

**Grade: K**Strand: Geometry & Spatial Sense; Measurement

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- 1**     **Topic:** Measurement  
**Standard:** Explores capacities of containers by pouring and describes capacity in terms of more than, less than, least, and most.
- 2**     **Topic:** Time  
**Standard:** Recognizes terms of time periods (include sequences, where appropriate), such as yesterday, today, tomorrow, morning, afternoon, night, week, and seasons. Understands meaning of takes less time than, and takes more time than.

Strand: Number Sense & Numeration; Fractions & Decimals

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- 3**     **Topic:** Fractions  
**Standard:** Recognizes one-half as part of a whole.

Strand: Geometry & Spatial Sense; Measurement

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- 4**     **Topic:** Geometry  
**Standard:** Recognize, name, draw, and construct basic geometric shapes [circle, square, triangle, rectangle, oval (ellipse), and diamonds (rhombus)].
- 5**     **Topic:** Geometric Relationships  
**Standard:** Compares two geometric shapes to determine relationship (larger than, smaller than, same shape as, and same size as).
- 6**     **Topic:** Geometry  
**Standard:** Sorts geometric shapes.
- 7**     **Topic:** Spatial Sense  
**Standard:** Uses words indicating relationships between self and objects in space (such as above, below, on, under, in, behind, in front of, out of, between, top, bottom, left, right, inside, and outside).
- 8**     **Topic:** Measurement  
**Standard:** Measures with multiple copies of the units of the same size, such as paper clips laid end to end.
- 9**     **Topic:** Measurement  
**Standard:** Explores instruments used in measurements of length, distance, time, and capacity.
- 10**    **Topic:** Money  
**Standard:** Names and identifies coins (penny, nickel, dime, and quarter) and dollar bills.
- 11**    **Topic:** Money  
**Standard:** Recognizes coins and bills as representing a system of exchange.

**12**     **Topic:** Measurement  
**Standard:** Compares and describes lengths (longer than, longest, shorter than, shortest, and same length as).

**13**     **Topic:** Measurement  
**Standard:** Compares and describes distances (nearer, farther, and closer to).

## Strand: Number Sense & Numeration; Fractions & Decimals

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**14**     **Topic:** Betweenness  
**Standard:** Identifies a number between two given numbers, and a number before and after a number in numerals (0 through 10) or words (zero through ten).

**15**     **Topic:** Counting  
**Standard:** Recognizes and selects the numerals (0 through 10) and number words to name the number of elements in a set.

**16**     **Topic:** Counting  
**Standard:** Counts the number of elements in a set and writes the corresponding numeral (0 through 10).

**17**     **Topic:** Counting  
**Standard:** Counts, by rote, 0 through 10 forward and backward. Skip counts.

**18**     **Topic:** Spatial Sense  
**Standard:** Uses ordinal numbers to indicate positions first through fifth.

**19**     **Topic:** Sets  
**Standard:** Determines equivalence (using physical models) by establishing one-to-one correspondence between two sets (same as, fewer than, and more than).

## Strand: Patterns & Relationships; Algebra

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**20**     **Topic:** Sequencing  
**Standard:** Continues simple patterns (color, shape, size, sound, texture, seasons, and events).

**21**     **Topic:** Sequencing  
**Standard:** Places objects in order according to size (based on capacity, weight, length, or height).

**22**     **Topic:** Sets  
**Standard:** Uses the terms: all, some, and none.

## Strand: Problem Solving

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**23**     **Topic:** Problem Solving  
**Standard:** Models, acts out, or uses pictures to solve simple problems.

**24**     **Topic:** Problem Solving  
**Standard:** Explores one-step word problems related to all appropriate kindergarten objectives.

## Strand: Statistics & Probability

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**25**     **Topic:** Graphs  
**Standard:** Constructs and interprets graphs using actual objects or pictorial representations.

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 26**     **Topic:** Sets  
**Standard:** Combines and separates sets of objects by a given characteristic (size, shape, color, and quantity) as readiness for the operations of addition and subtraction.

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 27**     **Topic:** Calendar  
**Standard:** Identify days, weeks, and months on a calendar.
- 28**     **Topic:** Calendar  
**Standard:** Orally identify and name the days in a week and the months in a year.
- 29**     **Topic:** Sets  
**Standard:** Identify even and odd numbers.

## Strand: Geometry & Spatial Sense; Measurement

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- 30**     **Topic:** Time  
**Standard:** Tells time to the hour on an analog clock.
- 31**     **Topic:** Measurement  
**Standard:** Compares and weighs real objects using nonstandard measures.

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 32**     **Topic:** Sequencing  
**Standard:** Identify and write the missing number in a sequence.

## Strand: Geometry & Spatial Sense; Measurement

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- 33**     **Topic:** Shapes  
**Standard:** Recognize geometric shapes and structures in the environment and specify their location.
- 34**     **Topic:** Shapes  
**Standard:** Can distinguish between geometric shapes, irregular shapes, and shapes with symmetry.

**Grade: 1**

Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 1**     **Topic:** Estimation  
       **Standard:** Explores estimation of quantities of less than 100.

Strand: Number Sense & Numeration; Fractions & Decimals

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- 2**     **Topic:** Fractions  
       **Standard:** Recognizes different ways of representing fractions using concrete and pictorial models and words for one-half and one-fourth.

