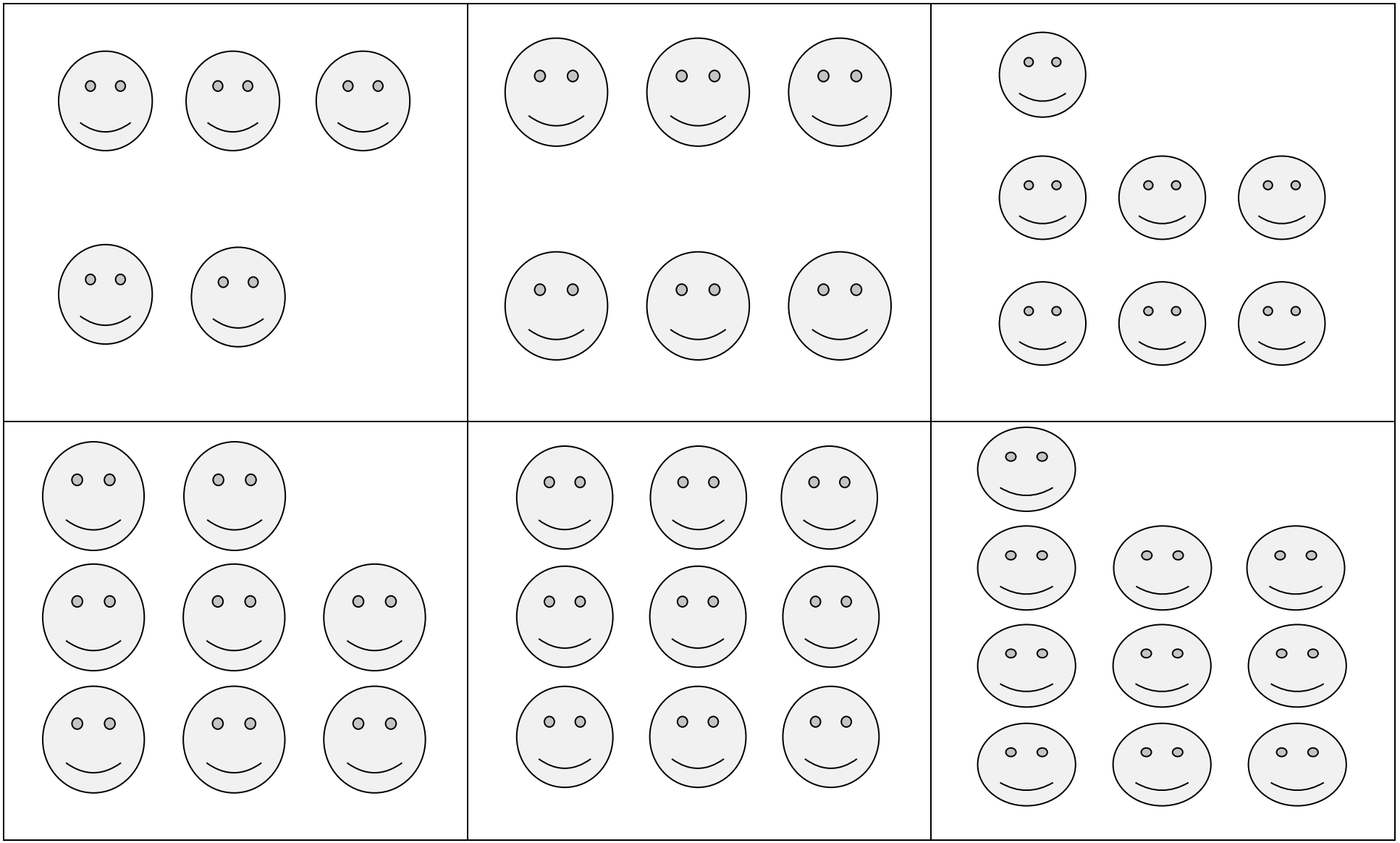
This task should be done throughout the year, using the following modifications as the needs of the students dictate:

- Write the numeral to represent the set of objects
- Include sets with counts of zero
- Include scattered arrangements of up to 10 objects
- Include up to 20 objects arranged in a line, a rectangular array, or a circle
- Count out up to 20 objects when given a number

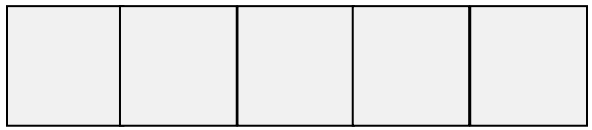
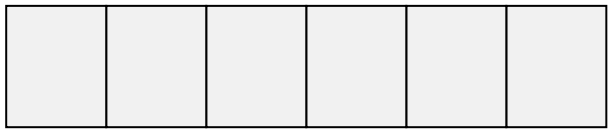
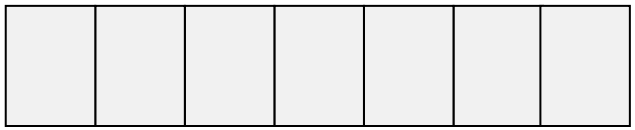
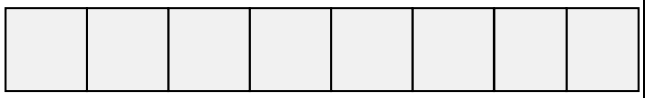
By the end of the year, all students should be able to complete this task with all of the modifications listed above.

Guide your assessment to suit the students' needs. If students experience difficulty with any round, consider whether the next round should be administered, as the level of difficulty increases with each round. Record any decisions made not to administer certain rounds on the recording sheet and provide an explanation to support the decision. In contrast, start the administration of the task with round 2 or 3 if students have clearly demonstrated abilities with counting concrete objects in a variety of arrangements through other formative assessment opportunities.

