

## Math Learning Progressions – Kindergarten

Foundations of Counting			
<b>1. Know number names and the count sequence.</b>			
<b>1. Count forward orally from 0 to 100 by ones and tens. Count backward orally from 10 to 0 by ones.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
Count to 21 by ones	Count to 50 by ones, Count backward 5 to 0	Count to 100 by ones, Count backward 10 to 0	Count to 100 by tens
<b>2. Count to 100 by ones beginning with any given number between 0 and 99.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	From any number to 21	From any number to 50	From any number to 99
<b>3. Write numerals from 0 to 20.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Write numbers 0 to 10 correctly <span style="color: green;">with a model</span>	Write numbers 0-20 correctly <span style="color: green;">with a model</span>	Count a set of objects and write the corresponding number 0-20 correctly
<b>a. Represent 0-20 using concrete objects when given a written numeral from 0 to 20</b>			
Identify a numeral 0-5 and make a matching set	Identify a numeral 0-10 and make a matching set	Identify a numeral 0-20 and make a matching set	Same as 3 <sup>rd</sup> nine weeks
<b>2. Count to tell the number of objects.</b>			
<b>4. Connect counting to cardinality using a variety of concrete objects.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
<b>a. Say the number names in consecutive order when counting objects.</b>			
Touch and count objects accurately to 10	Touch and count objects accurately to 15	Touch and count objects accurately to 20	
<b>b. Indicate that the last number name said tells the number of objects counted in a set.</b>			
Count to tell the total of objects up to 10	Count to tell the total of objects up to 15	Count to tell the total of objects up to 20	

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<b>c. Indicate that the number of objects in a set is the same regardless of their arrangement or the order in which they were counted.</b>			
Count and tell the number of objects to 10 when mixed up	Count and tell the number of objects to 15 when mixed up	Count and tell the number of objects to 20 when mixed up	
<b>d. Explain that each successive number name refers to a quantity that is one larger.</b>			
Tell the total is one larger when adding one more object to a set up to 10	Tell the total is one larger when adding one more object to a set up to 15	Tell the total is one larger when adding one more object to a set up to 20	
<b>5. Count to answer “how many?” questions.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
<b>a. Count using no more than 20 concrete objects arranged in a line, a rectangular array, or a circle</b>			
Count to 10 in any arrangement	Count to 15 in any arrangement	Count to 20 in any arrangement	
<b>b. Count using no more than 10 concrete objects in a scattered configuration</b>			
		Count objects in a scattered configuration to 10	
<b>c. Draw the number of objects that matches a given numeral from 0 to 20</b>			
Identify a numeral 0-5 and draw a matching set	Identify a numeral 0-10 and draw a matching set	Identify a numeral 0-20 and draw a matching set	
<b>3. Compare numbers.</b>			
<b>6. Orally identify whether the number of objects in one group is greater/more than, less/fewer than, or equal/the same as the number of objects in another group, in groups containing up to 10 objects, by using matching, counting, or other strategies.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
Tell a group of objects up to 5 is greater than, less than, or the same as another group	Tell a group of objects up to 10 is greater than, less than, or the same as another group		

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<b>7. Compare two numbers between 0 and 10 presented as written numerals (without using inequality symbols).</b>			
<i>1st nine weeks</i>	<i>2nd nine weeks</i>	<i>3rd nine weeks</i>	<i>4th nine weeks</i>
Tell a numeral 0 to 5 is greater than, less than, or the same as another numeral	Tell a numeral 0 to 10 is greater than, less than, or the same as another numeral.		

