

Counting and Cardinality

Prior to Instruction

To prepare for teaching this lesson segment, follow these steps:

- If you plan to program students' AAC devices, program the following words:
 - Numbers 1-10
 - Chicken Little
 - acorn/acorns
 - count
- Print and cut out (if applicable):
 - Counting and Quantity Cards 1-5
 - Counting and Quantity Cards 6-10
 - Counting Mat (Match) 1, 2, 3, 4 (for each Level 1 student and teacher)
 - Counting Mat (for each Level 2 student and teacher)
 - Counting and Quantity 1-5 with Traceable Numbers Worksheet (for each Level 3 student and teacher)
 - Counting and Quantity 6-10 with Traceable Numbers Worksheet (for each Level 3 student and teacher)
 - Unilink Cubes (for students who struggle to use paper counters)
- Gather the materials listed to the right from the enCORE Materials Kit and/or from around your classroom.
- Print out these data sheets (enough for each student/group of students):
 - Unit 3 Constant Time Delay Individual Data Sheets (per student) or Group Data Sheet
 - Unit 3 System of Least Prompts Individual Data Sheets (per student) or Group Data Sheet



Learning Objectives

- Identify numbers 1-10.
- Recite numbers in a sequence.
- Count to a specific number.
- Count objects with one-to-one correspondence.

Materials

- Chicken Little* E-reader or adapted book
- Chicken Little* Counting and Quantity Cards 1-5
- Chicken Little* Counting and Quantity Cards 6-10
- Two to five classroom objects that students enjoy working with (e.g., bean bags, paint jars, large blocks, etc.)
- Chicken Little* Counting Mat (Match) 1, 2, 3, 4 (for each Level 1 student and teacher)
- Chicken Little* Counting Mat (for each Level 2 student and teacher)
- Chicken Little* Counting and Quantity 1-5 Worksheet (for each Level 3 student and teacher)
- Chicken Little* Counting and Quantity 6-10 Worksheet (for each Level 3 student and teacher)
- Glue stick (one for each Level 3 student and teacher)

Independent, Technology-Delivered Instruction

enCORE provides computer-based lessons that are automatically selected and assigned to your students based on their learning level and the unit you are currently teaching. Both teacher-led and student-led lessons automatically adapt to differentiate across learning:

1. Access the teacher-led lessons during instruction and/or as a small group activity.
2. Have your students spend 15-30 minutes per day working independently on the student-led computer lessons from this unit.

Anchor Instruction for All Students

Prior to beginning instruction, anchor instruction by referencing the story, *Chicken Little*. Say, **We read the book, *Chicken Little*. Chicken Little felt an acorn fall on her head. She ran to tell her friends. Who were her friends?** Show your students the book, *Chicken Little*. As you review the illustrations and the story line, count the different characters that Chicken Little ran to tell.

We counted Chicken Little’s friends! Let’s practice counting some more.

Math Warm-Ups

The following activity is designed to physically engage your students at the beginning of the math lesson, as well as provide frequent practice on important math skills.

Each warm-up activity includes a fine or gross motor movement. Alternative actions are always listed at the bottom, if they are more appropriate for your students’ specific motor abilities. Please change any of these actions as needed for your students’ individual abilities.

	LEVEL 1	LEVEL 2	LEVEL 3
WARM-UP ACTIVITY	<p>We read about Chicken Little! Let’s pretend to flap our wings like Chicken Little for seven seconds, like this. Stand up and model holding both arms out to the side and moving them up and down. On your mark, get set, go! Move arms up and down while counting. 1, 2, 3, 4, 5, 6, 7, STOP!</p> <p>Very good! Let’s flap our wings for seven seconds again. On your mark, get set, go! Move arms up and down while counting. 1, 2, 3, 4, 5, 6, 7.</p> <p>You can repeat this as a group or have individual students do it. See if they stop on their own at seven. If not, model counting to seven and signal stop.</p>	<p>We read about Chicken Little! Let’s pretend to flap our wings like Chicken Little for 12 seconds, like this. Stand up and model holding both arms out to the side and moving them up and down. On your mark, get set, go! Move arms up and down while counting. 1, 2, 3, 4, 5...12, STOP!</p> <p>Very good! Let’s flap our wings for 12 seconds again. On your mark, get set, go! Move arms up and down while counting. 1, 2, 3, 4, 5...12.</p> <p>You can repeat this as a group or have individual students do it. See if they stop on their own at 12. If not, model counting to 12 and signal stop.</p>	<p>We read about Chicken Little! Let’s pretend to flap our wings like Chicken Little for 15 seconds, like this. Stand up and model holding both arms out to the side and moving them up and down. On your mark, get set, go! Move arms up and down while counting. 1, 2, 3, 4, 5...15, STOP!</p> <p>Very good! Let’s flap our wings for 15 seconds again. On your mark, get set, go! Move arms up and down while counting. 1, 2, 3, 4, 5...15.</p> <p>You can repeat this as a group or have individual students do it. See if they stop on their own at 15. If not, model counting to 15 and signal stop.</p>

