

<p>(K.1) Number, operation, and quantitative reasoning. The student uses numbers to name quantities.</p>	<p>K.1C: The student is expected to use numbers to describe how many objects are in a set (through 20) using verbal and symbolic descriptions.</p>
<p>Materials: 20 countable objects (counting bears, or chips, or similar materials)</p>	
<p>Procedure: Place some number of objects within reach of the student in a haphazard arrangement: e.g. 8, 10, 14, 18, 20</p> <p>How many [objects] are there?</p> <p>You could also ask the student to respond with symbolic descriptions by asking them to write the answer.</p> <p>These numbers are just suggestions. Try this task with numbers that you think are appropriate for each student. If a student seems to find this task ‘easy’ present the task again with more objects and/or arrange the objects in different formations. If the student finds the task to be difficult, try again with a smaller number of objects.</p>	
<p>Check student’s response:</p> <p style="text-align: center;">Correct Another number: _____ No response</p>	
<p>Check strategies used by the student:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Counted objects by touching each one once and only once – but did not say numbers out loud <input type="checkbox"/> Touched objects and said counting numbers out loud for each one <input type="checkbox"/> Said number words aloud but did not apply them to objects counted (e.g., pointed finger haphazardly at some objects and said counting words aloud that did not necessarily correspond to objects being counted) <input type="checkbox"/> Double counted (e.g. counted one or more objects more than once) <input type="checkbox"/> Moved objects into a different formation (e.g., positioned objects into a line, etc.) then counted each object once and only once <input type="checkbox"/> Said counting numbers aloud without touching objects <input type="checkbox"/> Looked at objects without touching them <input type="checkbox"/> None observed 	
<p>Notes:</p>	

Possible interpretations, issues for follow up, and implications for instruction.	K.1C: The student is expected to use numbers to describe how many objects are in a set (through 20) using verbal and symbolic descriptions
<ul style="list-style-type: none"> • If the student looked at the objects without touching them, how did he or she figure out how many were in the set? Did he or she count silently? Did he or she look at a subset and immediately recognize that a cluster of 4 objects was 4 objects and count on from there? Did he or she subitize or immediately recognize the number without counting? While subitizing is a useful strategy, the student might need to appreciate its limits. It is a good idea to check all answers, especially those that come almost automatically. A teaching strategy might include teaching students ways to check their answers, in this case, by recounting objects one-by-one. • If the student touched objects and said counting numbers out loud for each one, try some simple addition problems. If he or she can do this kind of enumeration, he or she is probably ready since most children start out solving simple addition problems by counting all or counting on. Once the student has counted a set of objects, add one or two more and ask, “How many are there now?” Once the student has answered this question, be sure to follow up with “How do you know” (even if the student’s response was incorrect). Providing students at this stage with simple addition tasks is a great teaching strategy since they will reveal even more about understanding of numbers and counting. • If the student arranged the objects into a line (or similar organized arrangement) does he or she understand that the number labels the total number of objects in the set? If you move the objects around a bit, does he or she need to recount, or does he or she seem to understand that the number of objects is always the same, no matter what the positions of the objects? If you are not sure that the student understands this aspect of cardinality—that the number of objects does not change regardless of the physical arrangement of the objects, a teaching strategy might include providing the student with experiences in which varying numbers of objects are counted in different positions. For example, you could put the objects in a circle to see if the student can count them. • If the student said the counting numbers aloud, did he or she repeat the last number in the counting sequence (e. g, 7...8...8 [objects]?). If he or she didn’t repeat the last number in the counting sequence does he or she understand that each counting word corresponds to one object AND the total number of all objects counted up until that point? That is, “three” refers to the third object counted and the sum total of all objects counted up until that point. If you are not sure that the student understands this aspect of cardinality—that the last number indicates how many—a possible teaching strategy could involve challenging the student to determine how many objects are in a set after counting. One way to do this might be to practice counting something like stickers pasted onto an index card. Once the student has counted the number of stickers, hide the card and ask, “How many stickers am I hiding?” • If no strategies were observed, how do you think the student came up with his or her answer? Follow up with an additional task or have a conversation with the student about how he or she came up with the answer. A goal for you as a teacher might be to take time to observe your students carefully – does she ever seem to count during block play or when working with puzzle games or reading story books? 	