

[Illustrative Mathematics](#)

K.CC Assessing Counting Sequences Part I

[Alignment 1: K.CC.A.2, K.CC.A.1](#)

This activity is designed to determine the appropriate instructional level for a student in a one-on-one interaction with the teacher.

The teacher needs paper and pencil to record the student's reactions. It is important to find a time and place where the student is comfortable and not distracted. Record the exact language of the student's counting, including hesitations, substitutions, and errors, to help identify specific objectives for future lessons. If a student makes an error on a counting sequence, it is not necessary to continue; this is the place where the student needs instruction.

Say,

“Start counting at 1 and I will tell you when to stop” (stop the student at 22)

“Start counting at 10 and I will tell you when to stop” (stop the student at 35)

“Start counting at 54 and I will tell you when to stop” (stop the student at 68)

“Start counting at 86 and I will tell you when to stop” (stop the student at 102)

Commentary:

- Many students, especially English Language Learners, have trouble with the articulation of the “teen” numbers and say 50 for fifteen, 60 for sixteen, or 70 for seventeen. Related to this, students may shift from the teen number to counting by tens with some variation of this type of counting sequence: “13, 14, 50, 60, 70...”
- Students often run into a trouble spot while counting forward when crossing from one family into the next family (i.e., “crossing the decade”). For example, a student may get stuck at 29 and not be able to continue or may continue inappropriately saying something like “28, 29, 90, 91...”

Solution: Solution

“Start counting at 1 and I will tell you when to stop” (stop the student at 22)

A student may not be able to count from 1-22 without skipping numbers. Another possibility is that a student will begin strong and then resort to calling out any number he or she can recall in a random list.

“Start counting at 10 and I will tell you when to stop” (stop the student at 35)

Students who can count from 1 to 22, without problem, may have trouble when asked to begin at 10. Common errors include:

- having trouble getting started, but able to continue without errors when prompted with “11”;
- being unable to cross the decade from 29 to 30, perhaps saying something like “29, 40, 41” or “29, 20, 21” or “29, 90” or “29, 31”.

“Start counting at 54 and I will tell you when to stop” (stop the student at 68)

A student may be able to count from 1-22 and from 10-35, but be unable to cross the decade from 59 to 60. They may also omit numbers like 55 or 66 from the counting sequence.

“Start counting at 86 and I will tell you when to stop” (stop the student at 102)

A student may be able to do all of the above, but have trouble with larger numbers. They may leave out 88 or be unable to cross from 89 to 90 or 99 to 100. Many students have trouble beyond 100.



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