

	Kindergarten	1 st Grade	2 nd Grade	3 rd Grade
Foundations of Counting	7 standards			
Operations and Algebraic Thinking	4 standards	4 standards	2 standards	4 standards
Operations with Numbers: Base Ten	1 standard	2 standards	2 standards	
Operations with Number Fractions				2 standards
Data Analysis		1 standard	1 standard	
Measurement		1 standard	1 standard	1 standard
Geometry		1 standard		

Foundations of Counting

Kindergarten Only

1. Count forward orally from 0 to 100 by ones and by tens. Count backward orally from 10 to 0 by ones.
2. Count to 100 by ones beginning with any given number between 0 and 99.
3. Write numerals from 0 to 20.
 - a. Represent 0 to 20 using concrete objects when given a written numeral from 0 to 20 (with 0 representing a count of no objects).
4. Connect counting to cardinality using a variety of concrete objects.
 - a. Say the number names in consecutive order when counting objects.
5. Count to answer “how many?” questions.
 - a. Count using no more than 20 concrete objects arranged in a line, a rectangular array, or a circle.
 - b. Count using no more than 10 concrete objects in a scattered configuration.
6. Orally identify whether the number of objects in one group is greater/more than, less/fewer than, or equal/the same as the number of objects in another group, in groups containing up to 10 objects, by using matching, counting, or other strategies.
7. Compare two numbers between 0 and 10 presented as written numerals (without using inequality symbols).

Operations and Algebraic Thinking

Kindergarten

8. Represent addition and subtraction up to 10 with concrete objects, fingers, pennies, mental images, drawings, claps or other sounds, acting out situations, verbal explanations, expressions, or equations.
9. Solve addition and subtraction word problems, and add and subtract within 10, by using concrete objects or drawings to represent the problem.
10. Decompose numbers less than or equal to 10 into pairs of smaller numbers in more than one way, by using concrete objects or drawings, and record each decomposition by a drawing or equation.
11. For any number from 0 to 10, find the number that makes 10 when added to the given number, by using concrete objects or drawings, and record the answer with a drawing or equation.
12. Fluently add and subtract within 5.

1st Grade

1. Use addition and subtraction to solve word problems within 20 by using concrete objects, drawings, and equations with a symbol for the unknown number to represent the problem.
 - a. Add to with change unknown
 - b. Take from with change unknown
 - c. Put together/take apart with addend unknown
 - d. Compare quantities, with difference, bigger, and smaller unknowns
3. Apply properties of operations as strategies to add and subtract.
6. Add and subtract within 20.
 - a. Counting on
 - b. Making tens
 - c. Decomposing
 - d. Using Relationships
 - e. Creating Equivalents
7. Explain that the equal sign means "the same as." Determine whether equations involving addition and subtraction are true or false.

2nd Grade

1. Use addition and subtraction within 100 to solve one- and two-step word problems by using drawings and equations with a symbol for the unknown number to represent the problem.
2. Fluently add and subtract within 20 using mental strategies such as counting on, making ten, decomposing a number leading to ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums.
 - a. State automatically all sums of two one-digit numbers.

3rd Grade

1. Illustrate the product of two whole numbers as equal groups by identifying the number of groups and the number in each group and represent as a written expression.
5. Develop and apply properties of operations as strategies to multiply and divide.
8. Determine and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using number sense, context, mental computation, and estimation strategies including rounding.
9. Recognize and explain arithmetic patterns using properties of operations.

Operations with Numbers

Base Ten

Fractions

Kindergarten

1st Grade

2nd Grade

3rd Grade

14. Compose and decompose numbers from 11 to 19 by using concrete objects or drawings to demonstrate understanding that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones

10. Extend the number sequence from 0 to 120.

- Count forward & backward by ones, starting at any number less than 120.
- Read numerals 0 to 120.
- Write numerals 0 to 120.
- Represent a number of objects 0 to 120 with a written numeral.

13. Add within 100, using concrete models or drawings and strategies based on place value.

- Add a two-digit number and a one-digit number.
- Add a two-digit number and a multiple of 10.
- Demonstrate that in adding two-digit numbers, tens are added to tens, ones are added to ones, and sometimes it is necessary to compose a ten.
- Relate the strategy for adding a two-digit number and a one-digit number to a written method and explain the reasoning used.

6. Explain that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.

- Explain the following three-digit numbers as special cases: 100 can be thought of as a bundle of ten tens, called a "hundred," and the numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

12. Add and subtract within 1000 using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.

- Explain that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

13. Demonstrate that a unit fraction represents one part of an area model or length model of a whole that has been equally partitioned; explain that a numerator greater than one indicates the number of unit pieces represented by the fraction.

15. Explain equivalence and compare fractions by reasoning about their size using visual fraction models and number lines.

- Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers.
- Compare two fractions with the same numerator or with the same denominator by reasoning about their size (recognizing that fractions must refer to the same whole for the comparison to be valid). Record comparisons using $<$, $>$, or $=$ and justify conclusions.

Data Analysis, Measurement, and Geometry

1st Grade

2nd Grade

3rd Grade

Data Analysis: Collect and Analyze Data

16. Organize, represent, and interpret data with up to three categories.
- Ask and answer questions about the total number of data points in organized data.
 - Determine "how many" in each category using up to three categories of data.

Measurement: Describe & Compare Measurable Attributes

18. Determine the length of an object using non-standard units with no gaps or overlaps, expressing the length of the object with a whole number.

Geometry: Reason with Shapes and Their Attributes

21. Build and draw shapes which have defining attributes.
- Distinguish between defining attributes and non-defining attributes.
Examples: Triangles are closed and three-sided, which are defining attributes; color, orientation, and overall size are non-defining attributes.

Data Analysis/Measurement: Collect and Analyze Data

15. Measure lengths of several objects to the nearest whole unit.
- Create a line plot where the horizontal scale is marked off in whole-number units to show the lengths of several measured objects.

Measurement: Related to Addition and Subtraction

21. Use addition and subtraction within 100 to solve word problems involving same units of length, representing the problem with drawings (such as drawings of rulers) and/or equations with a symbol for the unknown number.

Measurement: Geometric Measurement

20. Find the area of a rectangle with whole number side lengths by tiling without gaps or overlaps and counting unit squares.