Strand: Geometry & Spatial Sense; Measurement

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- 3**     **Topic:** Plane figures  
       **Standard:** Identifies circle, square, triangle, oval (ellipse), diamond, rhombus, and rectangle in various orientations/positions.
- 4**     **Topic:** Solid figures  
       **Standard:** Identifies spheres, cubes, and cones.
- 5**     **Topic:** Spatial Relationships  
       **Standard:** Identifies a specified positional relationship between objects (before, after, between, near, left, right, inside, outside, and close to).
- 6**     **Topic:** Symmetry  
       **Standard:** Determines figures that are symmetrical by folding.
- 7**     **Topic:** Visualization  
       **Standard:** Identifies the shapes (e.g., two triangles to make a rectangle) that can be put together to make a given shape.
- 8**     **Topic:** Comparing  
       **Standard:** Compares or orders shapes by size (same size as, larger than, smaller than, largest, or smallest).
- 9**     **Topic:** Geometric Relationships  
       **Standard:** Identifies relationships (larger than, largest, smaller than, smallest, same size as, same shape as, inside, outside, on, left, right).
- 10**    **Topic:** Measurement  
       **Standard:** Describes, orders, measures length using inches and centimeters.
- 11**    **Topic:** Measurement  
       **Standard:** Selects appropriate instrument for determining specified measurement of height, weight, capacity, and temperature.

- 12**     **Topic:** Money  
**Standard:** Names and identifies values of coins (penny, nickel, dime, quarter) and dollar bills.
- 13**     **Topic:** Money  
**Standard:** Determines the value of a set of coins up to \$0.50 using quarters, nickels, pennies, and dimes.
- 14**     **Topic:** Money  
**Standard:** Determines equivalent values of coins up to \$0.50.
- 15**     **Topic:** Time  
**Standard:** Identifies days, weeks, and months on a calendar.
- 16**     **Topic:** Time  
**Standard:** Identifies number of minutes in an hour, number of days in a week, and number of months in a year.
- 17**     **Topic:** Time  
**Standard:** Selects appropriate units (minutes, hours, days, weeks, and months) and appropriate instruments (clocks and calendars) to measure time.
- 18**     **Topic:** Time  
**Standard:** Tells time to the half-hour and hour.
- 19**     **Topic:** Measurement  
**Standard:** Compares weight of two real objects (heavier than, lighter than) and capacity of two real containers (more than, less than) using both dry and liquid measure units, and compares the height of two real objects (shorter than, taller than).

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 20**     **Topic:** Counting  
**Standard:** Connect number words and numerals to the quantities they represent, using various physical models and representations through 100.
- 21**     **Topic:** Counting  
**Standard:** Counts by ones, fives, and tens to 100 and by twos to 20. Counts backwards from 20.
- 22**     **Topic:** Expanded Notation  
**Standard:** Models and pictorially represents whole numbers through 100 using groups of tens and ones and orally names numbers (e.g., 3 tens, 2 ones; thirty-two or  $30 + 2 = 32$ ).
- 23**     **Topic:** Number Names  
**Standard:** Translates words to numerals and numerals to words (0 to 20).
- 24**     **Topic:** Number Names  
**Standard:** Recognizes, writes, and orally names numerals 0 through 99.
- 25**     **Topic:** Number Sentences  
**Standard:** Recognizes different names for whole numbers through 20 (e.g.,  $4 = 2+2$ ,  $4 = 3+ 1$ ,  $4 = 0 + 4$ ).
- 26**     **Topic:** Ordinals  
**Standard:** Uses ordinal number first through tenth to indicate position.
- 27**     **Topic:** Place Value  
**Standard:** Identifies place value by determining number of tens and ones in a given number.
- 28**     **Topic:** Sequencing  
**Standard:** Identifies numerical relations (greater than, less than, equal to) in ascending order.
- 29**     **Topic:** Sets  
**Standard:** Selects elements (concrete objects) belonging to or not belonging to a given set.

- 30**     **Topic:** Sets  
          **Standard:** Recognizes equivalent and nonequivalent sets using one-to-one correspondence.

Strand: Patterns & Relationships; Algebra

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- 31**     **Topic:** Sequencing  
          **Standard:** Recognize, describe, and extend patterns such as sequences of sounds and shapes or simple numeric patterns and translate from one representation to another.

Strand: Problem Solving

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- 32**     **Topic:** Number Line  
          **Standard:** Sequences numbers and points on a number line and determines missing numerals (0 through 20).
- 33**     **Topic:** Sets  
          **Standard:** Organizes elements of sets according to characteristics such as use, size, and shape.
- 34**     **Topic:** Graphs  
          **Standard:** Interprets data by reading bar graphs and pictographs using whole unit data.
- 35**     **Topic:** Graphs  
          **Standard:** Constructs simple graphs using concrete objects such as blocks and squares.
- 36**     **Topic:** Word Problems  
          **Standard:** Solves one- and two-step word problems related to appropriate first-grade objectives. Includes oral and written problems with extraneous information, as well as information from sources such as bar graphs and pictographs.

Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 37**     **Topic:** Addition  
          **Standard:** Adds two and three single digit whole numbers presented vertically and horizontally (rewrite vertically) without regrouping.
- 38**     **Topic:** Addition and Subtraction  
          **Standard:** Uses models such as base ten blocks, pictorial representation, and number line to explore adding and subtracting two-digit numbers without regrouping.
- 39**     **Topic:** Addition and Subtraction  
          **Standard:** Adds and subtracts two-digit whole numbers without regrouping vertically and horizontally (rewrite vertically).
- 40**     **Topic:** Mathematical Symbols  
          **Standard:** Uses appropriate mathematical symbols (+, -, =).
- 41**     **Topic:** Commutative Property  
          **Standard:** Uses concrete objects to explore the commutative property of addition.
- 42**     **Topic:** Zero Properties  
          **Standard:** Explores the property of zero in addition and subtraction.
- 43**     **Topic:** Addition and Subtraction  
          **Standard:** Relates addition and subtraction to words, pictures, and concrete models, particularly sums and multiples of ten.
- 44**     **Topic:** Addition and Subtraction  
          **Standard:** Determines addition and subtraction facts up to 18 using strategies such as counting all of a set, part-whole, counting on, counting back, counting up, doubles, property of zero, and commutativity of addition.

**45** **Topic:** Addition and Subtraction

**Standard:** Recalls addition facts (sums to 18) and related subtraction facts presented vertically and horizontally (rewrite vertically).

Strand: Number Sense & Numeration; Fractions & Decimals

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**46** **Topic:** Rounding

**Standard:** Round whole number to nearest ten.

Strand: Whole Number Computation; Estimation; Whole Number Operations

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**47** **Topic:** Addition and Subtraction

**Standard:** Use a variety of methods and tools to compute, including objects, mental computation, and paper and pencils.

Strand: Geometry & Spatial Sense; Measurement

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**48** **Topic:** Measurement

**Standard:** Use a variety of tools to measure.

Strand: Number Sense & Numeration; Fractions & Decimals

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**49** **Topic:** Sets

**Standard:** Identify even and odd numbers.

**Grade: 2**Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 1**     **Topic:** Estimation  
**Standard:** Explores concept of estimates (finding numbers close to a given value and recognizing which of two numbers is closer to a third number).
- 2**     **Topic:** Multiples  
**Standard:** Determines to which multiple of 10 a given number (to 100) is closer using a number line.

Strand: Number Sense & Numeration; Fractions & Decimals

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- 3**     **Topic:** Fractions  
**Standard:** Relates fractions (halves, thirds, fourths,  $\frac{1}{6}$ ,  $\frac{1}{8}$ ,  $\frac{1}{10}$ ) to concrete and pictorial models and relates models to fractions.

Strand: Geometry & Spatial Sense; Measurement

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- 4**     **Topic:** Spatial Sense  
**Standard:** Identifies and draws circles, squares, triangles, ovals (ellipses), and rectangles. Identifies spheres, cubes, cylinders, and cones of various sizes, in various orientations and positions.
- 5**     **Topic:** Symmetry  
**Standard:** Identifies two-dimensional shapes that are symmetrical with respect to a specified line.
- 6**     **Topic:** Visualization  
**Standard:** Identifies the shapes (e.g. two triangles to make a rectangle) that can be put together to make a given shape.
- 7**     **Topic:** Length  
**Standard:** Measures length; using inches and centimeters and selects objects having given dimensions.
- 8**     **Topic:** Measurement  
**Standard:** Selects appropriate customary or metric units of measurement: minute, hour, day, week, month, inch, foot, centimeter, meter, cup, quart, liter, pound, or kilogram.
- 9**     **Topic:** Measurement  
**Standard:** Selects appropriate instrument for determining specified measurement of height, weight, capacity, time, and temperature.
- 10**    **Topic:** Time  
**Standard:** Applies appropriate units to measure time (minutes, hours, days, weeks, months, years), tells time to five minutes, and determines elapsed time.
- 11**    **Topic:** Weight  
**Standard:** Determines weight/mass of objects in ounces, pounds, grams, or kilograms.



- 12**     **Topic:** Estimation  
**Standard:** Explores estimation of quantities (both dry and liquid) and length using standard units including inches and centimeters.

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 13**     **Topic:** Counting and Multiplication Readiness  
**Standard:** Counts by ones, twos, fives, and tens up to 100, threes to 36; and fours to 48.
- 14**     **Topic:** Money  
**Standard:** Determines amounts of money (in a collection up to \$1 and determines change less than \$0.50) using pennies, nickels dimes, quarters, half-dollars, and dollars.
- 15**     **Topic:** Number Names  
**Standard:** Translates words to numerals through 999 and numerals to words, both orally and in writing.
- 16**     **Topic:** Numeration  
**Standard:** Relates whole numbers up to 999 to concrete and pictorial models, relates models to numbers and orally names numbers (e.g., 3 hundreds, 2 tens, 4 ones; three hundred twenty-four; or  $300+20+4=324$ )
- 17**     **Topic:** Ordinals  
**Standard:** Determines ordinal numbers through twentieth.
- 18**     **Topic:** Place Value  
**Standard:** Identifies place value through hundreds and identifies the number of hundreds, tens, and ones in a given numeral.

## Strand: Patterns & Relationships; Algebra

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- 19**     **Topic:** Area  
**Standard:** Describes and compares areas of similar regions (smaller, larger, same).
- 20**     **Topic:** Geometric Relationships  
**Standard:** Identifies geometric relationships (larger, largest, smaller, smallest, same size, same shape, same size and same shape, inside, outside, on left and on right).
- 21**     **Topic:** Number Line  
**Standard:** Orders and locates whole numbers on a number line.
- 22**     **Topic:** Number Sentences  
**Standard:** Uses appropriate symbols (+, -, =, <, >).
- 23**     **Topic:** Sequencing  
**Standard:** Selects number before and after a given number, between two given numbers, and closest to a given number.
- 24**     **Topic:** Sequencing  
**Standard:** Predicts and completes complex patterns such as those involving numbers, shapes, colors, and events.
- 25**     **Topic:** Sets  
**Standard:** Recognizes equivalent sets and nonequivalent sets.
- 26**     **Topic:** Numerical Relationships  
**Standard:** Identifies numerical relations (greater than, less than, and equal to).
- 27**     **Topic:** Sets  
**Standard:** Organizes elements of sets according to given characteristics (shading, color, shape, size, design, and use).

