Kindergarten
Mathematics Alignment—Common Core State Standards and CT Frameworks

NOTE: CCSS standards shown in blue do not equivalent CT standards.

CCSS Standards	CT Framework Grade Level Expectations
K.CC - Counting and Cardinality:	
Know number names and the count sequence.	
K.CC.1: Count to 100 by ones and tens.	CT.PK.2.2.5: Count by rote to at least twenty.
	CT.K.2.2.7: Count by rote to at least 30.
	CT.K.2.2.8: Count and group up to 30 objectives by tens.
	CT.1.2.1.1: Represent and identify whole numbers up to 100 as groups of tens and ones using models and number lines.
	CT.1.2.2.9: Count by rote to at least 100.
K.CC.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	CT.PK.2.2.5: Count by rote to at least 20.
	CT.1.2.2.10: Count on from a given amount orally and with models, and count back from ten.
K.CC.3: Write numbers from 0 – 20. Represent a number of objects with a written numeral 0 – 20 (with 0 representing a count of no objects).	CT.PK.2.1.1: Represent quantities of up to 20 objects in a set.
	CT.K.2.1.1: Represent quantities of up to 30 objects in a set.
	CT.K.2.2.9: Identify the numerals 1-30 and match each numeral to an appropriate set of objects.
	CT.1.2.2.12: Identify, read and write numerals to 100.
Count to tell the number of objects.	
K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.	
K.CC.4a: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.	CT.PK.2.1.1: Represent quantities of up to 20 objects in a set.
	CT.K.2.1.1: Represent quantities of up to 30 objects in a set.
	CT.K.2.2.9: Identify the numerals 1-30 and match each numeral to an appropriate set of objects.
K.CC.4b: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.	--Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
K.CC.4c: Understand that each successive number name refers to a quantity that is one larger.	--Understand that each successive number name refers to a quantity that is one larger.

K.CC.5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.	CT.PK.2.1.1: Represent quantities of up to 20 objects in a set.
	CT.K.2.1.1: Represent quantities of up to 30 objects in a set.
Compare numbers.	
K.CC.6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	CT.PK.2.1.2: Compare two sets of up to 20 objects, and identify which set is more, less or the same.
	CT.K.2.1.2: Compare sets of up to 30 objects and use the terms more, less or the same to compare the two sets and identify a set with one more or one less than a given set.
K.CC.7: Compare two numbers between 1 and 10 presented as written numerals.	--Compare two numbers between 1 and 10 presented as written numerals.
Operations and Algebraic Thinking:	
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
K.OA.1: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situation, verbal explanations, expressions, or equations.	CT.K.2.2.10: Act out and solve addition and subtraction story problems that reflect real-world experiences and contextual problems using sets of up to 10 objects and describe the strategy or reasoning used to solve a problem.
	CT.K.2.2.11: Write number sentences that correspond to story problems using addition, subjection and equals symbols (+, -, =) correctly.
K.OA.2: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects and drawings to represent the problem.	CT.K.2.2.11: Write number sentences that correspond to story problems using addition, subjection and equals symbols (+, -, =) correctly.
	CT.PK.2.2.7: Act out and solve story problems using sets of up to 10 objects.
	CT.K.2.2.10: Act out and solve addition and subtraction story problems that reflect real-world experiences and contextual problems using sets of up to 10 objects and describe the strategy or reasoning used to solve a problem.

K.OA.3: Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5=2	CT.1.1.2.5: Model real-life situations that represent the result of counting, combining and separating sets of objects (addition and subtraction of whole numbers) with objects, pictures, symbols and open sentences.
	CT.1.1.3.6: Demonstrate understanding of equivalence or balance with objects, models, diagrams, operations or numbers such as using a balance scale or an arm balance showing the same amount on both sides.
	CT.2.1.3.7: Demonstrate an understanding of equivalence or balance of sets using objects, models, diagrams, numbers, whole number relationships (operations) and the equals sign.
K.OA.4: For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	CT.1.2.2.14: Solve contextual problems using all addition sums to 18 and subtraction differences from 10 with flexibility and fluency.
K.OA.5: Fluently add and subtract within 5.	--Fluently add and subtract within 5.
K.NBT – Number and Operations in Base Ten:	
Work with numbers 11-19 to gain foundations for place value.	
K.NBT.1: Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18=10+8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	CT.1.2.1.1: Represent and identify whole numbers up to 100 as groups of tens and ones using models and number lines.
	CT.1.1.2.5: Model real-life situations that represent the result of counting, combining and separating sets of numbers (addition and subtraction of whole numbers) with objects, pictures, symbols and open sentences.
	CT.1.1.3.6: Demonstrate understanding of equivalence or balance with objects, models, diagrams, operations or numbers such as using a balance scale or an arm balance showing the same amount on both sides.
	CT.2.1.3.7: Demonstrate an understanding of equivalence or balance of sets using objects, models, diagrams, numbers, whole number relationships (operations) and the equals sign.

