# **COG: MATH 2: Number Sense of Quantity**

Child shows developing understanding of number and quantity

#### **HANDOUT 12: DRDP-K** Measures

#### Mark the latest developmental level the child has mastered:

Building			Integrating		
Earlier	Middle	Later	Earlier	Middle	Later
0	0	0	0	0	0
Identifies small quantities without counting, up to three	Counts up to five objects using one- to-one correspondence; <i>and</i> Recites numbers in order, one through ten	Shows understanding that the last number counted is the total number of objects in the group	Solves simple everyday problems involving numbers by counting up to 10 objects using one-to-one correspondence; <i>and</i> Recites numbers correctly, up to 20	Recites numbers in order up to 100 by ones and by tens, starting at any given number; and Counts at least 20 objects correctly using one- to-one correspondence; and Demonstrates understanding that teen numbers are composed of ten and additional ones (10-19); and	Counts beyond 100, starting at any given number; and Demonstrates understanding that in two- digit numbers the first digit represents the number of tens and the second digit represents the number of ones; and Reads and writes two digit numerals up to 100
Examples				Reads and writes numerals 0 to 20	
<ul> <li>Communicates a desire for two apple slices after noticing that a peer has two apple slices.</li> <li>Communicates, "Three dogs," while looking at a picture of three dogs.</li> <li>Communicates, "Now I have one bear and you have one," while giving a peer a counting bear.</li> </ul>	<ul> <li>Counts out loud, "One, two, three, four, five," saying the next number as the next cup is placed on the table.</li> <li>Chants numbers from one to 10 in order while waiting for a drink at the water fountain.</li> <li>Counts, "One, two, three," out loud while pointing to each of three squares on a light box.</li> </ul>	<ul> <li>Counts ducks in a story book, "One, two, three, four, five," and then communicates that there are five.</li> <li>Communicates that there are six cubes after counting a collection of six cubes.</li> <li>Counts four pencils and says, "Four," when asked how many pencils there are.</li> </ul>	<ul> <li>Counts six chairs, then counts seven children, and communicates, "We need one more chair."</li> <li>Counts accurately to 20 while marching.</li> <li>Counts on fingers to determine how many pencils to get so that each child at a table of six has one.</li> </ul>	<ul> <li>Counts days on a number chart continuously up to 100 marking the 100<sup>th</sup> day of school on the class calendar.</li> <li>Arranges 25 small rocks in a line, and counts them in order, one at a time.</li> <li>Separates 14 flowers into two groups, 10 and 4, and communicates, "All together there are 14."</li> <li>Writes down the number "12" to indicate how many peers like red apples.</li> </ul>	<ul> <li>Counts 34 straws by first counting three bundles of ten straws, "ten, twenty, thirty," and then counts four loose straws "31, 32,33,34," and writes down that there are "34" straws.</li> <li>Draws six circles and marks ten lines in each circle and communicates, "There are sixty all together."</li> <li>Communicates, "93 is bigger than 85," and places a "&gt;" symbol between the numbers.</li> <li>Counts by tens up to 100 and then continues by ones "101, 102, 103, 104, 105, 106, 107, 108, 109, 110."</li> </ul>

Child is emerging to the next developmental level
 If you are unable to rate this measure, explain here:

### **Number Sense of Quantity**

### **COG:** MATH 2 (of 6)

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## **COG: MATH 3: Number Sense of Math Operations**

Child shows increasing ability to add and subtract small quantities of objects

Mark the latest developmental level the child has mastered:									
Building			Integrating						
Earlier	Middle	Later	Earlier	Middle	Later				
0	0	0	0	0	0				
Attends to or explores changes in numbers of objects Examples	Identifies the new number of objects after one object is added to or removed from a set of two or three objects	Uses counting to add or subtract one or two objects to or from a group of at least four objects	Solves simple addition or subtraction word problems by using fingers or objects to represent numbers or by mental calculation	Represents and solves addition and subtraction problems with totals up to 10, by using objects, drawings, or fingers, or by mental calculation; <i>and</i> Demonstrate understanding that numbers (ten or smaller) can be decomposed in more than one way (i.e., 7=5+2; 7=6+1)	Represents and solves addition and subtraction word problems with totals up to 20, by using objects, drawings and equations, applying advanced strategies (e.g., count-on), including strategies that reflect understanding of properties of addition and subtraction				
<ul> <li>Communicates, "Now we have more," when an adult combines markers from the shelf with some on the table.</li> <li>Communicates, "They're almost gone," after taking the next-to- last unit block out of the basket.</li> <li>Notices when another child's bowl has more beads than own bowl, and asks an adult to add beads to own bowl.</li> </ul>	<ul> <li>Communicates, "Now we have three," when adding a third snail to the two collected from the yard.</li> <li>Communicates, "Only two left," when an adult removes a torn bean bag from a group of three bean bags.</li> <li>Gives one of two cars to another child, and then communicates, "I have one and you have one."</li> </ul>	<ul> <li>Adds one counting bear to a group of four, and counts, "I have one two three four five."</li> <li>Removes two of seven ducks from a flannel board and counts the remaining ducks, and then communicates that there are five left.</li> <li>Adds two cars to a train with four cars, counts the number of cars, and communicates that there are now six cars.</li> <li>Watches an adult add two markers to a group of four markers, counts the total number, and communicates that there are six.</li> </ul>	<ul> <li>Communicates, "I had four hair clips, but I gave one to my sister. Now I have three."</li> <li>Brings six papers to the table after adult communicates, "We usually have four children, but today we have two visitors, so how many papers do we need altogether?"</li> <li>Holds up five fingers and then one finger, counts them, and communicates, "Six," when asked, "If you had five crackers, and you took one more, how many crackers would you have?"</li> </ul>	<ul> <li>Holds up five fingers on one hand and three fingers on the other hand and counts to self, "1, 2, 3, 4, 5, 6, 7, 8," when presented with a word problem about how many balloons you would have if you were given five balloons and then three more balloons.</li> <li>Solves the problem: "7 + 2," presented on a worksheet by drawing seven circles, then drawing two more circles, and counting the total number of circles.</li> <li>Removes three cars and counts the number of cars left. "1, 2, 3, 4, 5, 6, 7," and replies "7" when adult asks, "You have 10 cars, if I took 3 away, how many would you have left?"</li> <li>Creates a group of three manipulatives and communicates, "I have eight. I can also do four and four and still have eight."</li> </ul>	<ul> <li>Writes the equation "11 + 3," then counts aloud, "11, 12, 13, 14," and replies "14," when presented with a word problem about a child who has 11 balloons and gets three more balloons. (count-on strategy)</li> <li>Communicates, "12 minus 2 is 10, and then 10 minus 1 is 9," when explaining her solution to the problem: "12 minus 3." (make a 10 strategy)</li> <li>Communicates, "8 plus 2 is 10, so it is two," when presented with the subtraction problem: "10 minus 8." (subtraction is inverse to addition strategy)</li> <li>Communicates, "7 plus 3 is 10 and then 2 more is 10, 11, 12. There are 12," when solving the equation: "7 plus 2 plus 3." (make a 10 and count-on strategies)</li> </ul>				

Child is emerging to the next developmental level
 If you are unable to rate this measure, explain here:

## Number Sense of Math Operations

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