- 28**     **Topic:** Sets  
          **Standard:** Uses the terms: all, some, and none.

## Strand: Problem Solving

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- 29**     **Topic:** Addition and Subtraction  
          **Standard:** Recognizes in a problem solving situation that addition reflects combining elements of sets and that subtraction reflects taking away or comparing elements of sets.
- 30**     **Topic:** Problem Solving  
          **Standard:** Employs problem solving strategies such as draw a picture, guess and check, and make a chart.
- 31**     **Topic:** Word Problems  
          **Standard:** Solves one- and two-step word problems related to appropriate second-grade objectives. Includes oral and written problems and problems with extraneous information as well as information from sources such as bar graphs and pictographs.
- 32**     **Topic:** Graphs  
          **Standard:** Constructs and interprets simple bar graphs and pictographs with up to five columns using whole unit data.

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 33**     **Topic:** Number Theory  
          **Standard:** Uses commutative property of addition and the property of zero in computation.
- 34**     **Topic:** Addition and Subtraction  
          **Standard:** Determines basic addition facts (sums to 20) and related subtraction facts by using strategies such as near doubles, making ten, and using known facts to determine unknown facts.
- 35**     **Topic:** Number Sentences  
          **Standard:** Determines the missing number or symbol in addition or subtraction number.
- 36**     **Topic:** Addition and Subtraction  
          **Standard:** Recalls addition facts (sums to 20) and related subtraction facts presented orally, vertically and horizontally (rewrite vertically).
- 37**     **Topic:** Addition and Subtraction  
          **Standard:** Uses models such as base ten blocks and pictorial representations to explore adding and subtracting one- and two-digit numbers (without regrouping).
- 38**     **Topic:** Addition and Subtraction  
          **Standard:** Initially using manipulatives and then connecting the manipulatives to symbolic procedures, adds combinations of one-, two-, and three-digit numbers without and with regrouping- and subtracts one- and two-digit numbers from two- and three-digit numbers with and without regrouping. Include vertical and horizontal presentation with the horizontal rewritten vertically.
- 39**     **Topic:** Multiplication Readiness  
          **Standard:** Uses concrete objects to explore combining equivalent sets and uses skip-counting as readiness for multiplication.
- 40**     **Topic:** Multiplication Readiness  
          **Standard:** Writes a number sentence that represents a picture or an array.
- 41**     **Topic:** Number Theory  
          **Standard:** Identify even and odd numbers.

## Strand: Geometry & Spatial Sense; Measurement

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42

**Topic:** Measurement

**Standard:** Use repetition of a single unit to measure something larger than the unit, for instance, measuring the length of a room with a single meterstick.

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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43

**Topic:** Addition and Subtraction

**Standard:** Develop fluency with basic number combinations for addition and subtraction.

44

**Topic:** Addition and Subtraction

**Standard:** Use a variety of methods and tools to compute, including objects, mental computation, estimation, and paper and pencil.

## Strand: Geometry & Spatial Sense; Measurement

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45

**Topic:** Symmetry

**Standard:** Recognizes and create shapes that have symmetry.

**Grade: 3**Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 1**     **Topic:** Estimation  
**Standard:** Applies estimation strategies beginning with front-end estimation and simple compatible numbers to predict appropriate results.

Strand: Number Sense & Numeration; Fractions & Decimals

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- 2**     **Topic:** Decimals  
**Standard:** Relates models separated into ten equivalent parts to the language of decimals, such as "five-tenths" rather than "point five."
- 3**     **Topic:** Fractions  
**Standard:** Identifies and writes fractions to describe parts of a whole using both regions and discrete sets (halves, thirds, fourths, sixths, eighths, and tenths).
- 4**     **Topic:** Fractions  
**Standard:** Compares fractions with like denominators and explores comparison of fractions with unlike denominators using models.

Strand: Geometry & Spatial Sense; Measurement

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- 5**     **Topic:** Geometric Shapes  
**Standard:** Recognizes properties (such as sides and angles) of geometric shapes (such as triangles, rectangles, circles, squares, and closed and not closed figures) and recognizes and names solid figures (such as cylinders, cones, spheres, and cubes).
- 6**     **Topic:** Geometry  
**Standard:** Identifies and distinguishes among points, lines, line segments, rays, and angles.
- 7**     **Topic:** Spatial Sense  
**Standard:** Visualizes, draws, and compares geometric shapes in various positions / orientations.
- 8**     **Topic:** Visualization  
**Standard:** Given a shape with a piece missing, selects the shape of the piece needed to complete the given shape.
- 9**     **Topic:** Geometry  
**Standard:** Identifies geometric relations (parallel, inside, outside, same size, same shape, same size and shape, shorter/ shortest, longer/ longest, smaller/ smallest, larger/ largest) geometric transformations (same size and shape, but different position) and line of symmetry.
- 10**    **Topic:** Similarity & Congruency  
**Standard:** Sorts geometric shapes according to same shape (similar) and according to same shape and size (congruent).

