

## Kindergarten

The kindergarten standards place emphasis on developing the concept of number by counting; combining, sorting, and comparing sets of objects; recognizing and describing simple repeating patterns; and recognizing shapes and sizes of figures and objects. Students will investigate nonstandard measurement, collect data, and create graphs. The idea of fractions will be introduced.

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: Whole Number Concepts

- K.1 The student, given two sets, each containing 10 or fewer concrete objects, will identify and describe one set as having more, fewer, or the same number of members as the other set, using the concept of one-to-one correspondence.
- K.2 The student, given a set containing 15 or fewer concrete objects, will
  - a) tell how many are in the set by counting the number of objects orally;
  - b) write the numeral to tell how many are in the set; and
  - c) select the corresponding numeral from a given set of numerals.
- K.3 The student, given an ordered set of ten objects and/or pictures, will indicate the ordinal position of each object, first through tenth, and the ordered position of each object.
- K.4 The student will
  - a) count forward to 100 and backward from 10;
  - b) identify one more than a number and one less than a number; and
  - c) count by fives and tens to 100.
- K.5 The student will identify the parts of a set and/or region that represent fractions for halves and fourths.

### Computation and Estimation

#### Focus: Whole Number Operations

- K.6 The student will model adding and subtracting whole numbers, using up to 10 concrete objects.

### Measurement

#### Focus: Instruments and Attributes

- K.7 The student will recognize a penny, nickel, dime, and quarter and will determine the value of a collection of pennies and/or nickels whose total value is 10 cents or less.
- K.8 The student will identify the instruments used to measure length (ruler), weight (scale), time (clock: digital and analog; calendar: day, month, and season), and temperature (thermometer).

- K.9 The student will tell time to the hour, using analog and digital clocks.
- K.10 The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, and block.

## **Geometry**

### **Focus: Plane Figures**

- K.11 The student will
- a) identify, describe, and trace plane geometric figures (circle, triangle, square, and rectangle); and
  - b) compare the size (larger, smaller) and shape of plane geometric figures (circle, triangle, square, and rectangle).
- K.12 The student will describe the location of one object relative to another (above, below, next to) and identify representations of plane geometric figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space.

## **Probability and Statistics**

### **Focus: Data Collection and Display**

- K.13 The student will gather data by counting and tallying.
- K.14 The student will display gathered data in object graphs, picture graphs, and tables, and will answer questions related to the data.

## **Patterns, Functions, and Algebra**

### **Focus: Attributes and Patterning**

- K.15 The student will sort and classify objects according to attributes.
- K.16 The student will identify, describe, and extend repeating patterns.