Kindergarten Mathematics

The kindergarten standards place emphasis on counting; combining, sorting, and comparing sets of objects; recognizing and describing simple patterns; and recognizing shapes and sizes of figures and objects. 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

K.1 The student, given two sets containing 10 or fewer concrete items, will identify and describe one set as having more, fewer, or the same number of members as the other set, using the concept of 1 to 1 correspondence.

K.2 The student, given a set containing nine or fewer concrete items, will
- tell how many are in the set by counting the number of items orally;
- select the corresponding numeral from a given set; and
- trace over the numeral using tactile materials (e.g., sand, sandpaper, carpeting, or finger paint).

K.3 The student, given an ordered set of three objects and/or pictures, will indicate the ordered position of each item, from left-to-right, right-to-left, top-to-bottom, and/or bottom-to-top.

K.4 The student will investigate and recognize patterns from counting by fives and tens, using concrete objects and a calculator.

K.5 The student will count forward to 20 and backward from 10.

K.6 The student will determine the value of a collection of pennies, using pennies or models.

Computation and Estimation

K.7 The student will add and subtract whole numbers using up to 10 concrete items.

K.8 The student, given a familiar problem situation involving magnitude, will
- select a reasonable magnitude from three given quantities: a one-digit numeral, a two-digit numeral, and a three-digit numeral (e.g., 5, 50, and 500); and
- explain the reasonableness of his/her choice.

Measurement

K.9 The student will recognize a penny, nickel, dime, and quarter.

K.10 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.11 The student will tell time to the hour using an analog or digital clock.

K.12 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, block, etc.

Geometry

K.13 The student will identify, describe, and make plane geometric figures (circle, triangle, square, and rectangle).

K.14 The student will identify representations of plane geometric figures (circle, triangle, square, and rectangle), regardless of their position and orientation in space.

K.15 The student will compare the size (larger/smaller) and shape of plane geometric figures (circle, triangle, square, and rectangle).

Probability and Statistics

K.16 The student will gather data relating to familiar experiences by counting and tallying.

K.17 The student will display objects and information, using object and pictorial graphs and tables.

K.18 The student will investigate and describe the results of dropping a two-colored counter or using a multicolored spinner.

Patterns, Functions, and Algebra

K.19 The student will sort and classify objects according to similar attributes (size, shape, and color).

K.20 The student will identify, describe, and extend a repeating relationship (pattern) found in common objects, sounds, and movements.