Games for Young Mathematicians
Jumping on the Lily Pads

Progression of Number Concepts from 3- to End of Kindergarten

The lines between columns are intentionally fuzzy because the age is approximate. This progression is not to be used as an assessment or checklist, or to judge whether a child is ready to transition to Kindergarten. The information here shows a common (not universal) trajectory of learning, and rough ages at which children may reach each point in the trajectory. Children 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.

	@3 years old	@4 years old	@5 years old	End of Kindergarten Common Core Standard
Verbally count	Recites number names to 10 with occasional errors	Recites number words to 20 with some errors especially in the teens	Recites number words to 40 with some errors especially in the teens	Counts to 100 by ones and tens (K.CC.A.1)
Count objects	Begins to use 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	Uses one-to-one correspondence when counting (K.CC.B.4.A)
Cardinality	Begins to understand that the last number tells the number of objects in a group	Understands that the last number name used tells the number of objects counted up to 6 things.	Understands the last number name used 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. (K.CC.B.5)
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)	Begins to see how many with 1-10 objects when they are in a familiar arrangement; begins to use 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 (K.CC.A.3)
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 (K.CC.C.6 & 7)
Composing and decompos-ing numbers	Knows the whole is bigger than the parts, but may not correctly quantify	Beginning to know number combinations up to 4 or 5 (3 has 2 and 1 in it)	Uses objects or fingers to decompose small numbers (3, 4, 5) into its parts (5 has 4 and 1 and 3 and 2 inside it). Names parts of numbers up to 5	Decomposes numbers to 10 into pairs using objects, drawings, and/or equations. Knows the pairs that make 10. Fluently adds and subtracts within 5. (K.OA.A.2 & 5)
Counting on				Counts on from a given number instead of starting at 1 (e.g., starts at 3, counts 4, 5, 6) (K.CC.A.1)