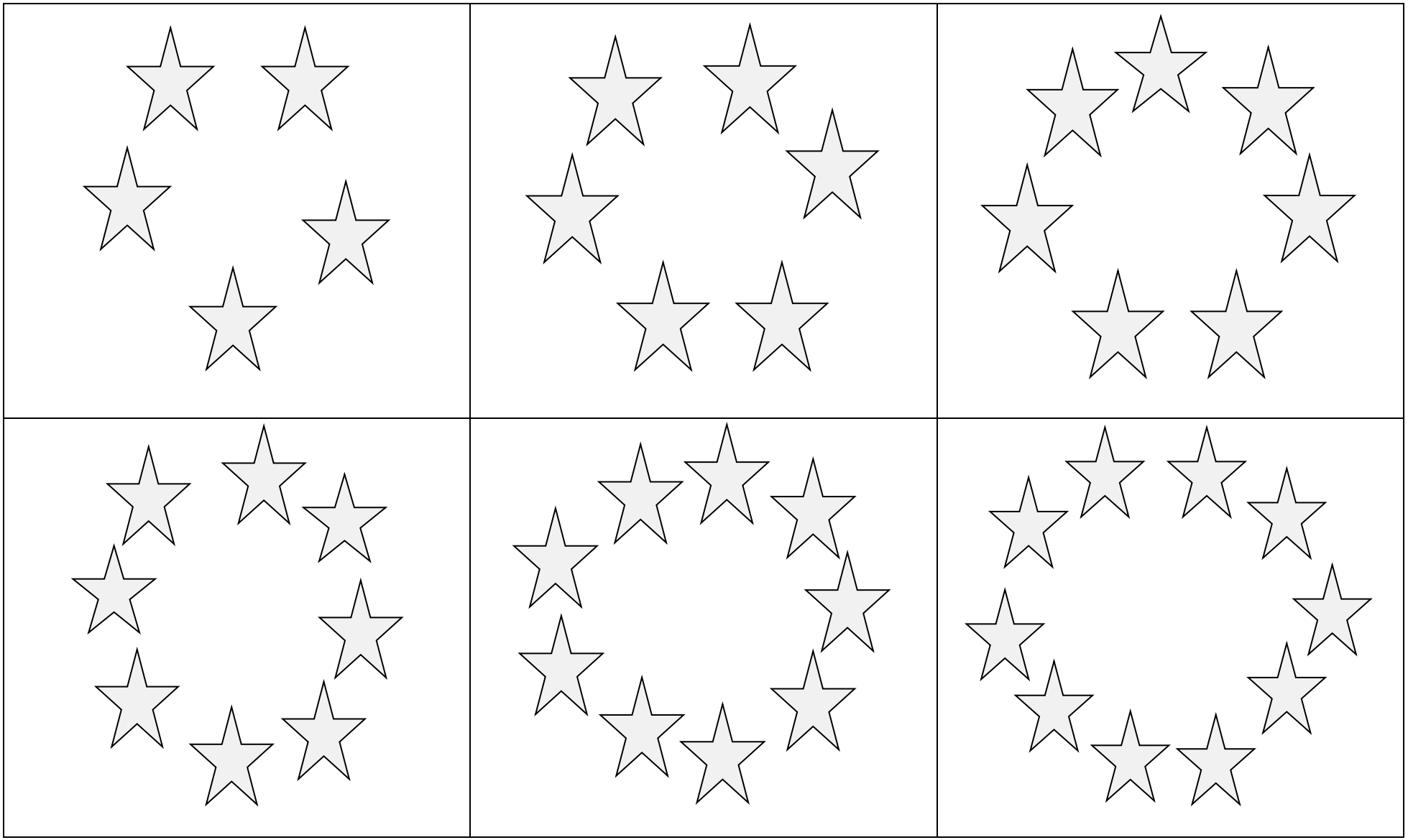
Counting Arrangements Picture Cards (1 of 3)



Counting Arrangements Picture Cards (2 of 3)

Counting Arrangements Picture Cards (3 of 3)



Counting Arrangements Number Cards

5	6	7
8	9	10

Teacher Recording Sheet—Counting Arrangements

STUDENT NAME:

Criteria	Emerging	Developing	Secure
Represent a number of objects with a written numeral 0-10			
Count to answer "how many?" questions about as many as 10 things arranged in a line			
Count to answer "how many?" questions about as many as 10 things arranged in a rectangular array			
Count to answer "how many?" questions about as many as 10 things arranged in a circle			
Given a number from 1 to 20, count out that many objects			
NOTES:			

Teacher Scoring Guide/Rubric—Counting Arrangements

Criteria (CCSS code)	Emerging	Developing	Secure
Represent a number of objects with a written numeral 0-10 (with 0 representing a count of no objects) (K.CC.A.3)	Student does not select the correct numeral to represent the given set of objects.	Student inconsistently selects the correct numeral to represent the given set of objects.	Student consistently and accurately selects the correct numeral to represent the given set of objects.
Count to answer "how many?" questions about as many as 10 things arranged in a line, a rectangular array, or a circle (K.CC.B.5)	Student does not accurately count objects in any arrangement.	Student inconsistently counts objects accurately in any arrangement.	Student consistently and accurately counts objects in all arrangements.
Given a number from 1 to 20, count out that many objects (K.CC.B.5)	Student does not count the correct number of objects for the given number.	Student inconsistently counts the correct number of objects for the given number.	Student consistently and accurately counts the correct number of objects for the given number.

Composing and Decomposing 11-19 (ECR)

Overview

Students will compose and decompose the numbers 11-19 using drawings and equations. This is designed to be an interview-style task. This task should be used formatively to determine students' understanding of the numbers 11-19.

Standard

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

K.NBT.A.1 Compose and decompose numbers from 11 to 19 into 10 ones and some further ones (e.g., by using objects or drawings) and record each composition or decomposition with a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of 10 ones and one, two, three, four, five, six, seven, eight, or nine ones.

Prior to the Task

Standards Preparation: The material in the chart below illustrates the standards and sample tasks that are prerequisites for student success with this task's standards.

Grade Level Standard	The Following Standards Will Prepare Them	Items to Check for Task Readiness	Sample Remediation Items
K.NBT.A.1	• K.OA.A.3	1. http://www.illustrativemathematics.org/illustrations/1404	• https://www.illustrativemathematics.org/illustrations/177 • https://www.illustrativemathematics.org/illustrations/176 • https://www.illustrativemathematics.org/illustrations/165

Task Materials:

- One copy of Composing 11-19 Picture Cards (2 pages; run on cardstock and cut into three cards—Card A, Card B, and Card C)
- Three copies of the Decomposing 11-19 Recording Sheet per student
- One copy of the Teacher Recording Sheet for each student

Task Procedure:

By the end of this task, students will demonstrate the ability to compose numbers from 11 to 19 by identifying pictures that represent a given number. They will create drawings or write equations to represent decompositions of the numbers 11-19. This task is designed to be completed as an interview with a student in a one-on-one situation. There will be two rounds for this task.

