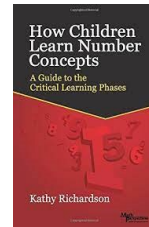


Counting Collections Teacher Guide

1. <https://vimeo.com/45953002>

2. Kathy Richardson's "How Children Learn Number Concepts"

- counts one item for each number (1:1 correspondence)
- keeps track of an unorganized pile
- notices when recounting a group results in a different number
- is bothered when counting a group results in the same number after some have been added or taken away
- spontaneously checks by recounting to see if the results is the same
- knows "how many" after counting
- counts out a particular quantity
- reacts to estimate while counting
- spontaneously adjusts estimate while counting and makes a closer estimate
- knows one more or less in a sequence without counting
- notices if a counting pattern doesn't make sense
- knows one more or less when numbers are not in sequence
- counts by groups by moving the appropriate group of counters
- knows quantity stays the same when counted by different sized groups
- uses numerals to represent quantities



Ask student to estimate how many items are in the collection.

- Does the student make a reasonable estimate?
- Does the student use strategies to make their estimate?
- Is the student wanting to be right/exact?

Ask student to count the collection for you.

- Does the student know the correct order of the number names?
- Does the student touch or move each item while simultaneously saying the number names?
- Is the count accurate?
- Does the student organize and keep track of the count?
- Ask to stop midway and ask "Are you happy with your estimate? Do you want to change it?"

When finished counting, ask, "How many are there?"

- Does the student recount or hesitate? Or does the student trust that the count stays the same?

Ask "Can you count the collection another way?" (Prompt by asking "Can you count 2 at a time or 5 at a time?" if needed.)

- Watch for **Principles of Counting**:
 - o One-to-one Correspondence – number of objects corresponds with the number being said – moves two objects when counting by twos.
 - o Conservation of Number – the arrangement, starting point and order in which the objects are counted do not change the quantity
 - o Cardinality – the last counting word tells "how many" objects are in the set
 - o Stable Order – the counting order never changes

Take this opportunity to ask how many there would be in the collection if you added one more or took one away (One More, One Less). Now try two more, two less