	LEVEL 1	LEVEL 2	LEVEL 3
	Alternative Action: Sit in chair and move arms up and down.	Alternative Action: Sit in chair and move arms up and down.	Alternative Action: Sit in chair and move arms up and down.

Core Vocabulary and Concepts

	LEVEL 1	LEVEL 2	LEVEL 3
INTRODUCE	Numbers are all around us. Let's practice our numbers!		

This instruction is recommended for all learners. There are two rounds: zero-second time delay and four-second time delay. During the zero-second delay round, you will provide the direction and immediately give the correct response (e.g., “**Touch the (target),**” and immediately touch the target). There is no pause between giving the direction and providing the correct response. Vary the order in which you present the targets each time.

Present the following numbers in random order to your students as described in the instruction below.

- **Level 1:** 5
- **Level 2:** 8, 9, 10
- **Level 3:** 8, 9, 10

Zero-Second Delay Round

Complete 5-10 trials per student. Recommended for students needing moderate to substantial prompting and support.

Materials: Counting and Quantity Cards 1-5, Counting and Quantity Cards 6-10

TEACHER SAYS	STUDENT RESPONSE	FEEDBACK
<p>Show a student the card with the number five. This is the number five. [Touch/say] five. Say, five, while touching the number. Have minimally verbal students touch the number five or use AAC devices to say the number five.</p>	<p>Student touches the number or says “five.”</p>	<p>Good job! You found the number five. We have five fingers. Hold up one hand and wiggle your fingers to draw the connection between the numeral and the quantity.</p>
<p>Repeat with other targets for your students’ levels. Complete 5-10 trials per student. Use Constant Time Delay Data Sheet (individual or group) to collect data as needed.</p>	<p>Student does not respond.</p>	<p>This is five. [Touch/say] five. Wait for the student to respond. Provide physical guidance if needed.</p>
	<p>Student responds incorrectly.</p>	



Instructional Tip! To increase engagement, if needed, place the Counting and Quantity Cards in Magnetic Picture Pockets and stick the target and distractor to the whiteboard during trials.

Four-Second Delay Round

Complete 5-10 trials per student. Recommended for students needing some prompting and support.

Materials: Counting and Quantity Cards 1-5, Counting and Quantity Cards 6-10

TEACHER SAYS	STUDENT RESPONSE	FEEDBACK
<p>For students who will respond nonverbally, Let's keep going! I will show you some numbers. You will choose the correct number. If you need help, you can wait or ask. Show student correct response and one distractor (e.g., any number other than the correct response). Show me the number five.</p> <p>For students who will respond verbally, Let's practice our numbers more! Tell me what number is on the card. If you need help, you can wait or ask. Show student number card for five. What number is this? Wait four seconds.</p> <p>Repeat with other targets for the students' levels. Complete 5-10 trials per student. Use Constant Time Delay Data Sheet (individual or group) to collect data as needed.</p>	<p>Student touches the number or says the word "five" within four seconds.</p>	<p>Great thinking! That's the number five. We have five fingers on each hand. Hold up one hand and wiggle your fingers to draw the connection between the numeral and the quantity.</p>
	<p>Student responds incorrectly before additional prompting.</p>	<p>Point to the correct response. Five. This number is the number five. For students responding nonverbally, Touch five. For students responding verbally, What number?</p>
	<p>Student does not respond within four seconds.</p>	<p>Point to the correct response. Five. This is the number five. For students responding nonverbally, Touch five. Provide physical guidance if necessary. For students responding verbally, What number?</p> <p>After the student touches or says the name of the number, provide specific verbal praise. You got it! That's the number five.</p>

During the four-second delay round, you will provide the direction and wait four seconds for the student to respond. If the student does not respond within four seconds, provide the correct answer.

As a reminder, present the following numbers in random order to your students as described in the instruction below.

- **Level 1:** 5
- **Level 2:** 8, 9, 10
- **Level 3:** 8, 9, 10



Instructional Tip!