Round 1:

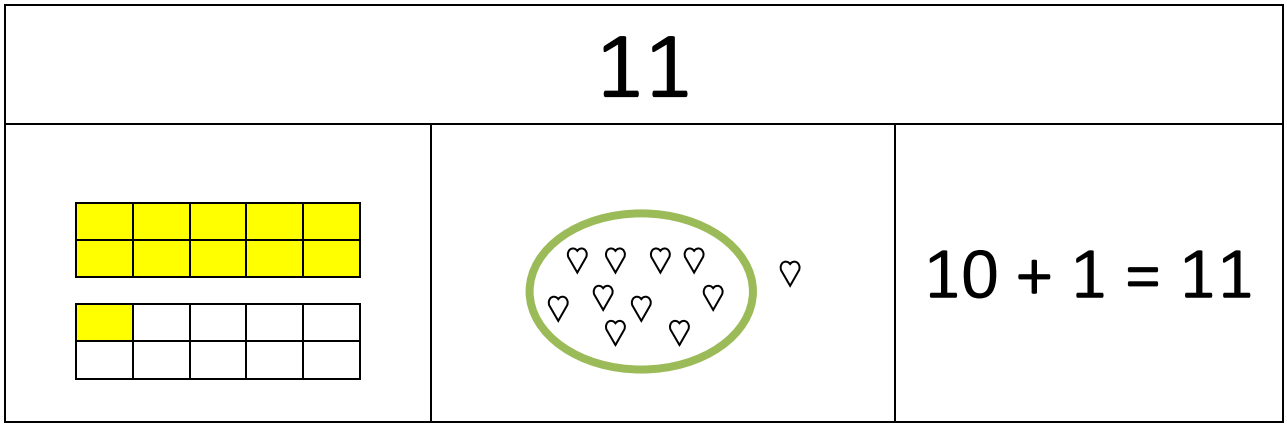
1. Say, “I will show you a card with four pictures. Then I will ask you to say the numeral that is the same as the number of objects on the card.” Place Card A on the table in front of the student. Card A has pictures for the numbers 15, 19, 11, and 12. Point to the first picture and ask, “What numeral is the same as the number of objects in this picture?” Allow the student time to respond. Ask, “How do you know that 15 is the correct numeral?” Repeat this series of questions with all of the pictures on Card A.

2. Say, “I will show you a different card with pictures to represent four numbers. Then I will ask you to point to the picture that shows 10 ones and some more ones.” Place Card B on the table in front of the student. The numbers represented on Card B are 18, 13, 17, and 14. Ask, “Which card shows 10 ones and 7 more ones?” Allow the student time to respond. Then ask, “What number is the same as 10 ones and 7 more ones?” Repeat this series of questions with one of the remaining pictures on Card B.

3. Say, “I will show you another card with pictures to represent four numbers. Then I will ask you to point to the picture that shows a number I say from 11 to 19.” Place Card C on the table in front of the student. The numbers represented on Card C are 13, 15, 16, and 19. Say, “Point to the picture that shows 16.” Allow the student time to respond. Then ask, “How do you know that picture shows 16?” Repeat this series of questions with one of the remaining pictures on Card C.

Round 2:

1. The Decomposing 11-19 Recording Sheet will be used for this round. This recording sheet will allow the student to record different decompositions of the number in the top row. Prior to the task, choose three numbers from 11 to 19 at random and write each of the chosen numbers in the top row of each recording sheet. The student will complete the three boxes below the given number (see the example below).



2. Explain the task to the student. Say, “On this page, there is a number. You will color in the 10 frame to build the number using 10 ones and some more ones. Then you will build the number by drawing a picture using 10 ones and some more ones in the second box. Last, you will write a number sentence to build the number using 10 ones and some more ones.”

3. Point to the number. Say, “This is the number ____.” Point to the first box and say, “Build the number ____ using 10 ones and some more ones in the 10 frame.” Allow the student to create his or her response. Then point

to the second box and say, “Build the number ____ by drawing a picture using 10 ones and some more ones.” After allowing the student to construct the response, point to the third box and say, “Write a number sentence that shows how to build the number using 10 ones and some more ones.”

4. Repeat step 3 with the remaining pages.

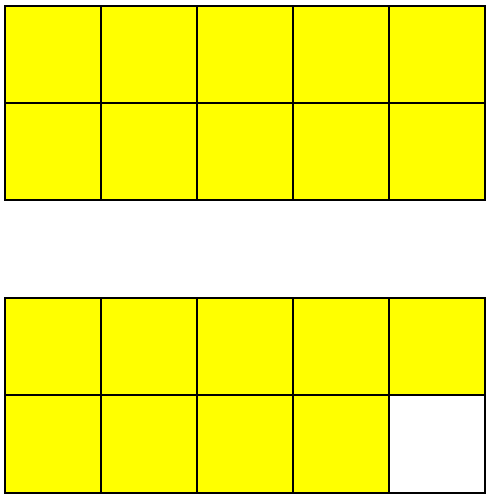
Task Notes:

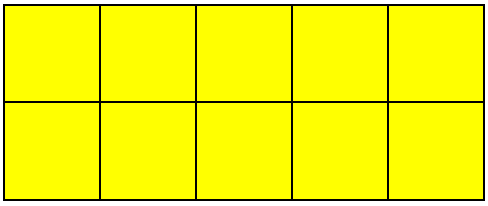
This task should be used after students have had experience with counting 11 to 19 objects and recognizing the numerals 11 to 19.

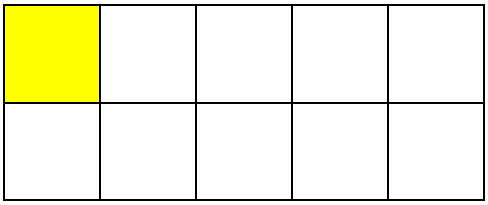
This task should be used throughout the year to check student progress with the identified skills. The task can be modified to save time by having students identify fewer numbers on each card for round 1. Also, students may complete fewer parts on the Decomposing 11-19 Recording Sheet in round 2.

This task could be modified in round 1 by having the child use manipulatives and a 10 frame to represent the numbers on Picture Card A.

