

Session 1: Subitizing

Possible Progression of Number Concepts from Approximately 3- to 6-Years-Old (End of Kindergarten)

The lines between columns are intentionally fuzzy because children’s learning is not linear. They may seem to have mastered a skill, but then suddenly need more practice with it. This progression is not to be used as an assessment or checklist, or to judge whether a child is ready to transition to Kindergarten. They represent expectations for children, but each child will reach these indicators at their own pace and their own way. These are meant to help you know what to expect; what learning may come first and what learning may come next for most children.

	Increasing Knowledge 			
Verbally count	Recites number names to 10 with occasional errors	Recites number words to 20 with occasional errors	Recites number words to 40 with occasional errors most likely in the teens	Counts to 100 by ones and tens
Count objects	Uses one-to-one correspondence for small groups of objects (under 5)	Uses one-to-one correspondence when counting (up to 10 objects)	Uses one-to-one correspondence when counting (up to 15)	Uses one-to-one correspondence when counting (up to 25)
Cardinality	Begins to understand that the last number tells the number of objects in a group	Understands the last number name said tells the number of objects counted up to 6 things.	Understands the last number name said tells the number of objects counted. Can count out n objects up to 10.	Counts to answer how many for up to 20 objects arranged in a line, array, circle, or up to 10 in a scattered configuration. Can count out n objects up to 20.
Subitizing	Begins to recognize the number of objects in a group of two or three without counting (subitizing)	Quickly sees how many for 1, 2, and 3 objects (subitize). May begin to subitize visually or conceptually up to 5 objects (by seeing 2 and 3).	Quickly sees how many with 1-10 objects when they are in a familiar arrangement; uses chunking for numbers 6-10 with a 5 group (array, fingers, dice pattern  ).	Quickly sees how many with 1-10 objects when they are in a familiar arrangement; uses chunking for numbers 6-10 with a 5 group (array, fingers, dice pattern  ).



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Read and write numerals	Identifies numerals as being different than letters and identifies some, such as 3.	Reads numerals 1-5	Reads numerals 1-10, begins to write some, such as 1, 3, 7	Reads and writes numerals 0-20
Compare numbers	Uses language to compare the number of objects in two groups (more, less, same)	Begins using strategies to find which is more for two numbers ≤ 5 .	Uses counting to find which is more for two numbers ≤ 5 . Uses the words less (fewer) than/more than/same as.	Identifies whether the number of objects in one group is greater than, less than, or equal another group of objects. Compares two written numerals between 1 and 10.
Counting on				Counts on from a given number instead of starting at 1 (e.g., starts at 3, counts 4, 5, 6)

For more detailed and interactive learning trajectories see: Clements, D. H., & Sarama, J. (2017/2019). Learning and teaching with learning trajectories [LT]2. Retrieved from Marsico Institute, Morgridge College of Education, University of Denver. Website: www.LearningTrajectories.org