- For students struggling during the four-second delay round, return to the zero-second delay round for a number of trials or, in the case of students responding nonverbally, present the target number to the students without a distractor. After the student responds correctly in the zero-second delay round, move back to the four-second delay round. For students answering nonverbally, after the student responds given one response option, slowly introduce distractors.
- For Level 1 students, use numbers 1-4 as distractors.
- For students who are struggling with identifying numbers when distractors are present, use non-number distractors (e.g., images of common objects, shapes, etc.).

Concept Building

Follow the steps below to provide instruction to your students at the appropriate level(s).

Materials: Two to five classroom objects that students enjoy working with (e.g., bean bags, paint jars, large blocks, etc.), Counting Mat (Match) 1, 2, 3, 4 (for each Level 1 student and teacher), Counting Mat (for each Level 2 student and teacher), Counting and Quantity 1-5 with Traceable Numbers Worksheet (for each Level 3 student and teacher), Counting and Quantity 6-10 with Traceable Numbers Worksheet (for each Level 3 student and teacher), glue stick (one for each Level 2 and 3 student and teacher)

	LEVEL 1	LEVEL 2	LEVEL 3
INTRODUCE	<p>Gather two to five classroom objects that students enjoy working with.</p> <p>We are going to practice counting.</p> <p>When we count objects, like these [classroom objects students enjoy working with], we say one number for every [classroom object] we touch. Demonstrate counting the classroom objects you gathered.</p> <p>Raise your hand if you want a turn to help me count [classroom objects]. Give students support appropriate for their ability level when counting.</p>		
MODEL	<p>Use Counting Mat (Match) 1, 2, 3, 4 Worksheets and three acorn counters.</p> <p>Counting objects over a line:</p> <p>Watch me! I'm going to match the acorns and then count. Place three acorns below the line on the Counting Mat (Match) 3 worksheet.</p> <p>Model pushing each item across the line on the counting mat, matching to an acorn on the mat from left to right, and counting as you match. One. Two. Three. Three acorns.</p>	<p>Use Counting and Quantity 1-5 Worksheet and six acorn counters.</p> <p>Counting immoveable objects:</p> <p>Using your Counting and Quantity 1-5 Worksheet, Watch me count the acorns and find the number that matches. Point to the acorn in the first row. One. One acorn.</p> <p>Now I'm going to match the number one to the group of one acorn. Model looking through the numbers cut from the bottom of the worksheet. Hold up the number one. One. This is the number one. It matches the group of one acorn. Glue the number in the box to the right of the group.</p> <p>Making a set:</p> <p>Now I'm going to make my own set of one acorn. Place six acorn counters in front of you. Drag one acorn counter away from the pile and say, One. Point to the acorn. I made a group of one acorn.</p>	<p>Use Counting and Quantity 1-5 with Traceable Numerals Worksheet and Counting and Quantity 6-10 with Traceable Numerals Worksheet.</p> <p>Watch me first!</p> <p>Writing numerals:</p> <p>Trace all numbers 1-10 on the worksheets.</p> <p>Counting immoveable objects:</p> <p>Model counting the number of acorns in the first row on the Counting and Quantity 6-10 Worksheet. One, two, three, four, five, six. Six acorns.</p> <p>I'm going find the number six to match the group of six acorns. Find number six in the pile of numbers you traced and glue it in the box next to the group of six acorns.</p> <p>Making a set:</p> <p>Now I'm going to make my own set of six acorns. Place 12 acorn counters in front of you. Drag acorns away from the pile and into a new group one at a time, while counting aloud. One, two, three, four, five, six. I made a group of six acorns.</p>

