

## Length (ECR)

### Overview

The student will demonstrate an understanding of length. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with these skills.

### Standards

#### Measure lengths indirectly and by iterating length units.

**1.MD.A.1** Order three objects by length; compare the lengths of two objects indirectly by using a third object.

**1.MD.A.2** Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

### 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
1.MD.A.1	<ul style="list-style-type: none"><li>K.MD.A.2</li></ul>	<ol style="list-style-type: none"><li>A fork is longer than a spoon. A fork is shorter than a knife. Put the three objects in order from longest to shortest.<ol style="list-style-type: none"><li>Knife, fork, spoon</li></ol></li></ol>	<ul style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/455">https://www.illustrativemathematics.org/illustrations/455</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/456">https://www.illustrativemathematics.org/illustrations/456</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/1402">https://www.illustrativemathematics.org/illustrations/1402</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/1604">https://www.illustrativemathematics.org/illustrations/1604</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/1605">https://www.illustrativemathematics.org/illustrations/1605</a></li></ul>
1.MD.A.2	<ul style="list-style-type: none"><li>1.MD.A.1</li></ul>	<ol style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/797">https://www.illustrativemathematics.org/illustrations/797</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/688">https://www.illustrativemathematics.org/illustrations/688</a></li></ol>	

## Task Materials

1. At least three objects of varying lengths (such as a straw, a pencil, and a marker)
2. Small objects for measuring (such as paper clips, colored tiles, or unit cubes)
3. One copy of the Teacher Recording Sheet for each student

## Task Procedure

By the end of this task, students will demonstrate the ability to compare the lengths of a variety of objects and order three objects by their length. Students will also measure objects and express the length as a whole number of length units. 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. Place a pencil and a straw on the table in front of the student. Be sure they have different lengths. Ask, "Which of these is longer?" After the student gives his or her answer, ask, "How do you know?" If the student struggles to compare the length of the two objects, remind him or her to line up the end of the objects. Note any assistance given on the Teacher Recording Sheet.
2. Replace the straw with a marker. Be sure the pencil and the marker have different lengths. Ask, "Which of these is longer?" After the student gives his or her answer, ask, "How do you know?" If the student struggles to compare the length of the two objects, remind him or her to line up the end of the objects. Note any assistance given on the Teacher Recording Sheet.
3. Place the straw and the marker on the table in front of the student. Be sure the objects have different lengths. Ask, "Which of these is longer?" After the student gives his or her answer, ask, "How do you know?" If the student struggles to compare the length of the two objects, remind him or her to line up the end of the objects. Note any assistance given on the Teacher Recording Sheet.
4. Place all three objects used in steps 1 and 2 (pencil, straw, and marker) on the table in front of the student. Say, "Put these objects in order from longest to shortest." Allow the student time to order the objects, making a note of the strategy he or she uses to order the objects. Then ask, "How do you know the \_\_\_\_\_ is the longest?" *A sample response might be: "I know the straw is longer than the pencil, and the pencil is longer than the marker. So the straw is the longest of the three."* If the student incorrectly orders the objects, ask him or her to explain how he or she decided the order. If necessary, have the students compare the objects two at a time again while all three objects are visible. Note any assistance given on the Teacher Recording Sheet.

### Round 2

1. Place an ink pen (an object that is different than the three used in steps 1 through 4) on the table in front of the student. Say, "Let's work together to measure this pen with these paper clips." Work with the student to lay paper clips next to the pen. Be sure the student is placing the paper clips end to end. Once the paper clips are laid out, ask, "How many paper clips did we use to measure the pen?" Allow the student to count the number of paper clips. Then say, "The pen is \_\_\_\_\_ paper clips long." Have the student repeat the statement.

2. Explain the task to the student. Say, “You will measure the straw, the pencil, and the marker using paper clips. Then you will tell me the length of the objects in paperclips.”
3. Place the straw on the table and provide the student with paper clips to measure the straw. Ask the student to measure the straw with the paper clips. Be sure to give the student more paper clips than he or she will need. Once the student has finished measuring, ask, “How many paper clips long is the straw?” The student should answer by stating the whole number of paper clips used (first-grade students are not expected to identify fractions of measurement units.) Be sure to have students state the measurement unit used (e.g., “The straw is 10 paper clips long”). If the student exhibits distress because he or she is not sure how to count the last paper clip (if it extends beyond the end of the object being measured), remove the last paper clip and tell the student to count the paper clips that remain. This should be counted as a correct measurement.
4. Repeat step 3 with the pencil and the marker.

### **Task Notes**

Other objects besides those identified in the task can be used. Be sure that the objects used for the comparison have different lengths. The teacher could also ask students to identify the object that is shorter each time.

This task should be repeated at various times throughout the year to determine student progress with these skills. Students’ abilities should progress so that they can compare the lengths of other objects found in the classroom.

An extension to this task could be to have students find three items in the classroom and bring them to the table. The students would then compare the lengths of the three identified items. The students would also measure the three items using measurement units such as paper clips, counters, pencils, etc.

## Teacher Recording Sheet—Length

STUDENT NAME:

Criteria (CCSS code)	Emerging	Developing	Secure
Compare the lengths of two objects indirectly by using a third object			
Order three objects by length			
Express the length of an object as a whole number of length units			
NOTES (include any assistance provided):			

## Teacher Scoring Guide/Rubric—Length

Criteria (CCSS code)	Emerging	Developing	Secure
Compare the lengths of two objects indirectly by using a third object (1.MD.A.1)	Student does not accurately compare the length of two objects.		Student accurately compares the length of two objects.
Order three objects by length (1.MD.A.1)	Student does not accurately order three objects by length.	Student reverses the order when ordering three objects by length.	Student accurately orders three objects by length.
Express the length of an object as a whole number of length units (1.MD.A.2)	Student does not accurately place objects end to end to measure the length of an object, and gives an incorrect length of an object.	Student correctly places objects end to end to measure the length of an object but miscounts.	Student accurately places objects end to end to measure the length of an object, and correctly expresses the length of an object.

