**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 and  quantities in their everyday environment  2.0 Children begin to understand number  relationships and operations in their everyday  environment | 1.0 Children expand their understanding of  numbers and quantities in their everyday environment  2.0 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., that  a set of objects has the same number of objects in different situations regardless of  its 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 accuracy  1.2 Begin to recognize and name a few written numerals  1.4 Count up to five objects, using 1-1 correspondence, with increasing accuracy  1.5 Use the number name of the last object  counted to answer the question, “How many…?” | 1.1 Recite numbers in order to 20 with increasing accuracy  1.2 Recognize and know the name of some written numerals  1.4 Count up to ten objects, using 1-1 correspondence, with increasing accuracy  1.5 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 30  1.3 Know that the larger numbers describe sets with more objects in them than the  smaller 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 of  objects in a collection of up to three objects  2.1 Compare visually (with or without counting)  two groups of objects that are obviously equal  or nonequal and communicate “more” or  “same” | 1.3 Identify, without counting, the number of  objects in a collection of up to four objects  2.1 Compare, by counting or matching, two  groups 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 the  group  2.3 Understand that putting two groups of objects together will make a bigger group  2.4 Solve simple addition and subtraction  problems 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 one  2.3 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 groups  2.4 Solve simple addition and subtraction problems with a small number of objects (sums up to 10), usually by counting |  | 2.0 Students should understand simple  additions and subtractions  2.1 Use concrete objects to determine the answers to addition and subtraction  problems (for two numbers that are each  less 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 places  3.1 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 objects  in their everyday environment  1.1 Sort and classify objects by *one* attribute in  two or more groups, with increasing accuracy | 1.0 Children expand their understanding of  sorting and classifying objects in their everyday  environment  1.1 Sort and classify objects by *one or more*  attributes, into two or more groups, with  increasing accuracy |  | 1.0 Students sort and classify objects  1.1 Identify, sort, and classify objects by  attribute and identify objects that do not  belong 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 the  categories 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 patterns  2.1 (A&F) Begin to identify and recognize a  simple repeating pattern | 2.0 (A&F) Children expand their understanding  of simple, repeating patterns  2.1 (A&F) Recognize and duplicate simple  repeating patterns |  | 1.2 Identify, describe, and extend simple  patterns (such as circles or triangles) by  referring to their shapes, sizes, or colors |  |
| Surveys & Graphs |  |  |  | 1.0 Students collect information about  objects and events in their environment  1.1 Pose information questions; collect  data; 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 order  objects  1.1 (M) Demonstrate an awareness that objects  can be compared by length, weight, or capacity, by noting gross differences, using words such as bigger, longer, heavier, or taller  or by placing objects side by side to compare  length  1.2 (M) Order three objects by size | 1.0 (M) Children expand their understanding of  comparing, ordering, and measuring objects  1.1 (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 size  1.3 (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 properties  1.1 Compare the length, weight, and capacity of objects by making direct  comparisons 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 measurable  attributes 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 week  1.4 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 environment  1.1 (G) Identify simple, two-dimensional shapes, such as circle and square  1.2 Use individual shapes to represent different  elements of a picture or design | 1.0 (G) Children identify and use a variety of shapes in their everyday environment  1.1 (G) Identify, describe, and construct a variety of different shapes, including variations of a circle, triangle, rectangle, square, and other shapes  1.2 Combine different shapes to create a  picture or design |  | 2.0 Students identify common objects in their environment and describe the geometric features  2.1 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 positions  in space  2.1 (G) Identify positions of objects and people  in space, such as in/on/under, up/down, and  inside/outside | 2.0 (G) Children expand their understanding of  positions in space  2.1 (G) Identify positions in space, including  in/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 to  solve problems that arise in their everyday environment  1.1 Begin to apply simple mathematical strategies to solve problems in their  environment | 1.0 Children expand the use of mathematical thinking to solve problems that arise in their everyday environment  1.1 Identify and apply a variety of mathematical strategies to solve problems  in their environment |  | 1.0 Students make decisions about how to set up a problem  1.1 Determine the approach, materials, and strategies to be used  1.2 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 reasoning  2.1 Explain the reasoning used with concrete objects and/ or pictorial representations  2.2 Make precise calculations and check the validity of the results in the context of  the 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. |