K.MD – Measurement and Data:	
Describe and compare measureable attributes.	
K.MD.1: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	CT.PK.1.1.1: Sort and classify familiar objects by a single attribute, including size, shape, color, texture, orientation and position and explain the reason.
	CT.1.1.1.1: Sort, classify and order numbers and objects by one and two attributes including size, shape, color, texture, orientation, position and use, and explain the reason or rule used.
	CT.K.3.3.8: Use nonstandard units, physical referents (such as a finger) or everyday objects such as links, Unifix® cubes or blocks to compare, estimate and order measures of length, area, capacity, weight and temperature and describe the reasoning and strategies used.
	CT.K.3.3.9: Describe and order small sets of familiar objects by size, length or area using comparative language such as more, bigger, longer, shorter and taller.
	CT.K.3.3.10: Use a balance scale to compare the weight of two objects and identify which is heavier.
K.MD.2: Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference, e.g., comparing the heights of two children and describing one child as taller or shorter.	CT.PK.3.3.8: Use nonstandard units of reference to compare length, area and capacity and to order, estimate and sort objects by size (length or area). Describe the comparisons using language such as more, longer, shorter or taller.
	CT.K.3.1.2: Compare and sort familiar shapes and solids in the environment and contextual situations.
	CT.K.3.3.8: Use nonstandard units, physical referents (such as a finger) or everyday objects such as links, Unifix® cubes or blocks to compare, estimate and order measures of length, area, capacity, weight and temperature and describe the reasoning and strategies used.
	CT.K.3.3.9: Describe and order small sets of familiar objects by size, length or area using comparative language such as more, bigger, longer, shorter and taller.
	CT.K.3.3.10: Use a balance scale to compare the weight of two objects and identify which is heavier.
Classify objects and count the number of objects in categories.	
K.MD.3: Classify objects into given categories; count the numbers of objects in easy category and sort the categories by count.	--Classify objects into given categories; count the numbers of objects in easy category and sort the categories by count.

K.G – Geometry	
Identify and describe shapes.	
K.G.1: 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*.	CT.PK.3.2.4: Describe location, direction and position of objects using terms such as under, over, inside, next to, near, in front of, first and last.
	CT.K.3.1.1: Identify and describe familiar shapes (triangles, squares, rectangles and circles) and solids (cubes, spheres, cylinders, cones and prisms) in the environment.
	CT.K.3.2.4: Describe location, direction and position of objects or parts of objects using terms such as under/over, inside/outside, next to/near, top/bottom, in front of, first and last.
K.G.2: Correctly name shapes regardless of their orientations or overall size.	CT.K.3.1.1: Identify and describe familiar shapes (triangles, squares, rectangles and circles) and solids (cubes, spheres, cylinders, cones and prisms) in the environment.
	CT.1.3.11: Identify and describe familiar two-dimensional shapes and three-dimensional solids in the environment and contextual situations.
K.G.3: Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	CT.1.3.11: Identify and describe familiar two-dimensional shapes and three-dimensional solids in the environment and contextual situations.
Analyze, compare, create, and compose shapes.	
K.G.4: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes, (e.g., having sides of equal length).	--Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes, (e.g., having sides of equal length).
K.G.5: Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	CT.K.3.1.3: Construct small sets of shapes and solids using a variety of materials.
K.G.6: Compose simple shapes to form larger shapes, e.g., joining two triangles with full sides touching to make a rectangle.	CT.2.3.2.4: Investigate and predict the result of putting together and taking apart two- and three-dimensional shapes in the environment (i.e., use objects to find other shapes that can be made from three triangles or a rectangle and a triangle).
The following CT standard(s) are not matched to the CCSS and should not be addressed by instruction at this level.	
	CT.K.4.3.7: Engage in simple probability activities and discuss the results.