- 11**      **Topic:** Measurement  
**Standard:** Measures using appropriate instruments and appropriate units, length, capacity, weight/mass, time, and temperature. Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Liter, Cup, Pint(Liquid and Dry), Quart (Liquid and Dry), Gallon, Weight/Mass, Gram, Ounce, Kilogram, Pound, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius
- 12**      **Topic:** Measurement  
**Standard:** Measures using concrete materials such as string to find perimeter and circumference; squares or tiles to find area; and cubes to find volume. Determine perimeter by adding lengths of sides.
- 13**      **Topic:** Measurement  
**Standard:** Selects appropriate customary and metric units of measure. Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Liter, Cup, Pint (Liquid and Dry), Quart (Liquid and Dry), Gallon, Weight/Mass, Gram, Ounce, Kilogram, Pound, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius
- 14**      **Topic:** Money  
**Standard:** Determines and estimates amounts of money up to \$5.00. Include amounts spent, change received, and equivalent amounts.
- 15**      **Topic:** Time  
**Standard:** Tells time to the minute and measures elapsed time, and measures time before and after the hour.
- 16**      **Topic:** Estimation  
**Standard:** Estimates or predicts measures of length, weight, volume, capacity, and temperature.

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 17**      **Topic:** Number Names  
**Standard:** Translates words to numerals and numerals to words up to 9,999.
- 18**      **Topic:** Number Names  
**Standard:** Recognizes different names for whole numbers through 9,999 including names in expanded notation form (9000 + 900 + 90 + 9; 9 thousands, 9 hundreds, 9 tens, 9 ones; nine thousand, nine hundred, ninety-nine).
- 19**      **Topic:** Number Theory  
**Standard:** Identifies even and odd numbers.
- 20**      **Topic:** Place Value  
**Standard:** Relates concrete and pictorial models to numbers through thousands, and relates numbers to models; names numbers orally.
- 21**      **Topic:** Place Value  
**Standard:** Identifies place value through hundred thousands and identifies the number of hundred thousands, thousands, hundreds, tens, and ones in a given number.
- 22**      **Topic:** Rational Numbers  
**Standard:** Identifies the rational number (whole numbers and simple fractions) corresponding to a given point on the number line.
- 23**      **Topic:** Multiples  
**Standard:** Uses a number line to determine to which multiple of 10 or 100 a given number (up to 1,000) is nearer.
- 24**      **Topic:** Rounding  
**Standard:** Rounds two-, three-, and four-digit numbers to the nearer ten, hundred, or thousand.

## Strand: Patterns & Relationships; Algebra

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- 25**     **Topic:** Numerical Relationships  
**Standard:** Recognizes numerical relationships through 9,999 (such as between, before, after, equal to, nearest to, least, and greatest).
- 26**     **Topic:** Multiplication  
**Standard:** Writes a number sentence represented by a picture or an array.
- 27**     **Topic:** Sequencing  
**Standard:** Compares and orders whole numbers through 9,999.
- 28**     **Topic:** Sets  
**Standard:** Identifies subsets of given sets.
- 29**     **Topic:** Sets  
**Standard:** Uses the terms: all, some, and none.
- 30**     **Topic:** Functions  
**Standard:** Determines a pair of numbers or the missing element of a pair when given a relation or rule. Determines the relation or rule when given pairs of numbers.
- 31**     **Topic:** Skip Counting  
**Standard:** Continues or completes a given number sequence counting by ones, twos, threes, fours, fives, tens, hundreds, and thousands (include skip-counting on a number line).
- 32**     **Topic:** Sets  
**Standard:** Organizes elements of sets according to characteristics such as shading, color, shape, size, design, use, and number of sides.

## Strand: Problem Solving

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- 33**     **Topic:** Problem Solving  
**Standard:** Identifies information needed to solve a given problem.
- 34**     **Topic:** Problem Solving  
**Standard:** Selects appropriate operation (addition, subtraction, or multiplication) for a given problem situation.
- 35**     **Topic:** Problem Solving  
**Standard:** Employs problem-solving strategies (e.g. draw a picture; make a chart, graph, or table; guess and check; look for a pattern).
- 36**     **Topic:** Word Problems  
**Standard:** Solves one- and two-step word problems related to appropriate third grade objectives. Includes oral and written problems and problems with extraneous information as well as information from sources such as pictographs, bar graphs, tables, and charts.

## Strand: Statistics & Probability

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- 37**     **Topic:** Coordinate Geometry  
**Standard:** Locates points on a map or grid.
- 38**     **Topic:** Graphs  
**Standard:** Organizes data into charts and tables and constructs bar graphs using scales of one, two, five, or ten units and pictographs using scales of one, two, three, four, five, or ten units.

- 39** **Topic:** Graphs  
**Standard:** Collects, reads, interprets, and compares data in charts, tables, and graphs.
- 40** **Topic:** Probability  
**Standard:** Determines probability of a given event through exploration (equally likely, least likely, and most likely).