## Two-Digit Numerals (ECR)

### Overview

Students will demonstrate an understanding of tens and ones by drawing representations of two-digit numbers. Students will also be able to mentally find 10 more or 10 less than a given two-digit number. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with these skills.

### Standards

#### Understand place value.

**1.NBT.B.2** Understand that the two digits of a two-digit number represent amounts of tens and ones.

#### Use place value understanding and properties of operations to add and subtract.

**1.NBT.C.5** Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

### 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
1.NBT.B.2	<ul style="list-style-type: none"><li>K.NBT.A.1</li><li>1.NBT.A.1</li></ul>	<ol style="list-style-type: none"><li>Explain what each digit means in the number 26.<ol style="list-style-type: none"><li>The number 2 means 2 tens, and the number 6 means 6 ones.</li></ol></li><li><a href="https://www.illustrativemathematics.org/illustrations/987">https://www.illustrativemathematics.org/illustrations/987</a></li></ol>	<ul style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/1404">https://www.illustrativemathematics.org/illustrations/1404</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/405">https://www.illustrativemathematics.org/illustrations/405</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/681">https://www.illustrativemathematics.org/illustrations/681</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/678">https://www.illustrativemathematics.org/illustrations/678</a></li></ul>
1.NBT.C.5	<ul style="list-style-type: none"><li>1.NBT.B.2</li></ul>	<ol style="list-style-type: none"><li>What number is 10 more than 45?<ol style="list-style-type: none"><li>55</li></ol></li><li>What number is 10 less than 76?<ol style="list-style-type: none"><li>66</li></ol></li></ol>	<ul style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/1150">https://www.illustrativemathematics.org/illustrations/1150</a></li></ul>

### Task Materials

- Base ten blocks
- Pencil
- One copy of Two-Digit Numeral Cards (copy on cardstock and cut out)
- One copy of the Student Recording Sheet for each student
- One copy of the Teacher Recording Sheet for each student

## Task Procedure

Students will demonstrate their understanding of place value by identifying the two-digit number represented in various ways. Students will represent given two-digit numbers with drawings. Students will also mentally find 10 more and 10 less than a two-digit number. This task is designed to be completed as an interview with a student in a one-on-one situation or with a small group. Students should have experience working with base ten blocks prior to this task. There will be three rounds for this task. Students should also have experience drawing representations of tens/ones prior to this task.

### Round 1

1. Explain the task to the student. Say, "I will place some base ten blocks on the table. You will tell me which two-digit number the blocks represent." If necessary, remind students that the rod represents 10 and the single unit represents one.
2. Place three rods and 4 single cubes on the table (34). Ask, "What two-digit number is represented by the blocks?" Allow the student time to answer. Then ask, "How do you know?" If the student struggles to answer initially, prompt him or her by asking how many tens and how many ones are on the table. Then ask the student to identify the correct two-digit number.
3. Repeat step 2 two more times with two different two-digit numbers.

### Round 2

1. Explain the task to the student. Say, "I will show you a two-digit numeral. You will draw a picture showing the number of tens and ones in the number." Some children may need to build the number with the blocks prior to drawing the tens/ones. Note this modification on the recording sheet.
2. Give the student a copy of the Student Recording Sheet. Using the Two-Digit Numeral Cards, show the student the numeral 28. Say, "This is the number 28. Write the numeral in the box." Show the student where to write the numeral on the recording sheet. Then say, "Draw a picture showing how many tens and how many ones are in the number 28." Allow students time to draw the picture. Then ask, "How many tens did you draw? How many ones did you draw?"
3. Repeat step 5 with two additional cards from the nine provided in this task.

### Round 3

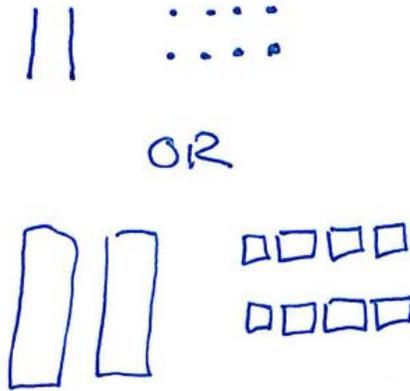
1. Explain the task to the student. Say, "I will show you a two-digit numeral. You will find 10 more or 10 less than the number."
2. Show the student the numeral 28. Say, "This is the number 28. What is 10 more than 28?" Allow the student time to answer. Then ask, "How do you know 38 is 10 more than 28?"
3. Repeat Step 8 with two additional cards from the nine provided in this task. Use "more" or "less" interchangeably throughout this task.

### Task Notes

This task should be repeated throughout the year to check student progress with understanding place value. At the beginning of the school year, the numbers used in the task should be less than 20. By the end of the school year, students should be able to complete this task with any number from 11 through 99.

If three-dimensional base ten blocks are not available, there are templates available on the Internet that can be downloaded, copied, and cut out to create a two-dimensional set of base ten blocks. Copy the templates on cardstock and laminate them for durability and multiple uses.