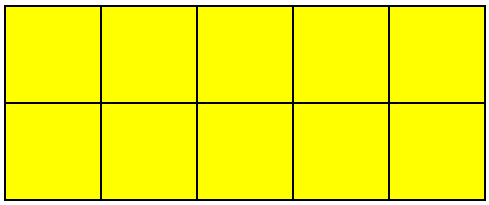
Composing 11-19 Picture Cards: Card A

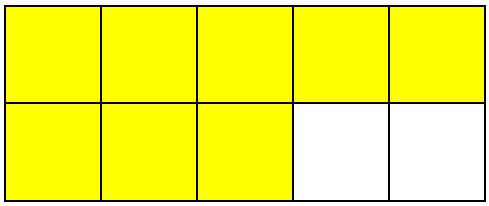


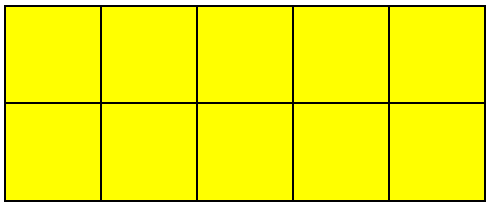


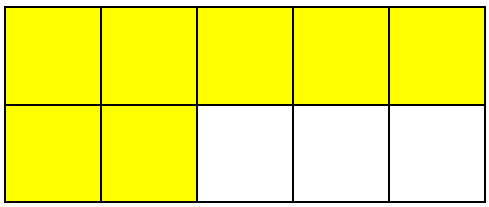


Composing 11-19 Picture Cards: Card B

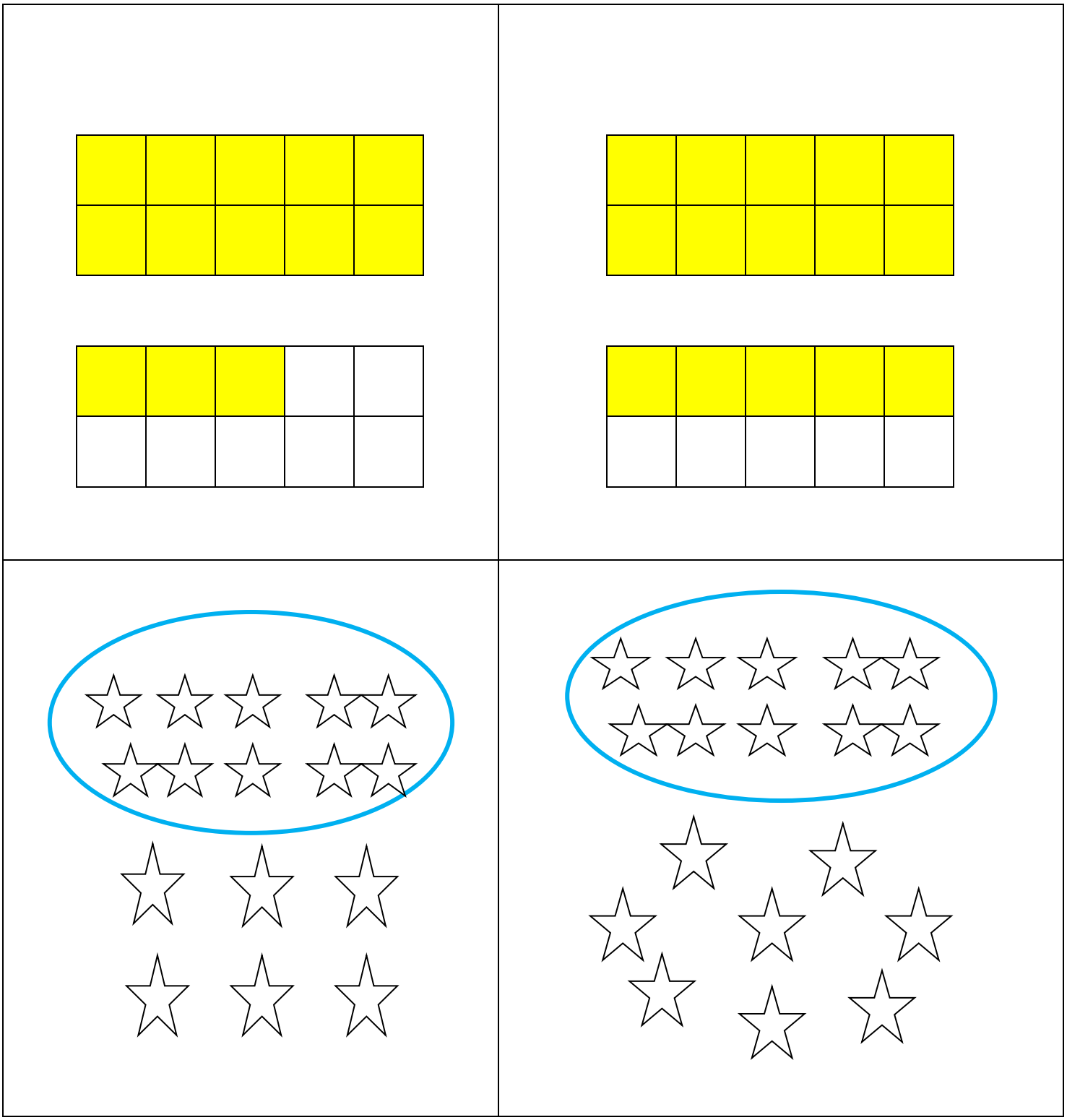




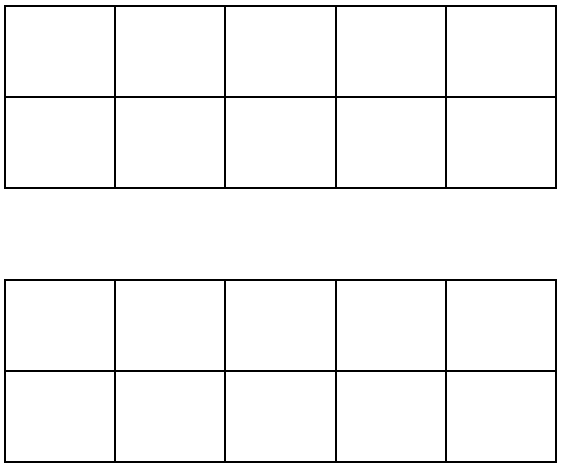




Composing 11-19 Picture Cards: Card C



Decomposing 11-19 Recording Sheet



___ + ___ = ____

Teacher Recording Sheet—Composing and Decomposing 11-19

STUDENT NAME:

Criteria	Emerging	Developing	Secure
Compose numbers from 11 to 19 using 10 ones and some further ones			
Decompose numbers from 11 to 19 into 10 ones and some further ones			
NOTES:			

Teacher Scoring Guide/Rubric—Composing and Decomposing 11-19

Criteria (CCSS code)	Emerging	Developing	Secure
Compose numbers from 11 to 19 using 10 ones and some further ones (K.NBT.A.1)	Student correctly identifies 0-4 numbers given pictures representing the numbers OR student correctly identifies the numbers but explains that he or she counted all objects (did not use 10 ones as a unit).	Student correctly identifies 5-7 numbers given pictures representing the numbers (using the 10 ones as a unit).	Student correctly identifies all numbers given pictures representing the numbers (using the 10 ones as a unit).
Decompose numbers from 11 to 19 into 10 ones and some further ones. (K.NBT.A.1)	Student represents the number in a 10 frame or with an equation in 0-1 opportunities OR student correctly represents the number in a 10 frame but does not use 10 ones as a unit.	Student represents the number in a 10 frame or with an equation in 2 opportunities (using the 10 ones as a unit).	Student accurately represents the number with the 10 frame and an equation in all 3 opportunities (using the 10 ones as a unit).

Addition and Subtraction within 10 (ECR)

Overview

Students will use objects and drawings to solve word problems involving addition and subtraction within 10. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with solving word problems within 10 and making 10.

Standards

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

K.OA.A.2 Solve addition and subtraction word problems, and add and subtract within 10 (e.g., by using objects or drawings to represent the problem).

K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number (e.g., by using objects or drawings), and record the answer with a drawing or equation.

Prior to the Task

Standards Preparation: The material in the chart below illustrates the standards and sample tasks that are prerequisites for student success with this task's standards.

Grade Level Standards	The Following Standards Will Prepare Them	Items to Check for Task Readiness	Sample Remediation Items
K.OA.A.2	• K.OA.A.1	1. https://www.illustrativemathematics.org/illustrations/70 2. https://www.illustrativemathematics.org/illustrations/1224 3. https://www.illustrativemathematics.org/illustrations/1151	• https://www.illustrativemathematics.org/illustrations/1406 • https://www.illustrativemathematics.org/illustrations/1405
K.OA.A.4	• K.OA.A.3	1. Provide students with counters and a 10 frame. Tell the students to put 3 counters on the 10 frame. Then ask, "How many more counters do you need to make 10?" Repeat this line of questioning with other numbers from one to nine. 2. http://standardstoolkit.k12.hi.us/do-you-have-k-oa-4/	• https://www.illustrativemathematics.org/illustrations/177 • https://www.illustrativemathematics.org/illustrations/175 • https://www.illustrativemathematics.org/illustrations/176

Task Materials:

- A variety of manipulatives to be used to model addition and subtraction
- One copy of the Addition and Subtraction Pictures (one per student or one copy to use with all students)
- One copy of the Making 10 Recording Sheet for each student
- Pencils, markers, or crayons
- One copy of the Teacher Recording Sheet for each student

Task Procedure:

By the end of the task, students will demonstrate their ability to solve word problems involving addition and subtraction within 10 using objects or drawings. They will also demonstrate their ability to determine which number would make 10 when added to any given number from one to nine. This task is designed to be completed as an interview with a student in a one-on-one situation. There will be two rounds for this task.

Round 1:

1. Say, "We will solve a story problem together. I will read the problem to you, and then we will find the answer together. There are three oranges in the bag. I put two more oranges in the bag. How many oranges are in the bag now?" Provide the student with the picture of the bag. Work with the student to show how he or she would use counters and/or drawings to find the answer. Discuss with the students how he or she is thinking about the problem as you work the problem together.

2. Explain the task to the student. Say, "I will read you a story problem. You will use the counters or drawings to answer the question in the story problem."

3. Provide the student with counters, blank paper, the Addition and Subtraction Pictures, and a pencil, markers, or crayons as needed. Read the following word problems one at a time, repeating each one as needed for the student to develop his or her answer. After the student provides his or her answer, say, "Tell me how you thought about the problem while you were working."

    - There are five apples on the table. I put three more apples on the table. How many apples are on the table now? (picture of a table provided)

    - There are nine oranges in a bag. I ate four of the oranges. How many oranges are left in the bag? (picture of a bag provided)

    - There are two red pencils and eight green pencils on the table. How many pencils are on the table? (picture of a table provided)

    - A boy has seven toy cars. He gives two of the toy cars to a friend. How many toy cars does the boy have now?

Round 2:

1. Say, "We will solve a story problem together. I will read the problem to you, and then we will find the answer together. If you have four toy cars, how many more toy cars will you need in order to have 10 toy cars?" Work

with the student to show how he or she would use counters and/or drawings to find the answer. Discuss with students how they are thinking about the problem as you work the problem together. After the student has found the correct answer, have the student record his or her answer on the Making 10 Recording Sheet Example Problem.

2. Say, "I will read you more story problems. You will use the counters or drawings to answer the questions in the story problems."

3. Provide the student with counters, a copy of the Making 10 Recording Sheet, and a pencil, marker, or crayon as needed. Say, "If I give you three flowers, how many more do you need so you can have 10 flowers? Draw a picture on your paper to show your thinking." Repeat the problem as needed for the student to develop his or her answer. After the student provides his or her answer, say, "Tell me how you thought about the problem." Repeat this series of questions with the problems below.

    a) You have two pennies. How many more pennies do you need to have 10 pennies?

    b) If you have six circles, how many more circles do you need so you can have 10 circles?

Task Notes:

This task should be used after students have had experience with representing addition and subtraction with objects, drawings, and explanations. Students should also have had experience with "Add To" and "Take From"—Result Unknown problems and "Put Together/Take Apart"—Total Unknown problems (for more information, see page 9 of the Operations and Algebraic Thinking Progression[1]).