<b>Operations and Algebraic Thinking</b>			
<b>4. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b>			
<b>8. Represent addition and subtraction up to 10 with concrete objects, fingers, pennies, mental images, drawings, claps or other sounds, acting out situations, verbal explanations, expressions, or equations.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Represent addition and subtraction using a variety of strategies up to 5	Represent addition and subtraction using a variety of strategies up to 10	
<b>9. Solve addition and subtraction word problems, and add and subtract within 10, by using concrete objects or drawings to represent the problem.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Can solve + and - word problems within 5 with objects or drawings	Can solve + and - word problems within 8 with objects or drawings	Can solve + and - word problems within 10 with objects or drawings
<b>10. Decompose numbers less than or equal to 10 into pairs of smaller numbers in more than one way, by using concrete objects or drawings, and record each decomposition by a drawing or equation. Example: <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math></b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Break apart numbers up to 5 and record by drawing	Break apart numbers up to 8 and record by drawing	Break apart numbers up to 10 and record by drawing or writing an equation

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<b>11. For any number from 0 to 10, find the number that makes 10 when added to the given number, by using concrete objects or drawings, and record the answer with a drawing or equation.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		Determine how many more are needed to make 10 using objects or drawings	Determine how many more are needed to make 10 using objects or drawings and record using a drawing or equation
<b>12. Fluently add and subtract within 5 (up to 5 seconds).</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Mentally add and subtract up to 3 flexibly, accurately, and efficiently	Mentally add and subtract up to 4 flexibly, accurately, and efficiently	Mentally add and subtract up to 5 flexibly, accurately, and efficiently
<b>5. Understand simple patterns.</b>			
<b>13. Duplicate and extend simple patterns using concrete objects.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
Recognize and duplicate a pattern in a variety of ways	Duplicate and extend simple repeating patterns		

<b>Operations with Numbers</b>			
<b>6. Work with numbers 11-19 to gain foundations for place value.</b>			
<b>14. Compose and decompose numbers from 11 to 19 by using concrete objects or drawings to demonstrate understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		make and break apart teen numbers using tens and	

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		ones with objects or drawings	
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Data Analysis			
7. Collect and analyze data and interpret results.			
<b>15. Classify objects into given categories of 10 or fewer; count the number of objects in each category and sort the categories by count.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
sort objects into categories	sort objects into categories, count each set, and sort the categories by count according to quantity		
<b>a. Categorize data on Venn diagrams, pictographs, and "yes-no" charts using real objects, symbolic representations, or pictorial representations.</b>			
Participate in data collection using a Venn diagram or yes/no chart	Represent data using a pictograph		

Measurement			
8. Describe and compare measurable attributes.			
<b>16. Identify and describe measurable attributes (length, weight, height) of a single object using vocabulary such as long/short, heavy/light, or tall/short.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Use words to tell how Long/short, heavy/light, or tall/short		

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<b>17. Directly compare two objects with a measurable attribute in common to see which object has “more of” or “less of” the attribute and describe the difference. Example: Directly compare the heights of two children and describe one child as “taller” or “shorter.”</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
	Compare two objects and describe the measurable similarities and differences		

<b>Geometry</b>			
<b>9. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b>			
<b>18. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
Use position words to tell about the shapes and objects in the environment			
<b>19. Correctly name shapes regardless of their orientations or overall sizes.</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		Tell the name of 2D shapes: squares, circles, triangles, rectangles, hexagons Tell the name of 3D shapes: cubes, cones, cylinders, and spheres	
<b>20. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		Tell if a shape is two-dimensional or three-dimensional	

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10. Analyze, compare, create, and compose shapes.			
<b>21. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (number of sides and vertices or “corners”), and other attributes. Example: having sides of equal length</b>			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		Use words to compare similarities and differences between two- and three-dimensional shapes	
22. Model shapes in the world by building them from sticks, clay balls, or other components and by drawing them.			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		Draw and model two-dimensional shapes Build three-dimensional shapes	
23. Use simple shapes to compose larger shapes. Example: Join two triangles with full sides touching to make a rectangle.			
<i>1<sup>st</sup> nine weeks</i>	<i>2<sup>nd</sup> nine weeks</i>	<i>3<sup>rd</sup> nine weeks</i>	<i>4<sup>th</sup> nine weeks</i>
		Combine shapes to make larger shapes	