If students struggle to draw a picture in round 2, provide them with the base ten block manipulatives used in round 1. Have students use the concrete representation to create the picture. Student pictures in round 2 do not have to be drawn as rectangles and squares. Students should show a difference between a 10 and a one (e.g., using a “rod” or line for 10 and a “unit” or dot for one). Below are some possible representations students might use that would be acceptable.



Students who show a group of 10 single units (i.e., a group of 10 dots that are circled) have not mastered the concept of a bundle of 10 units being one “ten.”

If students are struggling to find 10 more or 10 less in round 3, provide them with a hundreds chart (if it has been used in class) or the base ten manipulatives to help them find the answer. Make notes of any assistance provided on the Teacher Recording Sheet.

Two-Digit Numeral Cards

16

28

32

45

60

57

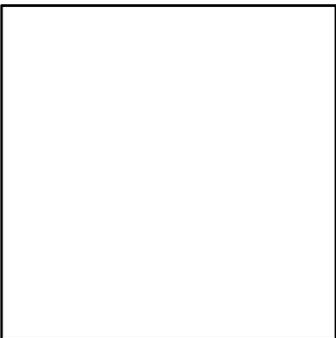
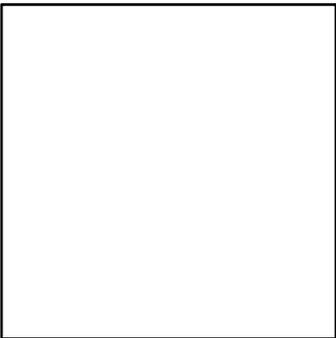
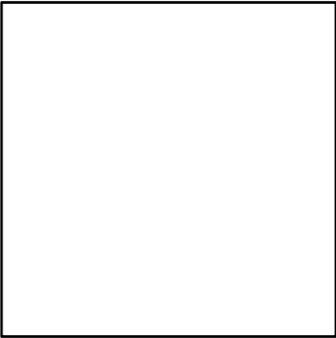
71

89

94

**Student Recording Sheet—Two-Digit Numerals**

Draw a picture showing how many tens and how many ones are in the given number.



## Teacher Recording Sheet—Two-Digit Numerals

STUDENT NAME:

Criteria (CCSS code)	Emerging	Developing	Secure
Understand that the two digits of a two-digit number represent amounts of tens and ones			
Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count			
Explain the reasoning used to find 10 more or 10 less than a given two-digit number			
NOTES (include any assistance provided):			

## Teacher Scoring Guide/Rubric—Two-Digit Numerals

Criteria (CCSS code)	Emerging	Developing	Secure
Understand that the two digits of a two-digit number represent amounts of tens and ones (1.NBT.B.2)	Student does not accurately draw pictures to represent the tens and ones of a two-digit number.		Student accurately draws pictures to represent the tens and ones of a two-digit number.
Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count (1.NBT.C.5)	Student does not accurately identify numbers 10 more and 10 less than given numbers.	Student accurately identifies either 10 more <b>or</b> 10 less than given numbers.	Student accurately identifies numbers 10 more <b>and</b> 10 less than given numbers.
Explain the reasoning used to find 10 more or 10 less than a given two-digit number (1.NBT.C.5)	Student does not accurately explain how he or she found 10 more than and 10 less than given numbers.	Student accurately explains either how he or she found 10 more than <b>or</b> 10 less than given numbers.	Student accurately explains how he or she found 10 more than <b>and</b> 10 less than given numbers.

## Solving Word Problems (ECR)

### Overview

Students will use objects and drawings to solve word problems involving addition and subtraction within 20. Students will also solve word problems involving three addends. This task is designed to be administered as an interview with one student or with a small group of students. This task should be used formatively to determine students' abilities with solving word problems involving addition and subtraction within 20 and involving three addends.

### Standards

#### Represent and solve problems involving addition and subtraction.

**1.OA.A.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions., e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**1.OA.A.2** Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

### 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
1.OA.A.1	<ul style="list-style-type: none"><li>K.OA.A.2</li></ul>	<ol style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/160">https://www.illustrativemathematics.org/illustrations/160</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/162">https://www.illustrativemathematics.org/illustrations/162</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/194">https://www.illustrativemathematics.org/illustrations/194</a></li></ol>	<ul style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/70">https://www.illustrativemathematics.org/illustrations/70</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/1151">https://www.illustrativemathematics.org/illustrations/1151</a></li></ul>
1.OA.A.2	<ul style="list-style-type: none"><li>1.OA.A.1</li></ul>	<ol style="list-style-type: none"><li><a href="https://www.illustrativemathematics.org/illustrations/468">https://www.illustrativemathematics.org/illustrations/468</a></li></ol>	<ul style="list-style-type: none"><li><a href="http://standardstoolkit.k12.hi.us/common-core/mathematics/mathematics-assessments/assessment-listing/?code=1.OA">http://standardstoolkit.k12.hi.us/common-core/mathematics/mathematics-assessments/assessment-listing/?code=1.OA</a></li></ul>

### Task Materials

- A variety of manipulatives used to model addition and subtraction
- One copy of the Solving Word Problems Recording Sheet for each student (three pages)
- One copy of the Three Addends 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 20 using objects or drawings. They will also demonstrate their ability to solve word problems involving three addends. Students will solve word problems with unknowns in various positions. This task is designed to be completed as an interview with a student in a one-on-one situation or with a small group of students. There will be two rounds for this task.