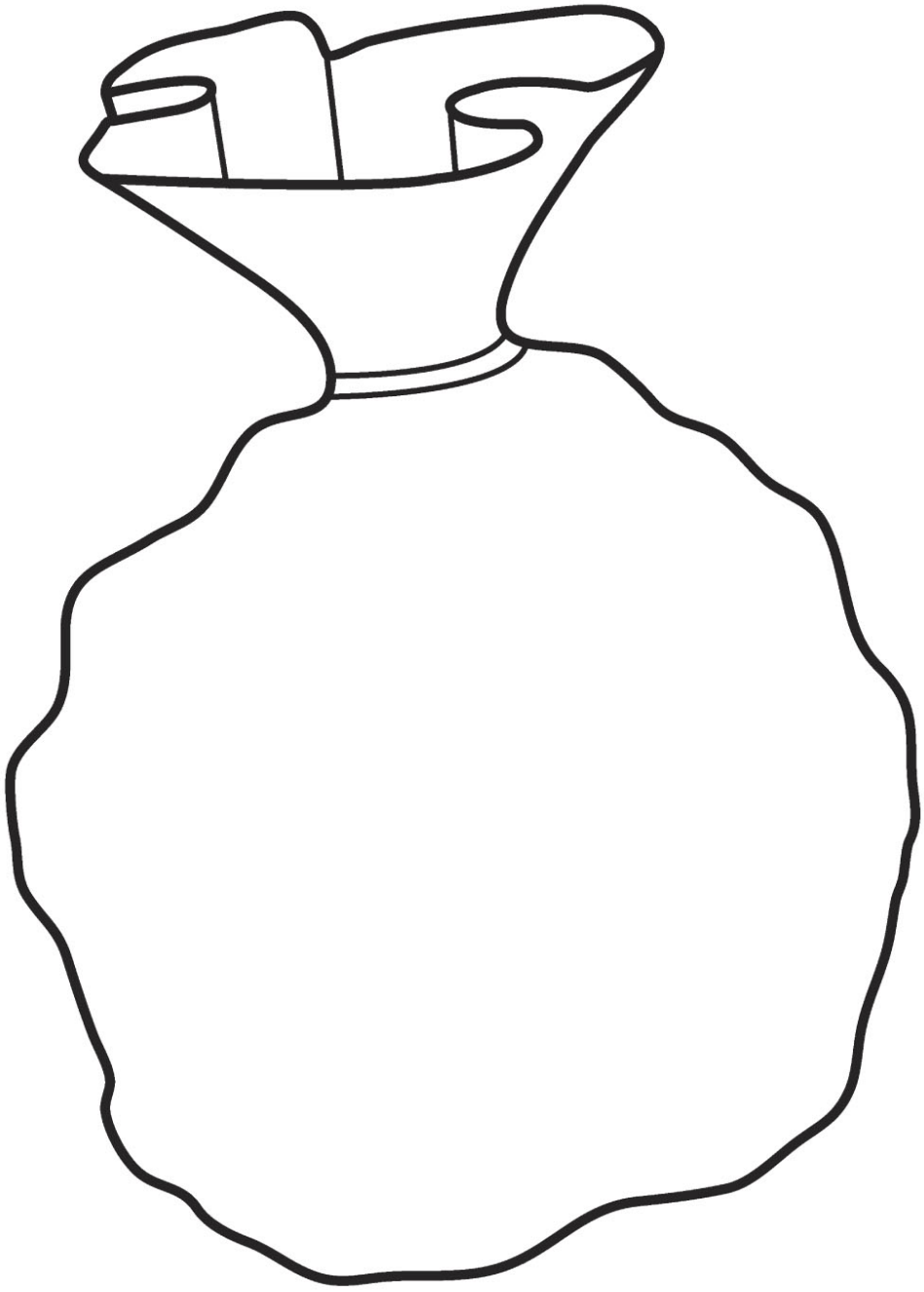
This task should be used throughout the year to determine each student's ability to solve story problems. Students who are capable should write equations to represent their thinking. This is not an expectation of all kindergarten students.

This task can be modified to focus only on addition or only on subtraction. Also, round 2 of the task may be administered separately.

[1] http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

Addition and Subtraction Pictures

Addition and Subtraction Pictures



Making 10 Recording Sheet Example

Draw pictures to show your thinking below.

1. If you have 4 toy cars, how many more toy cars do you need so you can have 10 toy cars?

Making 10 Recording Sheet Problem 1

Draw pictures to show your thinking below.

2. If I give you 3 flowers, how many more do you need so you can have 10 flowers?

Making 10 Recording Sheet Problem 2

Draw pictures to show your thinking below.

3. You have 2 pennies. How many more pennies do you need to have 10 pennies?

Making 10 Recording Sheet Problem 3

Draw pictures to show your thinking below.

4. If you have 6 stars, how many more stars do you need so you can have 10 stars?

Teacher Recording Sheet—Addition and Subtraction within 10

STUDENT NAME:

Criteria	Emerging	Developing	Secure
Represent addition and subtraction problems with objects, drawings, and verbal explanations			
For any number from 1 to 9, find the number that makes 10 when added to the given number and record the answer with a drawing or an equation			
NOTES:			

Teacher Scoring Guide/Rubric—Addition and Subtraction within 10

Criteria (CCSS code)	Emerging	Developing	Secure
Represent addition and subtraction problems with objects, drawings, and verbal explanations (K.OA.A.2)	Student is able to represent the addition or subtraction problem using objects, drawings, and/or a verbal explanation in 0-1 opportunities.	Student represents the addition or subtraction problem using objects, drawings, and/or a verbal explanation in 2-3 opportunities.	Student accurately represents the addition and subtraction problem using objects or drawings and a verbal explanation in all 4 opportunities.
For any number from 1 to 9, find the number that makes 10 when added to the given number and record the answer with a drawing or an equation (K.OA.A.4)	Student accurately finds the number that makes 10 in 0-1 opportunities OR student is unable to record the answers with a drawing or an equation.	Student accurately finds the number that makes 10 in 2 opportunities and can represent the answers with a drawing or an equation.	Student accurately finds the number that makes 10 in all 3 three opportunities and can represent the answers with a drawing or an equation.

How Many Are Hidden? (ECR)

Overview

Students will decompose numbers less than 10 in order to determine how many counters are hidden after some have been taken away. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with subtraction.

Standard

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

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

Prior to the Task

Standards Preparation: The material in the chart below illustrates the standards and sample tasks that are prerequisites for student success with this task's standards.