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 41** **Topic:** Multiplication  
**Standard:** Multiplies whole numbers up to two-digit by one-digit numbers using models and connecting them to computational strategies.
- 42** **Topic:** Multiplication and Division  
**Standard:** Relates concrete and pictorial models to multiplication and division.
- 43** **Topic:** Multiplication and Division  
**Standard:** Relates division to multiplication and uses models such as partitioning, and repeated subtraction to divide one- and two-digit numbers by one-digit numbers without and with remainders.
- 44** **Topic:** Multiplication and Division  
**Standard:** Determines basic multiplication and division facts through  $9 \times 9$  by using strategies such as skip-counting, multiplying by zero and one, dividing by one, splitting arrays, commutative property of multiplication, and using known facts to find unknown facts.
- 45** **Topic:** Number Theory  
**Standard:** Uses properties of addition and multiplication (including commutative, associative, and properties of zero and one).
- 46** **Topic:** Number Sentences  
**Standard:** Selects appropriate symbol ( $+$ ,  $-$ ,  $\times$ ,  $\div$ ,  $<$ ,  $>$ ,  $=$ ) for use in a number sentence.
- 47** **Topic:** Addition and Subtraction  
**Standard:** Adds and subtracts whole numbers (one-, two- and three-digits, without or with regrouping), initially using manipulatives and then connecting the manipulations to symbolic procedures (problems presented vertically and horizontally with the horizontal problems rewritten vertically).
- 48** **Topic:** Multiplication  
**Standard:** Recalls basic multiplication facts through  $9 \times 9$ .
- 49** **Topic:** Mental Computation  
**Standard:** Applies mental computation strategies (such as counting up, counting back, simple compatible numbers, doubles, making ten, multiples of ten) to addition and subtraction, and to simple multiplication and division.
- 50** **Topic:** Addition and Subtraction  
**Standard:** Select appropriate methods and tools for computing with whole numbers from among mental computation, estimation, calculators, and paper and pencil according to the context and nature of the computation and use the selected methods or tools.
- 51** **Topic:** Estimation  
**Standard:** Develop and use strategies to estimate the results of whole number computation and to judge the reasonableness of such results.

## Strand: Patterns & Relationships; Algebra

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- 52** **Topic:** Patterns  
**Standard:** Describe, extend, and make generalizations about geometric and numeric patterns.

**Grade: 4**Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 1**     **Topic:** Rounding  
**Standard:** Rounds two-, three-, or four-digit numbers to the nearest ten, hundred, or thousand.
  
- 2**     **Topic:** Rational Numbers  
**Standard:** Relates models (including number lines and sets) to wholes, fractional, and decimal numbers, and estimates the fraction represented by the shaded portion of a non-scaled bar. Understands fractions with denominators of 2, 3, 4, 5, 6, 8, or 10.
  
- 3**     **Topic:** Estimation  
**Standard:** Uses estimation strategies such as compatible numbers to predict computation results and to predict measurements (including money).
  
- 4**     **Topic:** Mental Computation  
**Standard:** Applies mental computation strategies (such as counting up and back, compatible numbers; compensation and multiples of ten, hundred or thousand) to add, subtract, multiply, and divide.

Strand: Number Sense & Numeration; Fractions & Decimals

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- 5**     **Topic:** Fractions  
**Standard:** Adds and subtracts fractions with like denominators using models to connect to computational strategies.
  
- 6**     **Topic:** Decimals  
**Standard:** Relates models (such as base ten blocks) to decimal numbers orally first, then using fractional and decimal notation.

Strand: Geometry & Spatial Sense; Measurement

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- 7**     **Topic:** Coordinate Geometry  
**Standard:** Uses ordered pairs of numbers to locate points on a grid or map and determine the ordered pair for a given point.
  
- 8**     **Topic:** Geometry  
**Standard:** Identifies and distinguishes among point, ray, line, line segment, and angle.
  
- 9**     **Topic:** Geometric Relationships  
**Standard:** Determines geometric relationships such as parallel to, perpendicular to, inside, outside, on, symmetrical, same size as, same shape as, same size and shape but different positions / orientation.
  
- 10**    **Topic:** Plane and Solid Figures  
**Standard:** Makes models of plane and solid figures, sorts and classifies these models according to distinguishing characteristics such as sides, angles, lines of symmetry, faces, and edges (such as triangles, quadrilaterals, circles, cones, cylinders, and rectangular prisms).



- 11** **Topic:** Measurement  
**Standard:** Selects appropriate customary and metric units of measure. Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Centiliter, Cup, Liter, Pint(Liquid and Dry), Quart (Liquid and Dry), Gallon, Weight/Mass, Milligram, Ounce, Gram, Pound, Kilogram, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius
- 12** **Topic:** Measurement  
**Standard:** Determines, through concrete experiences, perimeter by adding lengths of sides; area by counting squares; volume by counting cubes; and circumference by measuring with string.
- 13** **Topic:** Measurement  
**Standard:** Uses customary and metric units to measure length, capacity/volume (use liquid and dry units), weight/mass, temperature, and time (including telling time to the minute, elapsed time, time before and after hour.) Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Centiliter, Cup, Liter, Pint (Liquid and Dry), Quart (Liquid and Dry), Gallon, Weight/Mass, Milligram, Ounce, Gram, Pound, Kilogram, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius
- 14** **Topic:** Money  
**Standard:** Determines and estimates amounts of money up to \$20, and adds and subtracts money using decimal notation without and with regrouping.
- 15** **Topic:** Measurement  
**Standard:** Estimates and measures using appropriate instruments, length, capacity/volume, weight/mass, money, time, and temperature (including measuring to nearest half inch and nearest centimeter). Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Centiliter, Cup, Liter, Pint (Liquid & Dry), Quart (Liquid & Dry), Gallon, Weight/Mass, Milligram, Ounce, Gram, Pound, Kilogram, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 16** **Topic:** Number Names  
**Standard:** Identifies different names for numbers through 999,999 (e.g., standard form, word name, expanded notation, or rational form).
- 17** **Topic:** Place Value  
**Standard:** Identifies place value for a given digit in numbers through 999,999 and determines the effect that changing a given digit will have on the value of the number.
- 18** **Topic:** Rational Numbers  
**Standard:** Compares whole numbers and uses models to compare fractions, to identify equivalent fractions, and to compare decimals.