### Round 1

1. Say, “We will solve two story problems together. I will read each problem to you, and then we will find the answers together.” Show the students the first example problem on the Solving Word Problems Recording Sheet. Say, “There are 7 boys and 11 girls in the classroom. How many students are in the classroom?” Work with the students to show how they 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. Have students record their work on the recording sheet.
2. Show the students the second example problem and say, “Here is the second problem. There are 18 students in the classroom. 11 of the students are girls. How many students are boys?” Again, work with the students to show how they 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. Have students record their work on the recording sheet.
3. Explain the task to the students. Say, “I will read you some story problems. You will use the counters or drawings to answer the question in each story problem. You will record your work on the paper.”
4. Provide the students with counters, the Solving Word Problems Recording Sheet (three pages), and a pencil, marker, or crayon as needed. Read the following word problems one at a time, repeating each one as needed for the students to develop their answer. Show students where to record their work for each problem. After each student provides his or her answer, say, “Tell me how you thought about the problem while you were working.”
  - On Friday, Alex finds 10 rocks for his collection. On Saturday, Alex finds 7 more rocks. How many rocks did Alex find in all?
  - You have seven balloons. Your friend has five balloons. How many more balloons do you have than your friend?
  - Sarah has 13 cupcakes to share. She gave some to her friends. Now she has 9 cupcakes. How many cupcakes did Sarah give away?
  - Some students were riding the school bus. Then 3 more students got on the bus. Now, there are 12 students on the bus. How many students were on the bus before?

## Round 2

1. Say, “We will work a story problem together. I will read the problem to you, and then we will find the answer together.” Show the students the first example problem on the Three Addends Recording Sheet. “Justin has three apples. Ashanti has seven apples. Marcus has five apples. How many apples do the friends have?” Work with the students to show how they 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. Have students record their work on the recording sheet.
2. Say, “I will read you more story problems. You will use the counters or drawings to answer the question in the story problems. You will record your work on the paper.”
3. Provide the student with counters, the Three Addends Recording Sheet, and a pencil, marker or crayon as needed. Read the following word problems one at a time, repeating each one as needed for the students to develop their answer. Show students where to record their work for each problem. After each student provides his or her answer, say, “Tell me how you thought about the problem while you were working.”
  - I have four red fish, eight blue fish, and seven yellow fish. How many fish do I have?
  - You have two green marbles, six orange marbles, and three purple marbles. How many marbles do you have?

## 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 all problem types and the unknown value in all positions (for more information, see page 9 of [Operations and Algebraic Thinking Progression](#)<sup>1</sup>).

This task should be used throughout the year to determine each student’s ability to solve story problems. By the end of the year, the task should be modified to require students to write equations to show how they solve the problems.

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

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<sup>1</sup> [http://commoncoretools.files.wordpress.com/2011/05/ccss\\_progression\\_cc\\_oa\\_k5\\_2011\\_05\\_302.pdf](http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf)





**Solving Word Problems Recording Sheet—Problem 3**

Draw pictures to show your thinking below.

3. Sarah has 13 cupcakes to share. She gave some to her friends. Sarah now has 9 cupcakes. How many cupcakes did Sarah give away?

**Solving Word Problems Recording Sheet—Problem 4**

Draw pictures to show your thinking below.

4. Some students were riding the school bus. Then 3 more students got on the bus. Now, there are 12 students on the bus. How many students were on the bus before?

### Three Addends Recording Sheet—Example

Draw pictures to show your thinking below.

Justin has 3 apples. Ashanti has 7 apples. Marcus has 5 apples.  
How many apples do the friends have?



## Teacher Recording Sheet—Solving Word Problems

STUDENT NAME:

Criteria	Emerging	Developing	Secure
Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions			
Use objects or drawings to represent the problem			
Solve word problems with three addends with sums less than 20			
NOTES:			

## Teacher Scoring Guide/Rubric—Solving Word Problems

Criteria (CCSS code)	Emerging	Developing	Secure
Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (1.OA.A.1)	Student may or may not be able to determine the unknown amount in a problem, even with assistance.	Student is able to determine the unknown amount in a problem, with minor inaccuracies.	Student is able to determine the unknown amount with accuracy.
Use objects or drawings to represent the problem (1.OA.A.1)	Student may be able to show his or her thinking using objects or drawings in 0-1 opportunities.	Student may be able to represent thinking by using objects or drawings in 2-3 opportunities.	Student is able to represent thinking by using objects and drawings in all 4 opportunities.
Solve word problems with three addends with sums less than 20 (1.OA.A.2)	Student may be able to determine the total amount with assistance in 0-1 opportunities.	Student is able to determine the total amount in 2-3 opportunities.	Student is able to determine the total amount accurately in all 4 opportunities.

## Recognizing Ten and Counting (ECR)

### Overview

Students will solve problems by counting groups of 10 and counting on. This is designed to be an interview-style task. This task should be used formatively to determine students' abilities with these skills.

### Standards

#### Extend the counting sequence.

**1.NBT.A.1** Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

#### Understand place value.

**1.NBT.B.2** Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

- a. 10 can be thought of as a bundle of 10 ones—called a “ten.”

