**California’s Mathematics Preschool Learning Foundations to Kindergarten Content/Common Core Standards**

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| NUMBER SENSE | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Understanding the Relationship between Numbers & Quantities | 1.0 Children begin to understand numbers andquantities in their everyday environment2.0 Children begin to understand numberrelationships and operations in their everydayenvironment | 1.0 Children expand their understanding ofnumbers and quantities in their everyday environment2.0 Children expand their understanding of number relationships and operations in their everyday environment |  | 1.0 Students understand the relationship between numbers and quantities (i.e., thata set of objects has the same number of objects in different situations regardless ofits position or arrangement) | **Count to tell the number of objects.**4. Understand the relationship between numbers and quantities; connect counting to cardinality.*a. 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.**b. 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.**c. Understand that each successive number name refers to a quantity that is one larger.*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. |
| Counting & Number Recognition | 1.1 Recite numbers in order to 10 with increasing accuracy1.2 Begin to recognize and name a few written numerals1.4 Count up to five objects, using 1-1 correspondence, with increasing accuracy1.5 Use the number name of the last objectcounted to answer the question, “How many…?” | 1.1 Recite numbers in order to 20 with increasing accuracy1.2 Recognize and know the name of some written numerals1.4 Count up to ten objects, using 1-1 correspondence, with increasing accuracy1.5 Understand, when counting, that the number name of the last object counted represents the total number of objects in the group  |  | 1.2 Count, recognize, represent, name and order a number of objects up to 301.3 Know that the larger numbers describe sets with more objects in them than thesmaller numbers have | **Counting and Cardinality****Know number names and the count sequence.**1. Count to 100 by ones and by tens.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). |
| NUMBER SENSE (CONT.) | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Identifying & Comparing | 1.3 Identify, without counting, the number ofobjects in a collection of up to three objects2.1 Compare visually (with or without counting)two groups of objects that are obviously equalor nonequal and communicate “more” or“same” | 1.3 Identify, without counting, the number ofobjects in a collection of up to four objects2.1 Compare, by counting or matching, twogroups of up to five objects and communicate“more,” “same,” or “less” |  | 1.1 Compare two or more sets of objects (up to ten objects in each group) and identify which set is equal to, more than,or less than the other | **Compare numbers.**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.7. Compare two numbers between 1 and 10 presented as written numerals. |
| Addition & Subtraction Concepts | 2.2 Understand that adding to (or taking away) one or more objects from a group will increase (or decrease) the number of objects in thegroup2.3 Understand that putting two groups of objects together will make a bigger group2.4 Solve simple addition and subtractionproblems nonverbally (and often verbally) with a very small number of objects (sums up to 4 or 5) | 2.2 Understand that adding or taking away one changes the number in a small group of objects by exactly one2.3 Understand that putting two groups of objects together will make a bigger group and that a group of objects can be taken apart into smaller groups2.4 Solve simple addition and subtraction problems with a small number of objects (sums up to 10), usually by counting |  | 2.0 Students should understand simpleadditions and subtractions2.1 Use concrete objects to determine the answers to addition and subtractionproblems (for two numbers that are eachless than 10) | **Operations and Algebraic Thinking****Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**1. Represent addition and subtraction with objects, fingers, mental images, drawings2, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.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 + 3 and 5 = 4 + 1).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.5. Fluently add and subtract within 5. |
| Estimation |  |  |  | 3.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones and tens places3.1 Recognize when an estimate is reasonable |  |

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| ALGEBRA & FUNCTIONS | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Classification & Sorting | 1.0 Children begin to sort and classify objectsin their everyday environment1.1 Sort and classify objects by *one* attribute intwo or more groups, with increasing accuracy | 1.0 Children expand their understanding ofsorting and classifying objects in their everydayenvironment1.1 Sort and classify objects by *one or more*attributes, into two or more groups, withincreasing accuracy |  | 1.0 Students sort and classify objects1.1 Identify, sort, and classify objects byattribute and identify objects that do notbelong to a particular group | **Classify objects and count the number of objects in each category.**3. Classify objects into given categories; count the numbers of objects in each category and sort thecategories by count. |