## Strand: Patterns & Relationships; Algebra

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- 19** **Topic:** Functions  
**Standard:** Determines a pair of numbers or the missing element of a pair when given a relation or rule, and determines the relation or rule given pairs of numbers.

## Strand: Problem Solving

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- 20** **Topic:** Word Problems  
**Standard:** Selects the appropriate operation(s) for a given word problem.

- 21** **Topic:** Word Problems  
**Standard:** Solves simple problems (including those involving addition, subtraction, multiplication, and division of whole numbers and money).
- 22** **Topic:** Word Problems  
**Standard:** Solves one-, two-, or three-step word problems related to all appropriate fourth grade objectives including those presented orally and in writing; those in charts, tables, and graphs; and those with extraneous or insufficient information.
- 23** **Topic:** Problem Solving  
**Standard:** Employs problem-solving strategies (e.g., make a chart, graph, or table; make an organized list; guess and check; make a simple problem; look for a pattern; draw a picture; or work backwards).

## Strand: Statistics & Probability

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- 24** **Topic:** Measure of Central Tendency  
**Standard:** Explores the concepts of mean and median.
- 25** **Topic:** Data Analysis  
**Standard:** Collects, reads, interprets, and compares data from charts, tables, and graphs (pictographs, bar graphs, and circle graphs) using a variety of scales and estimation.
- 26** **Topic:** Data Organization  
**Standard:** Organizes data in charts and tables, and constructs bar graphs or pictographs using appropriate scales of one, two, three, four, five, or ten.
- 27** **Topic:** Probability  
**Standard:** Determines probability of a given event through use of manipulatives (equally likely, least likely, most likely, likely, and not likely).

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 28** **Topic:** Number Theory  
**Standard:** Uses the properties of addition and multiplication (commutative, associative, distributive, and identity elements).
- 29** **Topic:** Number Theory  
**Standard:** Identifies factors and multiples of a given number.
- 30** **Topic:** Number Theory  
**Standard:** Explores the concept of prime numbers and composite numbers.
- 31** **Topic:** Addition and Subtraction  
**Standard:** Adds and subtracts two- and three-digit whole numbers using vertical and horizontal presentations with and without regrouping with the horizontal rewritten vertically.
- 32** **Topic:** Multiplication and Division  
**Standard:** Recalls basic multiplication and related division facts, and identifies the missing factor in a given number sentence.
- 33** **Topic:** Multiplication and Division  
**Standard:** Multiplies (up to three-digit by one-digit or two-digit by two-digit numbers) and divides (up to three-digit by one-digit numbers) and multiplies two-digit numbers by multiples of 100 without regrouping.
- 34** **Topic:** Number Sentences  
**Standard:** Selects appropriate symbol (+, -, ×, ÷, <, >, =) to make a mathematical statement true.

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 35**     **Topic:** Equivalent Fractions  
**Standard:** Recognize and generate equivalent forms of commonly-used fractions and decimals.

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 36**     **Topic:** Multiplication and Division  
**Standard:** Understand various meanings of multiplying and dividing whole numbers.
- 37**     **Topic:** Multiplication and Division  
**Standard:** Understand the effects of multiplying and dividing whole numbers.
- 38**     **Topic:** Computation  
**Standard:** Develop fluency in adding, subtracting, multiplying, and dividing whole numbers.

**Grade: 5**

- 1 **Topic:** Rounding  
**Standard:** Rounds decimals to the nearest whole number. (Good connection to QCC 5.15, money)
- 2 **Topic:** Mental Computation  
**Standard:** Uses mental computation strategies (such as counting up, counting back, compensation, compatible numbers and multiples of ten, hundred, or thousand, with whole numbers, fractions, and decimals, including money).
- 3 **Topic:** Estimation  
**Standard:** Uses estimation strategies (such as clustering, rounding, or reference point) to predict computational results of whole numbers, fractions, mixed numbers, and decimals.

## Strand: Number Sense &amp; Numeration; Fractions &amp; Decimals

- 4 **Topic:** Computation  
**Standard:** Adds, subtracts, and multiplies fractions and mixed numbers with like and unlike denominators (presented vertically and horizontally), using models to connect to computational strategies.
- 5 **Topic:** Decimals  
**Standard:** Relates decimals (through hundredths) to models using base ten blocks and grid paper.
- 6 **Topic:** Decimals  
**Standard:** Using models and vertical and horizontal presentations, adds and subtracts decimals through hundredths, without and with regrouping.
- 7 **Topic:** Fractions  
**Standard:** Relates a fraction to a part of a whole, a part of a set, and a point on a number line; uses models to determine equivalent fractions. Uses fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, 16, or 100.