### 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
1.NBT.A.1	<ul style="list-style-type: none"><li>K.CC.A.1</li></ul>	<ol style="list-style-type: none"><li>Fill in the blanks. Count on from 26. 26, ____, ____, ____, ____, ____, ____ a. 26, 27, 28, 29, 30, 31, 32</li><li><a href="http://www.illustrativemathematics.org/illustrations/405">http://www.illustrativemathematics.org/illustrations/405</a></li><li><a href="http://www.illustrativemathematics.org/illustrations/680">http://www.illustrativemathematics.org/illustrations/680</a></li><li><a href="http://www.illustrativemathematics.org/illustrations/1078">http://www.illustrativemathematics.org/illustrations/1078</a></li></ol>	<ul style="list-style-type: none"><li><a href="http://www.illustrativemathematics.org/illustrations/360">http://www.illustrativemathematics.org/illustrations/360</a></li><li><a href="http://www.illustrativemathematics.org/illustrations/359">http://www.illustrativemathematics.org/illustrations/359</a></li><li><a href="http://www.illustrativemathematics.org/illustrations/754">http://www.illustrativemathematics.org/illustrations/754</a></li></ul>
1.NBT.B.2a	<ul style="list-style-type: none"><li>K.NBT.A.1</li></ul>	<ol style="list-style-type: none"><li>How many ones are in a ten? a. There are 10 ones in a ten.</li></ol>	<ul style="list-style-type: none"><li><a href="http://www.illustrativemathematics.org/illustrations/1404">http://www.illustrativemathematics.org/illustrations/1404</a></li></ul>

### Task Materials

- One copy of Grid Examples (cut out the 2-by-5 group, the 10 group, and the single unit)
- One copy of Grid Pictures for each student (two pages)
- One copy of the Teacher Recording Sheet for each student

## Task Description

Students will begin by demonstrating their ability to count by ones beginning at any number in the count sequence. Students will also use their understanding of tens and ones to count squares in given pictures. This task is designed to be completed as an interview with a student in a one-on-one situation.

1. Say, “You will count on by ones until I ask you to stop. Start with the number 14 and count by ones. Begin counting.” If the student requires prompting, say the number 14 and let him or her continue counting. Note any assistance and/or missed numbers on the Teacher Recording Sheet. Stop the student when he or she has counted to 25.
2. Repeat step 1 with a different number. If students were successful with step 1, choose a number larger than 25. If students were unsuccessful with step 1, choose a number less than 14.
3. Say, “Now you will count on by tens. Start with the number 10 and count on by tens. Begin counting.” Prompt the student with the first number if necessary. Note any assistance and/or missed numbers on the Teacher Recording Sheet.
4. Explain the next part of the task. Say, “I have some grid paper with squares which was cut into groups of 10 and single squares.” Show the groups of 10 and the ones from the Grid Example page in this task (cut them out prior to the task). Discuss how the groupings represent 10 with the student. Show the student 3 groups of 10 (use two of the 2-by-5 groups and one of the 1-by-10 group) and 5 single units. Ask, “How many squares are there? Can you tell without counting each square?” Work with the student to model how to count the 35 squares without counting individual squares.
5. Say, “Now I will show you some pictures that were created with groups of 10 and some ones. You are going to count the total number of squares in each of the pictures I show you.”
6. Give the student a copy of the Grid Pictures—Creepy Crawly. Say, “Count the number of squares in this picture. Write the number of squares in the blank.” Give the student time to provide a response. When the student states his or her answer (*there are 82 squares*), say, “Explain how you found your answer.” (*I counted 6 sets of 10 for the legs, 2 sets of 10 for the body, and 2 eyes. 6 sets of 10 is 60, 2 sets of 10 is 20. 60 and 20 is 80. 80 + 2 is 82, so there are 82 squares.*)
7. Repeat step 5 with the Grid Pictures—Lollipops.

## Task Notes

Continue to use this task throughout the year to check student progress with the identified skills. Students should continue to work with counting on. Have students start at different numbers. Students can count on and count back. This task can be modified to address 1.NBT.C.5 by asking students to count on and/or count back by 10 from any given two-digit number (e.g., beginning at 26, count on by tens).

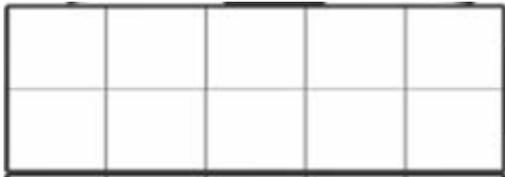
Create different pictures with the same groups of tens and ones that use a fewer number of squares for the beginning of the year. Create pictures with a greater number of squares (up to 120) for the end of the year.

Parts of this task were adapted from <http://standardstoolkit.k12.hi.us/grid-picture-1-nbt-11-nbt-21-nbt-4/>.

## Grid Examples



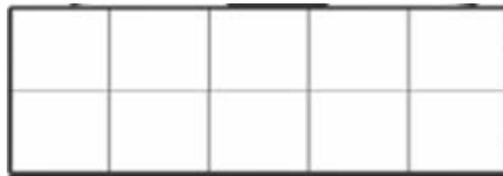
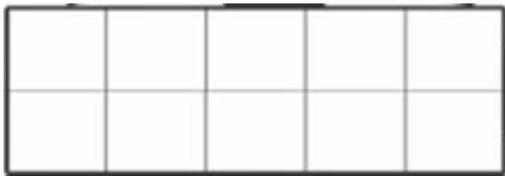
Single unit