	LEVEL 1	LEVEL 2	LEVEL 3
LEAD	<p>Say, Let's work together and take turns. We are going to practice counting. Let's match the acorn and count. Have one student push each counter over the line one at a time and match them to the acorns on the mat from left to right. . Count aloud as the students match the counters. Encourage the students to count with you. One. Two. Three.</p>	<p>Counting immovable objects: Give students their own Counting and Quantity 1-5 Worksheet, glue stick, and six acorn counters.</p> <p>Say, Let's do it together. Help me count the objects in the top row. Students and teacher should point to the acorn and count together. One. This group has one acorn.</p> <p>Now let's match the number one to the group of one acorn. Find your number one. Wait until all students have found their number one. Let's glue it in this box. Point to the box next to the group of one acorn.</p> <p>Making a set: Now let's use our acorn counters to make our own set of one acorn.</p>	<p>Writing numerals: Let's trace the numbers on the worksheets. Have students trace all of the numbers on both worksheets. (Have students trace all of the numbers now.)</p> <p>Counting immovable objects: Give students their own Counting and Quantity 6-10 Worksheet, glue stick, and twelve acorn counters.</p> <p>Say, Let's do it together. Help me count the objects in the top row. Students and teacher should point to the acorn and count together. One, two, three, four, five, six. This group has six acorns.</p> <p>Now let's match the number six to the group of six acorns. Find the number six that you traced. Wait until all students have found their number six. Let's glue it in this box. Point to the box next to the group of six acorns.</p> <p>Making a set: Now let's use our acorn counters to make our own set of six acorns.</p>
TEST	<p>Your turn. Match the acorns. Place three acorn counters below the line. Count aloud as the student matches the counters. One. Two. Three. You counted out three acorns.</p> <p>Repeat with groups of one, two, and four counters, using the remaining Counting Mat (Match) Worksheets.</p>	<p>Counting immovable objects: Your turn. Count the acorns in each group and glue the number that matches in the box over here. Point to the boxes on the right.</p> <p>Making a set: After the student has completed the worksheet, have them make sets of 1-5 acorns using counters.</p>	<p>Counting immovable objects: Your turn. Count the acorns in each group and glue the number that matches in the box over here. Point to the boxes on the right. Have the student complete both worksheets.</p> <p>Making a set: After the student has completed the worksheet, have them make sets of 1-10 acorns using counters. (You can reduce number of groups in response to student fatigue, if needed.)</p>

	LEVEL 1	LEVEL 2	LEVEL 3
PROMPTING AND ERROR CORRECTION	<p>If the student does not respond after four seconds or makes an error, provide a verbal prompt. For example, Match the acorns.</p> <p>If the student still does not respond after four seconds or makes another error, model the skill. For example, Watch me. Move acorn counters above line to match with the acorns at the top from left to right. Your turn.</p> <p>If the student still does not respond after four seconds or makes another error, provide a physical prompt. For example, Do it with me. Let's match the acorns. Use hand-over-hand guidance and physically prompt your student to match three acorns.</p>	<p>If the student does not respond after four seconds or makes an error, provide a verbal prompt. For example, Count the acorns.</p> <p>If the student still does not respond after four seconds or makes another error, model the skill. For example, Watch me. Model counting the acorns in a given row with one correspondence. Your turn.</p> <p>If the student still does not respond after 4 seconds or makes another error, provide a physical prompt. For example, Let's count the acorns together. Use hand-over-hand guidance to touch each acorn in a row from left to right while counting aloud.</p>	<p>If the student does not respond after four seconds or makes an error, provide a verbal prompt. For example, Count the acorns.</p> <p>If the student still does not respond after four seconds or makes another error, model the skill. For example, Watch me. Model counting the acorns in a given row with one-to-one correspondence. Your turn.</p> <p>If the student still does not respond after 4 seconds or makes another error, provide a physical prompt. For example, Let's count the acorns together. Use hand-over-hand guidance to touch each acorn in a row from left to right while counting aloud.</p>
REINFORCE	<p>Terrific! You matched the acorns. Let's count again. I'll say the numbers and you point.</p>	<p>You did it! You counted the acorns and matched the numbers.</p>	<p>You are a super counter, and you did a great job writing your numbers!</p>



Instructional Tip! For students who need physical adaptations to the materials, consider using Unilink Cubes as counters. To maintain visual supports for Level 1 and 2 students, cut out the acorns and tape them to the top of the new counters.

Generalization and Extension Activities

To provide your students with extended practice and to help them generalize learned skills, complete one or more of the following activities at a time that works with your schedule.

ACTIVITY	DESCRIPTION
Counting in the Environment	Count items in the classroom and in the school. Make sure student names the items after counting (e.g., “three books”). Mix things that are moveable (e.g., Can you hand me three books? Four straws?) and things that are immovable (e.g., How many desks? Pictures on the wall?).
Dice Counting	Allow students to roll one or two dice. After each roll, have students count the dots, state the total, and make a matching set with manipulatives.
Crayon Counting	When beginning an art activity, walk around with a large box/basket of crayons. Ask students to choose a specific number of crayons (1-10) to use, allowing students to count them out.
Taking Attendance	When taking daily attendance, select a student or students to count how many boys and how many girls are at school that day.
Brain Break	When taking a break in the classroom, have students do certain numbers of exercises or movements (hops, arm circles, twists). Using a small whiteboard and marker, write a number 1-10. Hold up the board and have students do that number of exercises while counting aloud as a group.