## Strand: Geometry &amp; Spatial Sense; Measurement

- 8 **Topic:** Geometry  
**Standard:** Identifies and distinguishes among point, ray, line, line segment, and angle.
- 9 **Topic:** Geometric Relationships  
**Standard:** Determines line of symmetry and identifies geometric relations (e.g., parallel to, perpendicular to, intersect, horizontal, vertical, similar, congruent, flips, slides, and turns).
- 10 **Topic:** Geometric Shapes  
**Standard:** Makes models of plane and solid figures and sorts and classifies these models according to characteristics such as number of sides, angles, vertices, faces, edges, tessellations, and lines of symmetry (include triangles, quadrilaterals, polygons, circles, cones, cylinders, rectangular prisms, and pyramids).
- 11 **Topic:** Coordinate Geometry  
**Standard:** Uses ordered pairs of numbers to locate points on a grid or map and determine the ordered pair for a given point.

- 12** **Topic:** Measurement  
**Standard:** Selects appropriate customary and metric units of measure for length (including perimeter and circumference), area, capacity/volume, weight/mass, time, and temperature. Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Centiliter, Cup, Liter, Pint (Liquid and Dry), Quart (Liquid and Dry), Gallon, Weight/Mass, Milligram, Ounce, Gram, Pound, Kilogram, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius
- 13** **Topic:** Measurement  
**Standard:** Uses customary and metric units to measure length, capacity/volume (use liquid and dry units), weight/mass, elapsed time and temperature (include measuring length to nearest quarter inch, nearest millimeter and temperature below freezing). Length, Millimeter, Inch, Centimeter, Foot, Meter, Yard, Kilometer, Mile, Capacity, Milliliter, Ounce, Centiliter, Cup, Liter, Pint (Liquid and Dry), Quart (Liquid and Dry), Gallon, Weight/Mass, Milligram, Ounce, Gram, Pound, Kilogram, Time, Second, Week, Minute, Month, Hour, Year, Day, Decade, Century, Temperature, Degree Fahrenheit, Degree Celsius
- 14** **Topic:** Measurement  
**Standard:** Determine perimeter, area, and volume of various geometric figures connecting concrete experiences (covering, filling, and counting) to computation and formulas.
- 15** **Topic:** Money  
**Standard:** Determines and estimates amounts of money.

## Strand: Number Sense & Numeration; Fractions & Decimals

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- 16** **Topic:** Number Names  
**Standard:** Identifies different names for numbers (whole numbers, fractions, and decimals) including number words and expanded notation and relates models to such numbers.
- 17** **Topic:** Place Value  
**Standard:** Identifies place value for whole numbers through millions, and decimals through hundredths. Determines the effect that changing a digit will have on the value of the number.
- 18** **Topic:** Number Theory  
**Standard:** Identifies factors and multiples of a given number, including prime factorization.
- 19** **Topic:** Number Theory  
**Standard:** Explores the concept of divisibility and develops rules for divisibility by 2, 3, 5, and 10.

## Strand: Patterns & Relationships; Algebra

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- 20** **Topic:** Functions  
**Standard:** Determines a pair of numbers or the missing element of a pair when given a relation or rule, and determines the relation or rule given pairs of numbers.
- 21** **Topic:** Sequencing  
**Standard:** Compares and orders whole numbers, fractions, and decimals through hundredths.

## Strand: Problem Solving

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- 22** **Topic:** Word Problems  
**Standard:** Identifies needed information and selects the steps necessary to solve multi-step word problems.

- 23** **Topic:** Word Problems  
**Standard:** Solves one-, two-, and three-step word problems related to all appropriate fifth grade objectives including those presented orally and in writing: those in charts, tables, and graphs; and those with extraneous or insufficient information.
- 24** **Topic:** Word Problems  
**Standard:** Selects and uses appropriate strategies for solving problems (e.g., look for a pattern, guess and check, make an organized list, simplify the problem, work backwards).
- 25** **Topic:** Estimation  
**Standard:** Predicts measurement by using strategies such as walking off and rough comparison.
- 26** **Topic:** Problem Solving  
**Standard:** Given a situation, chooses the most appropriate method of computation (mental computation, paper and pencil, or calculator).

## Strand: Statistics & Probability

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- 27** **Topic:** Data Collection  
**Standard:** Explores sampling and randomness in collecting data (include random number tables).
- 28** **Topic:** Data Analysis  
**Standard:** Interprets and draws conclusions from charts, tables, and graphs (e.g., pictographs, bar graphs, and circle graphs).
- 29** **Topic:** Measures of Central Tendency  
**Standard:** Uses clustering to explore the concept of mean, median, and mode of a set of data and calculates the arithmetic mean.
- 30** **Topic:** Probability  
**Standard:** Determines probability of a given event through exploration (more likely, less likely, equally likely, likely, or not likely).
- 31** **Topic:** Data Collection  
**Standard:** Collects and organizes data into tallies, charts, and tables; determines appropriate scale and constructs bar graphs and pictographs.

## Strand: Whole Number Computation; Estimation; Whole Number Operations

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- 32** **Topic:** Number Sentences  
**Standard:** Identifies the number or symbol (+, -, x, ÷, <, >, =) that makes a given number sentence true.
- 33** **Topic:** Number Theory  
**Standard:** Uses the commutative, associative, and identity properties of addition and multiplication, and the distributive property of multiplication over addition.
- 34** **Topic:** Computation  
**Standard:** Adds, subtracts, multiplies, and divides whole numbers up through four digits both vertically and horizontally with and without regrouping. Uses calculators for more laborious computations (e.g., four-digit addition and subtraction; multiplication and division of three-digit three-digit numbers).