Grade Level Standard	The Following Standards Will Prepare Them	Items to Check for Task Readiness	Sample Remediation Items
K.OA.A.3	• K.OA.A.2	1. http://www.illustrativemathematics.org/illustrations/177 2. http://www.illustrativemathematics.org/illustrations/175 3. http://www.illustrativemathematics.org/illustrations/165	• https://www.illustrativemathematics.org/illustrations/70 • https://www.illustrativemathematics.org/illustrations/1405 • https://www.illustrativemathematics.org/illustrations/1151

Task Materials:

- Manipulatives to be counted (no more than 10 counters are needed; counters should be small enough to fit under a bowl)
- A bowl or cup (or some other means of covering counters)
- One copy of the Student Recording Sheet for each student (copy each round on a different sheet of paper)
- One copy of the Teacher Recording Sheet for each student

Task Procedure:

By the end of this task, students will determine the number of counters that are hidden to demonstrate the ability to decompose a number less than 10. This task is designed to be completed as an interview with a student in a one-on-one situation. There will be two rounds for this task. For each round, repeat the series of actions four times, hiding a different number of counters each time.

Round 1:

1. Before beginning the first round, give the student a copy of the recording sheet for round 1 and model the steps for the student.

    a. Place five counters on the table in front of the student. Say, "There are five counters. Count them with me." Count aloud with the student, pointing to each counter.

    b. While the student is watching, remove one counter from the set and hold it in your hand. Ask, "How many counters do you see?" Allow the student time to respond (the student may count the counters to get the answer). Guide the student to record his or her work on the recording sheet in the *Example* box using drawings or numbers. Then ask, "If we started with five counters, how many are hidden in my hand?" Guide the student to record his or her work on the recording sheet in the *Example* box using drawings or numbers.

2. Explain the task to the student. Say, "We will always start with five counters. You will close your eyes, and I will hide some counters. When you open your eyes, you will tell me how many counters I have hidden in my hand. On your paper, you will draw a picture or use numbers to show your answer." Show the student where to record his or her work.

3. Place all five counters on the table. Have the student close his or her eyes. Remove a number of counters. Tell the student to open his or her eyes. Ask, "How many counters do you see? On your paper, draw a picture or use numbers to show your answer." Show the student where to record his or her work. Then ask, "If we started with five counters, how many counters are hidden in my hand?" After the student states his or her response, say, "On your paper, draw a picture or use numbers to show your answer." Show the student where to record his or her work.

4. Repeat these steps three more times, taking away a different number of counters each time.

Round 2:

1. Before beginning the second round, give the student a copy of the recording sheet for round 2 and model the steps for the student.

    a. Place the five counters on the table in front of the student. Say, "There are five counters. Count them with me." Count the counters aloud with the student, pointing to each counter. After counting, place a bowl (or cup) over the counters to hide them. Ask, "How many counters are under the bowl?"

    b. Without uncovering the counters, have the student watch as the bowl is lifted slightly and one counter is removed from the set. Ask, "How many counters did I take out? How many counters can you see?" Then ask, "If there were five counters under the bowl and I took one out, how many counters are hidden under the bowl now?" Allow the student time to respond. Guide the student to record his or her work on the recording sheet in the *Example* box using drawings or numbers.

2. Explain the task to the student. Say, "Five counters will be hidden under the bowl. You will close your eyes, and I will take some counters from under the bowl. When you open your eyes, you will tell me how many counters

are hidden under the bowl. On your paper, you will draw a picture or use numbers to show your answer." Show the student where to record his or her work.

3. Show the student the five counters. Cover the five counters with the bowl. Have the student close his or her eyes. Remove a number of counters from under the bowl. Tell the student to open his or her eyes. Ask, "How many counters can you see? On your paper, draw a picture or use numbers to show your answer." Show the student where to record his or her work. Then ask, "If there were five counters hidden under the bowl and I took away these counters, how many counters are hidden under the bowl now?" After the student states his or her response, say, "On your paper, draw a picture or use numbers to show your answer." Show the student where to record his or her work.

4. Repeat this activity three more times, taking away a different number of counters each time.

Task Notes:

If students are struggling with decomposing the number with hidden objects, have students show different ways to decompose the number using different color counters. Another modification is to use a smaller number of objects, such as three or four objects in the task, as students may not be able to decompose 5 yet.

This task should be used throughout the year, increasing the total number of counters to 10. While this task focuses on the decomposition of numbers less than 10, the task can be modified to address an understanding of subtraction by having students write or draw subtraction sentences for their answers (e.g., 5 take away 3 is 2).

Student Recording Sheet—How Many Are Hidden?

There are 5 counters. How many are hidden? How many can be seen? Draw a picture or use numbers to show your answer.

Example:

5 is Seen ☐ and Hidden ☐.

Round 1:

5 is Seen ☐ and Hidden ☐.

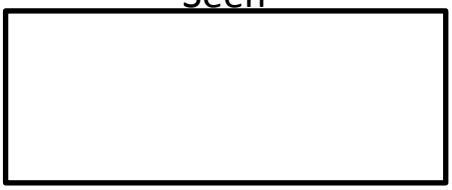
5 is Seen ☐ and Hidden ☐.

5 is Seen ☐ and Hidden ☐.

5 is Seen ☐ and Hidden ☐.

There are 5 counters. How many can be seen? How many are hidden? Draw a picture or use numbers to show your answer.

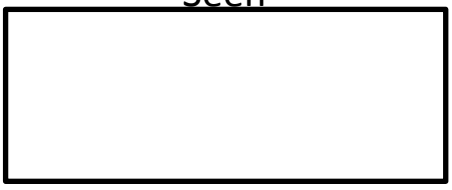
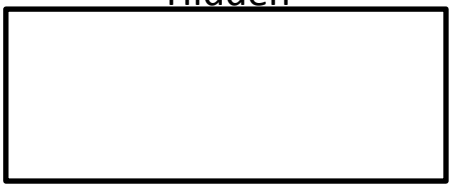
Example:

5 is  and  .

Seen

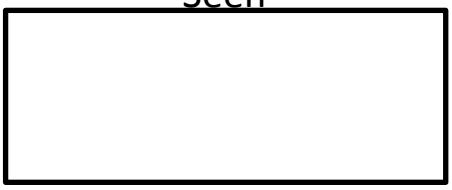
Hidden

Round 2:

5 is  and  .

Seen

Hidden

5 is  and  .

Seen

Hidden

5 is  and  .

Seen

Hidden

5 is  and  .

