

California State Mathematics Content Standards.

Kindergarten

By the end of kindergarten, students understand small numbers, quantities, and simple shapes in their everyday environment. They count, compare, describe and sort objects, and develop a sense of properties and patterns.

Number Sense

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):

1.2 Count, recognize, represent, name, and order a number of objects (up to 30).

“Counting by Ones” allows students to count and sing.

2.0 Students understand and describe 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).

In general, the songs; “Columns”, “Odd and Even”, and “The months” gives students an increased

awareness of number sense.

Measurement and Geometry

1.0 Students understand the concept of time and units to measure it; they understand that objects have properties, such as length, weight, and capacity, and that comparisons may be made by referring to those properties:

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).

“The Clock Song” gives students an opportunity to see time in action while internalizing conceptual understanding.

1.3 Name the days of the week.

“The Days of the Week” songs address this standard.

1.4 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).

“The Clock Song” gives students an opportunity to see time in action while internalizing conceptual understanding.

Grade One

By the end of grade one, students understand and use the concept of ones and tens in the place value

number system. Students add and subtract small numbers with ease. They measure with simple units and locate objects in space. They describe data and analyze and solve simple problems.

Number Sense

1.0 Students understand and use numbers up to 100:

1.1 Count, read, and write whole numbers to 100.

The skip counting songs and “Columns song” address the above two standards in that they allow students to count to a hundred by twos, fives and tens.

2.0 Students demonstrate the meaning of addition and subtraction and use these operations to solve problems:

2.4 Count by 2s, 5s, and 10s to 100.

The skip counting songs and “Columns song” address the above standards in that they allow students to count to a hundred by twos, fives and tens.

2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).

2.6 Solve addition and subtraction problems with one- and two-digit numbers (e.g., $5 + 58 = \underline{\quad}$).

“You Carry Over” and the “Subtraction Song”

address the two above standards.

1.0 Students use number sentences with operational symbols and expressions to solve problems:

1.1 Write and solve number sentences from problem situations that express relationships involving addition and subtraction.

1.2 Understand the meaning of the symbols $+$, $-$, $=$.

1.3 Create problem situations that might lead to given number sentences involving addition and subtraction.

“You Carry Over” and the “Subtraction Song” addresses the above standards.

Measurement and Geometry

1.0 Students use direct comparison and nonstandard units to describe the measurements of objects:

1.2 Tell time to the nearest half hour and relate time to events (e.g., before/after, shorter/longer).

The “Clock song” illustrates telling time.

Grade Two

By the end of grade two, students understand place value and number relationships in addition and subtraction, and they use simple concepts of multiplication. They measure quantities with appropriate units. They classify shapes and see

relationships among them by paying attention to their geometric attributes. They collect and analyze data and verify the answers.

Number Sense

1.0 Students understand the relationship between numbers, quantities, and place value in whole numbers up to 1,000:

1.1 Count, read, and write whole numbers to 1,000 and identify the place value for each digit.

“You Carry Over”, the “Subtraction Song”, “Columns”, and the “Odd and Even” songs address the above standard.

3.0 Students model and solve simple problems involving multiplication and division:

3.1 Use repeated addition, arrays, and counting by multiples to do multiplication.

The selection “Times Table Blues,” addresses automaticity of the times tables with the focus on arrays.

3.2 Use repeated subtraction, equal sharing, and forming equal groups with remainders to do division.

The selection “Long Division” gives a glimpse into this operation.

3.3 Know the multiplication tables of 2s, 5s, and 10s (to "times 10") and commit them to memory.

The selections “Times Table Blues,” “Count by

twos,” and “Count By Fives” address automaticity of the times tables.

6.0 Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, hundreds, and thousands places:

Measurement and Geometry

1.0 Students understand that measurement is accomplished by identifying a unit of measure, iterating (repeating) that unit, and comparing it to the item to be measured:

1.4 Tell time to the nearest quarter hour and know relationships of time (e.g., minutes in an hour, days in a month, weeks in a year).

The “Clock Song” addresses the telling time process.

Statistics, Data Analysis, and Probability

2.0 Students demonstrate an understanding of patterns and how patterns grow and describe them in general ways:

2.2 Solve problems involving simple number patterns.

“Count by twos,” “Count By Fives,” and “Even and Odd” address skip counting skills.

Grade Three

By the end of grade three, students deepen their understanding of place value and their understanding

of and skill with addition, subtraction, multiplication, and division of whole numbers. Students estimate, measure, and describe objects in space. They use patterns to help solve problems. They represent number relationships and conduct simple probability experiments.

Number Sense

1.0 Students understand the place value of whole numbers:

1.1 Count, read, and write whole numbers to 10,000. “Count by twos,” “Count By Fives,” “Even and Odd,” “Round It Off,” and “Columns” all address counting skills.

1.2 Compare and order whole numbers to 10,000. The selection “Round It Off,” “Decimals,” and “Columns” address number ordering.

1.3 Identify the place value for each digit in numbers to 10,000.

The selection “Decimals” addresses the concept of column values.

1.4 Round off numbers to 10,000 to the nearest ten, hundred, and thousand.

The selection “Round It Off” addresses the rounding off process.

2.0 Students calculate and solve problems involving addition, subtraction, multiplication,

and division:

2.1 Find the sum or difference of two whole numbers between 0 and 10,000.

“Subtraction” and “You Carry Over” address the addition and subtraction reordering process.

2.2 Memorize to automaticity the multiplication table for numbers between 1 and 10.

The selection “Times Table Blues” addresses automaticity of the times tables.

Grade Four

By the end of grade four, students understand large numbers and addition, subtraction, multiplication, and division of whole numbers. They describe and compare simple fractions and decimals. They understand the properties of, and the relationships between, plane geometric figures. They collect, represent, and analyze data to answer questions.

Number Sense

1.0 Students understand the place value of whole numbers and decimals to two decimal places and how whole numbers and decimals relate to simple fractions. Students use the concepts of negative numbers:

1.2 Order and compare whole numbers and decimals to two decimal places.

The selection “Decimals” addresses the concept.

1.3 Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.

The selection “Round It Off” addresses the rounding off process.

3.0 Students solve problems involving addition, subtraction, multiplication, and division of whole numbers and understand the relationships among the operations:

3.1 Demonstrate an understanding of, and the ability to use, standard algorithms for the addition and subtraction of multi digit numbers.

“Subtraction” and “You Carry Over” address the addition and subtraction reordering process.

Grade Five

By the end of grade five, students increase their facility

with the four basic arithmetic operations applied to fractions, decimals, and positive and negative numbers. They know and use common measuring units to determine length and area and know and use formulas to determine the volume of simple geometric figures. Students know the concept of angle measurement and use a protractor and compass to solve problems. They use grids, tables, graphs, and charts to record and analyze data.

Number Sense

1.0 Students compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents.

They understand the relative magnitudes of numbers:

1.1 Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.

The selection “Round It Off” addresses the rounding off process.

2.2 Demonstrate proficiency with division, including division with positive decimals and long division with multi digit divisors.

The selection “Long Division” addresses this operation.