2-by-5 group

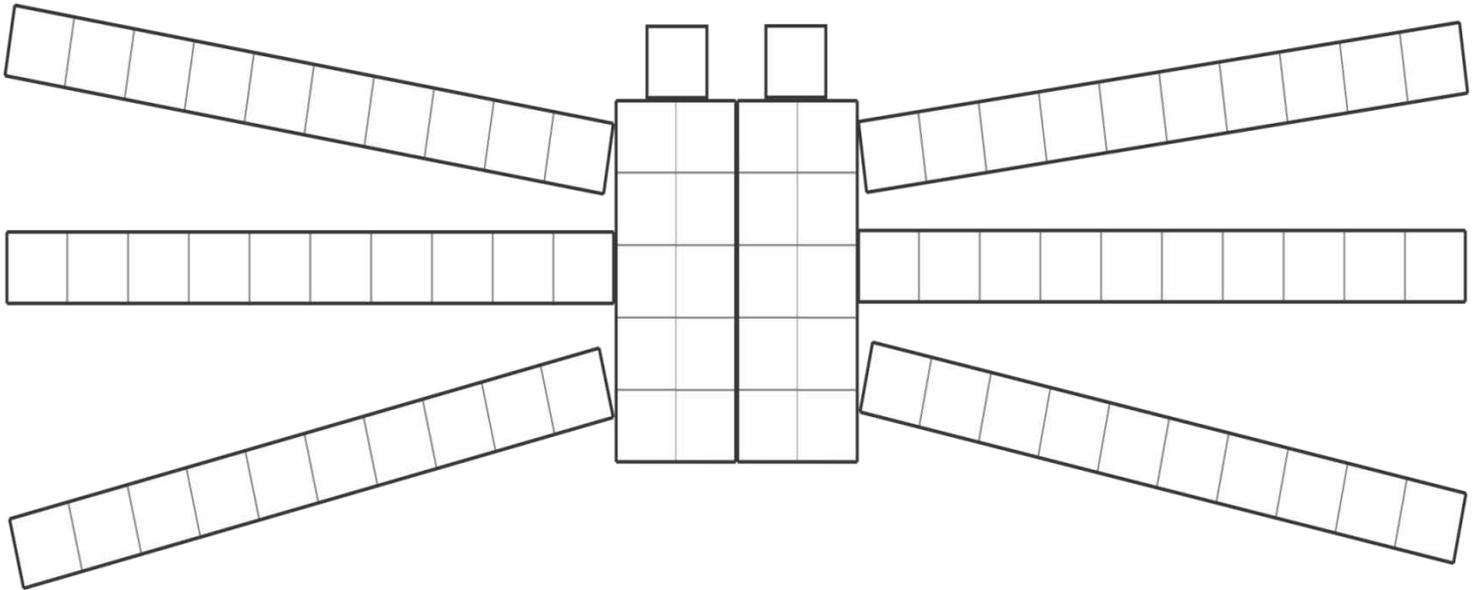


10 group



**Grid Pictures—Creepy Crawly**

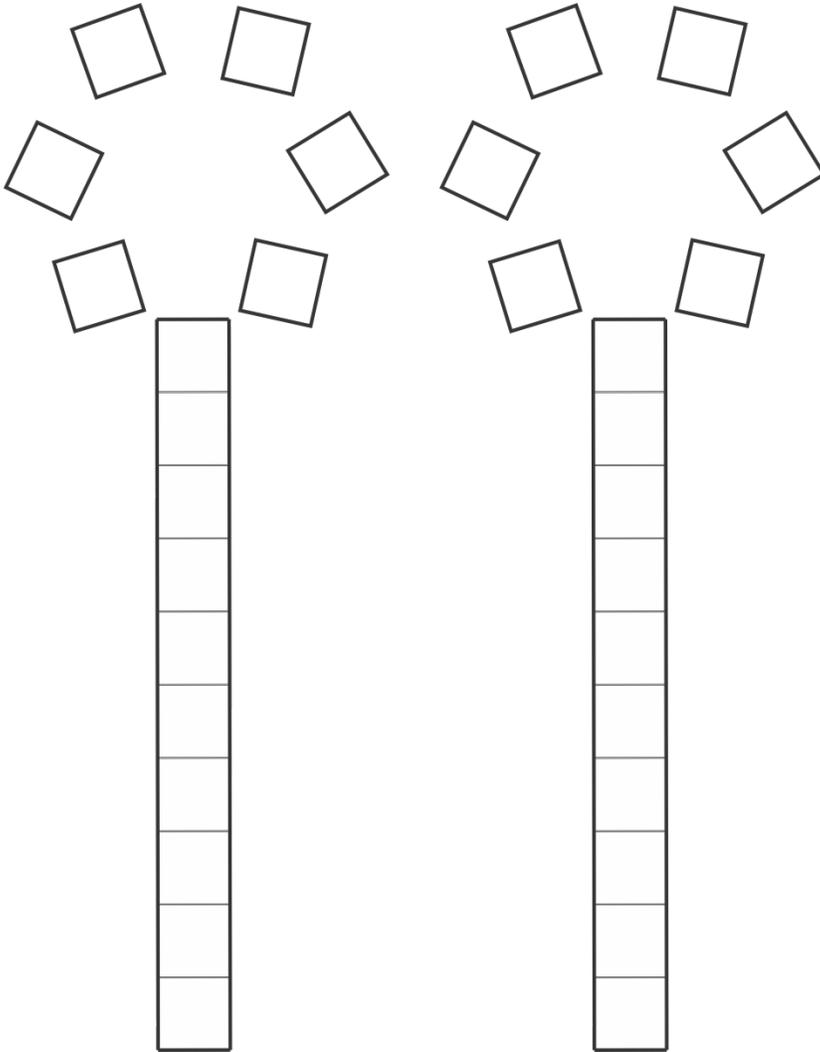
Count the number of squares in the picture.



How many squares are in the picture? \_\_\_\_\_

**Grid Pictures—Lollipops**

Count the number of squares in the picture.



How many squares are in the picture?