Seen

Hidden

Teacher Recording Sheet—How Many Are Hidden?

STUDENT NAME:

Criteria	Emerging	Developing	Secure
Decompose the number 5 into pairs in more than one way			
Record each decomposition of 5 by a drawing or an equation			
NOTES:			

Teacher Scoring Guide/Rubric—How Many Are Hidden?

Criteria (CCSS code)	Emerging	Developing	Secure
Decompose the number 5 into pairs in more than one way (K.OA.A.3)	Student does not accurately identify any decompositions of 5 based on the number counters that are hidden.	Student is inconsistent when identifying decompositions of 5 based on the number of counters that are hidden. Student only recognizes one or two different pairs.	Student consistently and accurately identifies all decompositions of 5 based on the number of counters that are hidden.
Record each decomposition of 5 by a drawing or an equation (K.OA.A.3)	Student does not accurately represent the decomposition of 5 based on their verbal statement.		Student accurately represents the decomposition of 5 based on his or her verbal statement.

Sorting, Counting, and Comparing (ECR)

Overview

Students will sort cubes or other counters by color, count the cubes in each category, and sort the categories by count. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with these skills.

Standards

Know number names and the count sequence.

K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

K.CC.B.5 Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1 to 20, count out that many objects.

Compare numbers.

K.CC.C.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (e.g., by using matching and counting strategies).

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

K.MD.B.3 Classify objects into given categories; count the number of objects in each category and sort the categories by count.

Prior to the Task

Standards Preparation: The material in the chart below illustrates the standards and sample tasks that are prerequisites for student success with this task's standards.

Grade Level Standard	The Following Standards Will Prepare Them	Items to Check for Task Readiness	Sample Remediation Items
K.CC.A.3		1. http://www.illustrativemathematics.org/illustrations/398 2. http://www.illustrativemathematics.org/illustrations/399 3. http://www.illustrativemathematics.org/illustrations/400 4. http://www.illustrativemathematics.org/illustrations/1397	
K.CC.B.5	• K.CC.B.4b	1. http://www.illustrativemathematics.org/illustrations/1420	

Grade Level Standard	The Following Standards Will Prepare Them	Items to Check for Task Readiness	Sample Remediation Items
K.CC.C.6		1. http://www.illustrativemathematics.org/illustrations/1210	
K.MD.B.3	• K.CC.C.6 • K.MD.A.2	1. http://www.illustrativemathematics.org/illustrations/799 2. http://www.illustrativemathematics.org/illustrations/990 3. http://www.illustrativemathematics.org/illustrations/1403	• https://www.illustrativemathematics.org/illustrations/1210 • https://www.illustrativemathematics.org/illustrations/455 • https://www.illustrativemathematics.org/illustrations/1402 • https://www.illustrativemathematics.org/illustrations/1604

Task Materials:

- Two different color unit cubes (red and blue are used in this task; other manipulatives can be substituted for the unit cubes); no more than 10 unit cubes of each color are needed
- One copy of the Student Recording Sheet for each student (there are two copies on the page included in this task)
- One copy of the Teacher Recording Sheet for each student

Task Procedure:

By the end of this task, students will sort and count cubes by color. They will record the number of cubes in each group. Then they will determine which group has more cubes. This task is designed to be completed as an interview with a student in a one-on-one situation.

1. Prior to the beginning of the task, determine the number of each color unit cube to be used and combine the two colors in a scattered arrangement on the table. For example, scatter 3 red unit cubes and 5 blue unit cubes on the table.
2. Ask the student to sort the cubes by color.
3. Give the student a copy of the Student Recording Sheet. Show the student the boxes where he or she will write the numbers. Say to the student, "Count the red cubes out loud for me." When the student finishes counting, say, "Write the number in the red box." Repeat this with the blue cubes.
    a. As the student works, take notes about his or her counting strategies (e.g., counting by moving, touching or pointing to the cubes, or counting silently).
    b. If a student is struggling to count the cubes, prompt him or her to start by pointing at the first cube and saying, "One." Then ask the student, "What number comes next?" Continue until the student begins counting on his or her own or until you have counted all of the cubes with the student. Note any assistance given on the Teacher Recording Sheet.

4. Ask the student, “Are there more red cubes or blue cubes?” Give the student time to develop a response. When the student answers, ask, “How do you know?” Take notes about the student’s strategy for determining which group has more cubes.

Task Notes:

Continue to use this task throughout the year to check student progress with the identified skills. The number of objects counted in a group should increase to a maximum of 10 by the end of the year. If students are not able to write the numeral, provide students with numeral cards to determine if they recognize the correct numeral to represent the number of cubes in each group. For students who may find this task “too easy,” modify the task by increasing the number of groups to compare or by providing objects that could be sorted by multiple attributes, such as shape or size, and allow the student to determine how he or she will sort the objects.

Student Recording Sheet—Sorting, Counting, and Comparing

How many cubes are in each group? Write the number in the boxes below.

red	blue

Student Recording Sheet—Sorting, Counting, and Comparing

How many cubes are in each group? Write the number in the boxes below.

red	blue

Teacher Recording Sheet—Sorting, Counting, and Comparing

STUDENT NAME:

Criteria	Emerging	Developing	Secure
Classify the objects into given categories			
Count to answer "how many?"			
Write numbers 0-20			
Identify which group is greater than or less than			
NOTES:			

Teacher Scoring Guide/Rubric—Sorting, Counting, and Comparing

Criteria (CCSS code)	Emerging	Developing	Secure
Classify the objects into given categories (K.MD.B.3)	Student does not accurately sort objects into groups and does not explain how he or she sorted them.	Student accurately sorts objects into groups but does not explain how he or she sorted them.	Student accurately sorts objects into groups and is able to explain how he or she sorted them.
Count to answer "how many?" (K.CC.B.5, K.MD.B.3)	Student does not accurately count the objects in each group.	Student does not accurately count, but indicates that the last number stated is how many are in the set. OR Student counts correctly but gives a different number as the number in the group.	Student accurately counts the objects in each group.
Write numbers 0-20 (K.CC.A.3)	Student is unable to write numbers.	Student writes one of the 2 numbers correctly.	Student writes both numbers correctly.
Identify which group is greater than or less than (K.CC.C.6, K.MD.B.3)	Student does not identify which group has more or less.	Student is inconsistent when identifying which group has more or less.	Student consistently identifies which group has more or less.