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| STATISTICS, DATA ANALYSIS, & PROBABILITY | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Pattern Recognition | 2.0 (A&F) Children begin to recognize simple,repeating patterns2.1 (A&F) Begin to identify and recognize asimple repeating pattern | 2.0 (A&F) Children expand their understandingof simple, repeating patterns2.1 (A&F) Recognize and duplicate simplerepeating patterns |  | 1.2 Identify, describe, and extend simplepatterns (such as circles or triangles) byreferring to their shapes, sizes, or colors |  |
| Surveys & Graphs |  |  |  | 1.0 Students collect information aboutobjects and events in their environment1.1 Pose information questions; collectdata; and record the results, using objects,pictures, and picture graphs |  |
| MEASUREMENT & GEOMETRY | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Length, Weight, & Capacity | 1.0 (M) Children begin to compare and orderobjects1.1 (M) Demonstrate an awareness that objectscan be compared by length, weight, or capacity, by noting gross differences, using words such as bigger, longer, heavier, or talleror by placing objects side by side to comparelength1.2 (M) Order three objects by size | 1.0 (M) Children expand their understanding ofcomparing, ordering, and measuring objects1.1 (M) Compare two objects by length, weight, or capacity directly (e.g., putting objects side by side) or indirectly (e.g., using a third object)1.2 (M) Order four or more objects by size1.3 (M) Measure length using multiple duplicates of the same-size concrete units laid end to end |  | 1.0 Students understand … that objects have properties, such as length, weight,and capacity, and that comparisons may be made by referring to those properties1.1 Compare the length, weight, and capacity of objects by making directcomparisons with reference objects (e.g., note which object is shorter, longer, taller,lighter, heavier, or holds more) | **Measurement and Data****Describe and compare measurable attributes.**1. Describe measurable attributes of objects, such as length or weight. Describe several measurableattributes of a single object.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. *For example, directly compare the heights of two children and describe one child as taller/shorter.* |
| Time Concepts |  |  |  | 1.0 Students understand the concept of time and units to measure it …1.2 Demonstrate an understanding of concepts of time (e.g., morning, afternoon,evening, today, yesterday, tomorrow, week, year) and tools that measure time(e.g., clock, calendar)1.3 Name the days of the week1.4 Identify time (to the nearest hour) of everyday events | 4. Demonstrate an understanding of concepts time (e.g., morning, afternoon, evening, today, yesterday, tomorrow, week, year) and tools that measure time (e.g., clock, calendar). *a. Name the days of the week.* *b. Identify the time (to the nearest hour) of everyday events (e.g., lunch time is 12**o’clock, bedtime is 8 o’clock at night).*  |

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| MEASUREMENT & GEOMETRY (CONT.) | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Shapes & Attributes | 1.0 (G) Children begin to identify and use common shapes in their everyday environment1.1 (G) Identify simple, two-dimensional shapes, such as circle and square1.2 Use individual shapes to represent differentelements of a picture or design | 1.0 (G) Children identify and use a variety of shapes in their everyday environment1.1 (G) Identify, describe, and construct a variety of different shapes, including variations of a circle, triangle, rectangle, square, and other shapes1.2 Combine different shapes to create apicture or design |  | 2.0 Students identify common objects in their environment and describe the geometric features2.1 Identify and describe common geometric objects (e.g. circle, triangle,square, rectangle, cube, sphere, cone)2.2 Compare familiar plane and solid objects by common attributes (e.g., position, shape, size, roundness, number of corners) | **Geometry****Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).**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*.2. Correctly name shapes regardless of their orientations or overall size.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). |
| Spatial Concepts | 2.0 (G) Children begin to understand positionsin space2.1 (G) Identify positions of objects and peoplein space, such as in/on/under, up/down, andinside/outside | 2.0 (G) Children expand their understanding ofpositions in space2.1 (G) Identify positions in space, includingin/on/under, up/down, inside/outside,beside/between, and in front/behind |  |  |  |
| Analyze, Compare, Create, and Compose Shapes |  |  |  |  | **Analyze, compare, create, and compose shapes.**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).5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.6. Compose simple shapes to form larger shapes. *For example, “Can you join these two triangles with full sides touching to make a rectangle?”* |
| MATHEMATICAL REASONING | At around 48 months | At around 60 months | Transitional Kindergarten | At the end of Kindergarten | Common Core Content Standards |
| Problem Solving | 1.0 Children use mathematical thinking tosolve problems that arise in their everyday environment1.1 Begin to apply simple mathematical strategies to solve problems in theirenvironment | 1.0 Children expand the use of mathematical thinking to solve problems that arise in their everyday environment1.1 Identify and apply a variety of mathematical strategies to solve problemsin their environment |  | 1.0 Students make decisions about how to set up a problem1.1 Determine the approach, materials, and strategies to be used1.2 Use tools and strategies, such as manipulatives or sketches, to model problems |  |
| Analysis & Assessment |  |  |  | 2.0 Students solve problems in reasonable ways and justify their reasoning2.1 Explain the reasoning used with concrete objects and/ or pictorial representations2.2 Make precise calculations and check the validity of the results in the context ofthe problem |  |
| Numbers & Operations in Base Ten |  |  |  |  | **Number and Operations in Base Ten****Work with numbers 11–19 to gain foundations for place value.**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. |