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## Teacher Recording Sheet—Recognizing Ten and Counting

STUDENT NAME:

Criteria (CCSS code)	Emerging	Developing	Secure
Extend the counting sequence			
Extend the counting sequence by counting by tens			
Understand that 10 can be thought of as a bundle of 10 ones—called a “ten”			
Write numerals up to 120			
NOTES (include any assistance and missed numbers):			

## Teacher Scoring Guide/Rubric—Recognizing Ten and Counting

Criteria (CCSS code)	Emerging	Developing	Secure
<b>Extend the counting sequence (1.NBT.A.1)</b>	Student misses 2 or more numbers when extending a counting sequence.	Student misses 1 number when extending a counting sequence.	Student accurately extends the counting sequence.
<b>Extend the counting sequence by counting by tens (1.NBT.A.1 and 1.NBT.B.2)</b>	Student misses 3 or more numbers when counting by tens.	Student misses 2 numbers when counting by tens.	Student can count by tens correctly.
<b>Understand that 10 can be thought of as a bundle of 10 ones—called a “ten” (1.NBT.B.2)</b>	Student shows little or no evidence of using tens and ones to count the squares in the pictures.	Student shows some understanding of using tens and ones to count the squares in the pictures.	Student demonstrates understanding of using tens and ones to count the squares in the pictures.
<b>Write numerals up to 120 (1.NBT.1)</b>	Student is unable to write numerals up to 120 or makes many transposition or reversal errors.	Student is able to write numerals up to 120 with some errors (reversals or transposed numbers).	Student writes numerals up to 120 with no errors.

## Addition and Subtraction Equations (ECR)

### Overview

The student will demonstrate an understanding of the equal sign by deciding if equations are true or false and finding the unknown numbers in given equations. Prior to this task, students should have developed some mastery with addition and subtraction facts.

### Standards

**Work with addition and subtraction equations.**

**1.OA.D.7** Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false?  $6 = 6$ ,  $7 = 8 - 1$ ,  $5 + 2 = 2 + 5$ ,  $4 + 1 = 5 + 2$ .*

**1.OA.D.8** Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations  $8 + ? = 11$ ,  $5 = \_ - 3$ ,  $6 + 6 = \_$ .*

### 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
1.OA.D.7	<ul style="list-style-type: none"><li>None—introduced in first grade</li></ul>	<ol style="list-style-type: none"><li>Are the following equations true or false?<ol style="list-style-type: none"><li><math>2 + 7 = 3 + 6</math><ol style="list-style-type: none"><li>True</li></ol></li><li><math>12 - 9 = 3</math><ol style="list-style-type: none"><li>True</li></ol></li><li><math>12 = 7 + 4</math><ol style="list-style-type: none"><li>False</li></ol></li></ol></li><li><a href="https://www.illustrativemathematics.org/illustrations/1057">https://www.illustrativemathematics.org/illustrations/1057</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/475">https://www.illustrativemathematics.org/illustrations/475</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/466">https://www.illustrativemathematics.org/illustrations/466</a></li></ol>
1.OA.D.8	<ul style="list-style-type: none"><li>1.OA.D.7</li></ul>	<ol style="list-style-type: none"><li>Fill in the blanks:<ol style="list-style-type: none"><li><math>2 + \underline{\quad} = 12</math><ol style="list-style-type: none"><li>10</li></ol></li><li><math>\underline{\quad} - 5 = 2</math><ol style="list-style-type: none"><li>7</li></ol></li></ol></li><li><a href="https://www.illustrativemathematics.org/illustrations/4">https://www.illustrativemathematics.org/illustrations/4</a></li><li><a href="https://www.illustrativemathematics.org/illustrations/991">https://www.illustrativemathematics.org/illustrations/991</a></li></ol>

### **During the Task**

Read the instructions for each part to the students. If needed, work an example problem similar to the problems in each section to ensure students understand the directions.

Walk around to be sure students are working on the correct portion. This task can also be administered through small groups or in a one-on-one interview to provide certain students with additional guidance. If necessary, administer the various parts of the task on different days.

### **After the Task**

Provide additional small-group instruction to those students who struggled to complete the task independently. Review the task items with the students and provide additional practice with the concepts as needed.

### **Task Notes**

Throughout the year, the task should progress to use more complex equations. Having students write an explanation for their thinking for Part 1 is a possible modification to this task.

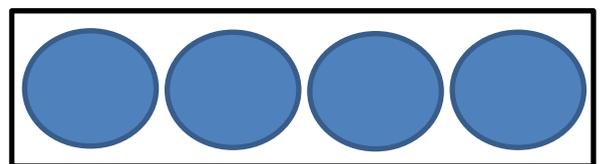
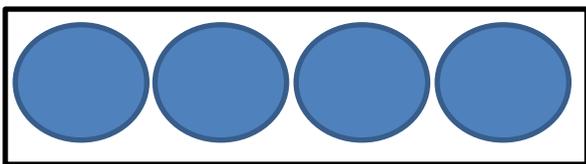
Student Extended Constructed Response Task

**Part 1**

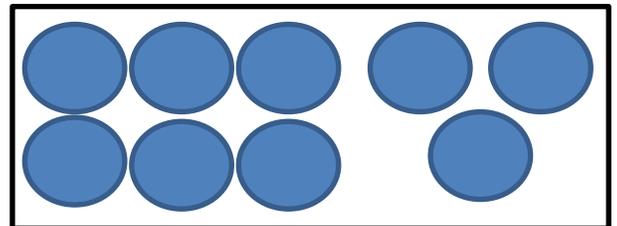
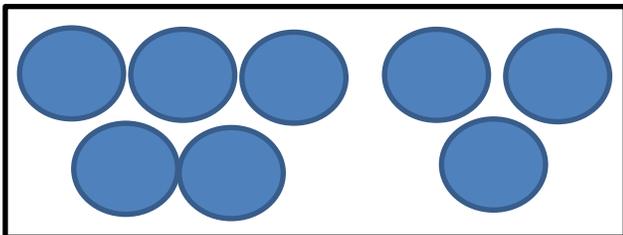
Look at the number of circles in each box.

