California Mathematics

Pre-K

Number Sense 1

1 At around 48 months of age: 1.1

1 Children begin to understand numbers and quantities in their everyday environment. 1.1.1.0

1 Recite numbers in order to ten with increasing accuracy. 1.1.1.1

2 Begin to recognize and name a few written numerals. 1.1.1.2

3 Identify, without counting, the number of objects in a collection of up to three objects (i.e., subitize). 1.1.1.3

4 Count up to five objects, using one-to-one correspondence (one object for each number word) with increasing accuracy. 1.1.1.4

5 Use the number name of the last object counted to answer the question, “How many . . . ?” 1.1.1.5

2 Children begin to understand number relationships and operations in their everyday environment. 1.1.2.0

1 Compare visually (with or without counting) two groups of objects that are obviously equal or nonequal and communicate, “more” or “same.” 1.1.2.1

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. 1.1.2.2

3 Understand that putting two groups of objects together will make a bigger group. 1.1.2.3

4 Solve simple addition and subtrac tion problems nonverbally (and often verbally) with a very small number of objects (sums up to 4 or 5). 1.1.2.4

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2 At around 60 months of age: 1.2

1 Children expand their under standing of numbers and quantities in their everyday environment. 1.2.1.0

1 Recite numbers in order to twenty with increasing accuracy. 1.2.1.1

2 Recognize and know the name of some written numerals. 1.2.1.2

3 Identify, without counting, the number of objects in a collection of up to four objects (i.e., subitize). 1.2.1.3

4 Count up to ten objects, using one-to-one correspondence (one object for each number word) with increasing accuracy. 1.2.1.4

5 Understand, when counting, that the number name of the last object counted represents the total number of objects in the group (i.e., cardinality). 1.2.1.5

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2 Children expand their under standing of number relation ships and operations in their everyday environment. 1.2.2.0

1 Compare, by counting or matching, two groups of up to ve objects and communicate, “more,” “same as,” or “fewer” (or “less”). 1.2.2.1

2 Understand that adding one or taking away one changes the number in a small group of objects by exactly one. 1.2.2.2

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. 1.2.2.3

4 Solve simple addition and subtrac tion problems with a small number of objects (sums up to 10), usually by counting. 1.2.2.4

Algebra and Functions (Classification and Patterning) 2

1 At around 48 months of age 2.1

1 Children begin to sort and classify objects in their everyday environment. 2.1.1.0

1 Sort and classify objects by one attribute into two or more groups, with increasing accuracy. 2.1.1.1

2 Children begin to recognize simple, repeating patterns. 2.1.2.0

1 Begin to identify or recognize a simple repeating pattern. 2.1.2.1

2 Attempt to create a simple repeating pattern or participate in making one. 2.1.2.2

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2 At around 60 months of age 2.2

1 Children expand their understanding of sorting and classifying objects in their everyday environment. 2.2.1.0

1 Sort and classify objects by one or more attributes, into two or more groups, with increasing accuracy (e.g., may sort rst by one attribute and then by another attribute). 2.2.1.1

2 Children expand their understanding of simple, repeating patterns. 2.2.2.0

1 Recognize and duplicate simple repeating patterns. 2.2.2.1

2 Begin to extend and create simple repeating patterns. 2.2.2.2

Measurement 3

1 At around 48 months of age: 3.1

1 Children begin to compare and order objects. 3.1.1.0

1 Demonstrate 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. 3.1.1.1

2 Order three objects by size. 3.1.1.2

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2 At around 60 months of age: 3.2

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1 Children expand their understanding of comparing, ordering, and measuring objects. 3.2.1.0

1 Compare two objects by length, weight, or capacity directly (e.g., putting objects side by side) or indirectly (e.g., using a third object). 3.2.1.1

2 Order four or more objects by size. 3.2.1.2

3 Measure length using multiple duplicates of the same-size concrete units laid end to end. 3.2.1.3

Geometry 4

1 At around 48 months of age: 4.1

1 Children begin to identify and use common shapes in their everyday environment. 4.1.1.0

1 Identify simple two-dimensional shapes, such as a circle and square. 4.1.1.1

2 Use individual shapes to represent different elements of a picture or design. 4.1.1.2

2 Children begin to understand positions in space. 4.1.2.0

1 Identify positions of objects and people in space, such as in/on/ under, up/down, and inside/outside. 4.1.2.1

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2 At around 60 months of age: 4.2

1 Children identify and use a variety of shapes in their everyday environment. 4.2.1.0

1 Identify, describe, and construct a variety of different shapes, including variations of a circle, triangle, rect angle, square, and other shapes. 4.2.1.1

2 Combine different shapes to create a picture or design. 4.2.1.2

2 Children expand their understanding of positions in space. 4.2.2.0

1 Identify positions of objects and people in space, including in/on/ under, up/down, inside/outside, beside/between, and in front/behind. 4.2.2.1

Mathematical Reasoning 5

1 At around 48 months of age: 5.1

1 Children use mathematical thinking to solve problems that arise in their everyday environment. 5.1.1.0

1 Begin to apply simple mathematical strategies to solve problems in their environment. 5.1.1.2

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2 At around 60 months of age: 5.2

1 Children expand the use of mathematical thinking to solve problems that arise in their everyday environment. 5.2.1.0

1 Identify and apply a variety of mathematical strategies to solve problems in their environment. 5.2.1.1