

Grade One

The first-grade standards place emphasis on counting, sorting, and comparing sets of up to 100 objects; recognizing and describing simple repeating and growing patterns; and tracing, describing, and sorting plane geometric figures. Students' understanding of number will be expanded through learning and applying the basic addition facts through the nines table and the corresponding subtraction facts; using nonstandard units to measure; and organizing and interpreting data. Fractional concepts will be expanded.

While learning mathematics, students will be actively engaged, using concrete materials and appropriate technologies such as calculators and computers. However, facility in the use of technology shall not be regarded as a substitute for a student's understanding of quantitative concepts and relationships or for proficiency in basic computations.

Mathematics has its own language, and the acquisition of specialized vocabulary and language patterns is crucial to a student's understanding and appreciation of the subject. Students should be encouraged to use correctly the concepts, skills, symbols, and vocabulary identified in the following set of standards.

Problem solving has been integrated throughout the six content strands. The development of problem-solving skills should be a major goal of the mathematics program at every grade level. Instruction in the process of problem solving will need to be integrated early and continuously into each student's mathematics education. Students must be helped to develop a wide range of skills and strategies for solving a variety of problem types.

Number and Number Sense

Focus: Place Value and Fraction Concepts

- 1.1 The student will
 - a) count from 0 to 100 and write the corresponding numerals; and
 - b) group a collection of up to 100 objects into tens and ones and write the corresponding numeral to develop an understanding of place value.
- 1.2 The student will count forward by ones, twos, fives, and tens to 100 and backward by ones from 30.
- 1.3 The student will identify the parts of a set and/or region that represent fractions for halves, thirds, and fourths and write the fractions.

Computation and Estimation

Focus: Whole Number Operations

- 1.4 The student, given a familiar problem situation involving magnitude, will
 - a) select a reasonable order of magnitude from three given quantities: a one-digit numeral, a two-digit numeral, and a three-digit numeral (e.g., 5, 50, 500); and
 - b) explain the reasonableness of the choice.
- 1.5 The student will recall basic addition facts with sums to 18 or less and the corresponding subtraction facts.
- 1.6 The student will create and solve one-step story and picture problems using basic addition facts with sums to 18 or less and the corresponding subtraction facts.

Measurement

Focus: Time and Nonstandard Measurement

- 1.7 The student will
 - a) identify the number of pennies equivalent to a nickel, a dime, and a quarter; and
 - b) determine the value of a collection of pennies, nickels, and dimes whose total value is 100 cents or less.

- 1.8 The student will tell time to the half-hour, using analog and digital clocks.
- 1.9 The student will use nonstandard units to measure length, weight/mass, and volume.
- 1.10 The student will compare, using the concepts of more, less, and equivalent,
 - a) the volumes of two given containers; and
 - b) the weight/mass of two objects, using a balance scale.
- 1.11 The student will use calendar language appropriately (e.g., names of the months, *today*, *yesterday*, *next week*, *last week*).

Geometry

Focus: Characteristics of Plane Figures

- 1.12 The student will identify and trace, describe, and sort plane geometric figures (triangle, square, rectangle, and circle) according to number of sides, vertices, and right angles.
- 1.13 The student will construct, model, and describe objects in the environment as geometric shapes (triangle, rectangle, square, and circle) and explain the reasonableness of each choice.

Probability and Statistics

Focus: Data Collection and Interpretation

- 1.14 The student will investigate, identify, and describe various forms of data collection (e.g., recording daily temperature, lunch count, attendance, favorite ice cream), using tables, picture graphs, and object graphs.
- 1.15 The student will interpret information displayed in a picture or object graph, using the vocabulary *more*, *less*, *fewer*, *greater than*, *less than*, and *equal to*.

Patterns, Functions, and Algebra

Focus: Patterning and Equivalence

- 1.16 The student will sort and classify concrete objects according to one or more attributes, including color, size, shape, and thickness.
- 1.17 The student will recognize, describe, extend, and create a wide variety of growing and repeating patterns.
- 1.18 The student will demonstrate an understanding of equality through the use of the equal sign.