If the number of circles in each box is equal, write an equal sign between the boxes.

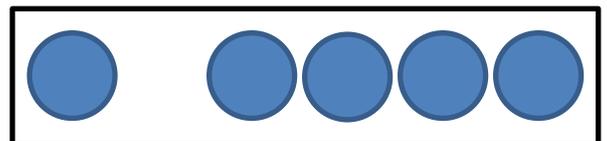
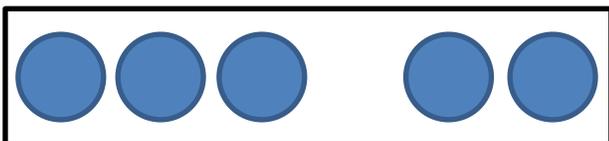
If the number of circles in each box is not equal, write “not equal” on the line.



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## Part 2

True or False: If the equation is true, write "T." If the equation is false, write "F."

$$3 + 7 = 4 + 6$$

\_\_\_\_\_

$$4 + 1 = 5 + 4$$

\_\_\_\_\_

$$9 + 1 = 0 + 10$$

\_\_\_\_\_

$$5 + 5 = 7 + 2$$

\_\_\_\_\_

$$6 + 3 = 10 - 1$$

\_\_\_\_\_

$$3 + 7 = 5 + 2$$

\_\_\_\_\_

### Part 3

Find the missing numbers in each of the following equations.

Write the number in the blank.

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

$$\underline{\hspace{2cm}} = 7 - 2$$

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

$$\underline{\hspace{2cm}} + 2 = 6$$

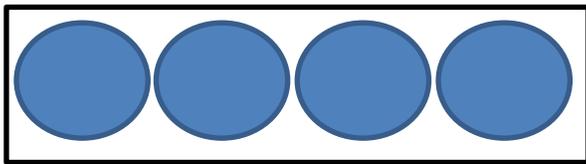
Extended Constructed Response Exemplar Response

**Part 1**

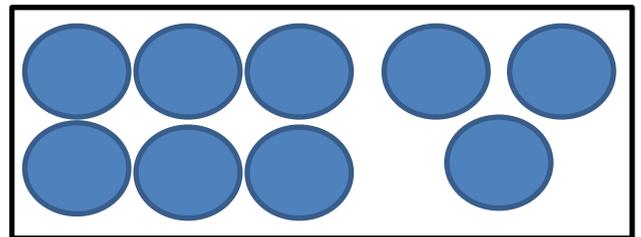
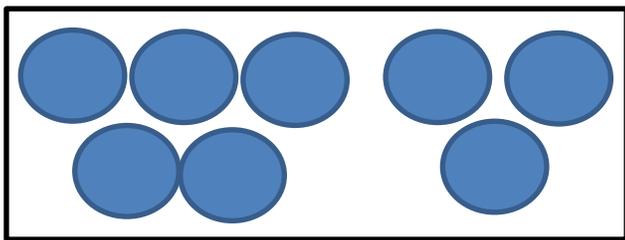
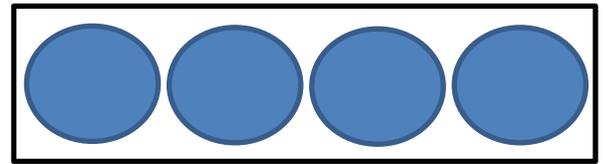
Look at the number of circles in each box.

If the number of circles in each box is equal, write an equal sign between the boxes.

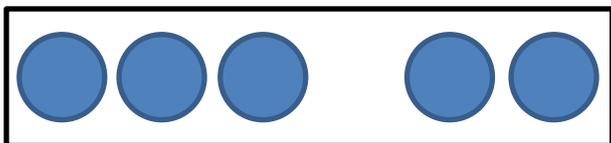
If the number of circles in each box is not equal, write “not equal”



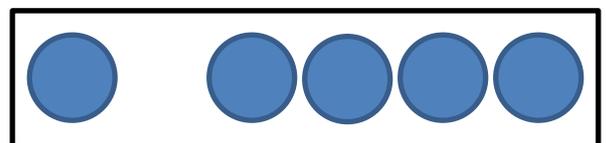
=



*Not equal*



=



## Part 2

True or False: If the equation is true, write "T." If the equation is false, write "F."

$$3 + 7 = 4 + 6$$

\_\_\_\_\_ *T* \_\_\_\_\_

$$4 + 1 = 5 + 3$$

\_\_\_\_\_ *F* \_\_\_\_\_

$$5 + 5 = 7 + 2$$

\_\_\_\_\_ *F* \_\_\_\_\_

$$9 + 1 = 0 + 10$$

\_\_\_\_\_ *T* \_\_\_\_\_

$$6 + 3 = 10 - 1$$

\_\_\_\_\_ *T* \_\_\_\_\_

$$3 + 7 = 5 + 2$$

\_\_\_\_\_ *F* \_\_\_\_\_

### Part 3

Find the missing numbers in each of the following equations.

Write the number in the blank.

$$8 + 2 = \underline{\quad 10 \quad}$$

$$\underline{\quad 5 \quad} = 7 - 2$$

$$5 - \underline{\quad 2 \quad} = 3$$

$$\underline{\quad 4 \quad} + 2 = 6$$