

## Grade Three

The third-grade standards place emphasis on developing an understanding of, and solving problems that involve multiplication and division through  $10 \times 10$ . Students will apply knowledge of place value and the properties of addition and multiplication as strategies for solving problems. Concrete models and pictorial representations will be used to introduce addition and subtraction with fractions and the concept of probability as the measurement of chance. Students will use standard units (U.S. Customary and metric) to measure temperature, length, and liquid volume. Properties of shapes, points, line segments, rays, angles, vertices, and lines will be explored and students will identify polygons with 10 or fewer sides, combine and subdivide polygons, and name the resulting polygon(s).

The use of appropriate technology and the interpretation of the results from applying technology tools must be an integral part of teaching, learning, and assessment. While learning mathematics, students will be actively engaged, using concrete materials and appropriate technologies to facilitate problem solving. However, facility in the use of technology shall not be regarded as a substitute for a student's understanding of quantitative and algebraic concepts or for proficiency in basic computations.

The acquisition of specialized mathematical vocabulary and language is crucial to a student's understanding and appreciation of the subject and fosters confidence in mathematics communication and problem solving.

Problem solving is integrated throughout the content strands. The development of problem-solving skills is a major goal of the mathematics program at every grade level. The development of skills and problem-solving strategies must be integrated early and continuously into each student's mathematics education.

### Number and Number Sense

- 3.1 The student will
- read, write, and identify the place and value of each digit in a six-digit whole number, with and without models;
  - round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand; and
  - compare and order whole numbers, each 9,999 or less.
- 3.2 The student will
- name and write fractions and mixed numbers represented by a model;
  - represent fractions and mixed numbers with models and symbols; and
  - compare fractions having like and unlike denominators, using words and symbols ( $>$ ,  $<$ ,  $=$ , or  $\neq$ ), with models.

### Computation and Estimation

- 3.3 The student will
- estimate and determine the sum or difference of two whole numbers; and
  - create and solve single-step and multistep practical problems involving sums or differences of two whole numbers, each 9,999 or less.
- 3.4 The student will
- represent multiplication and division through  $10 \times 10$ , using a variety of approaches and models;
  - create and solve single-step practical problems that involve multiplication and division through  $10 \times 10$ ; and
  - demonstrate fluency with multiplication facts of 0, 1, 2, 5, and 10; and

- d) solve single-step practical problems involving multiplication of whole numbers, where one factor is 99 or less and the second factor is 5 or less.

3.5 The student will solve practical problems that involve addition and subtraction with proper fractions having like denominators of 12 or less.

### **Measurement and Geometry**

3.6 The student will

- a) determine the value of a collection of bills and coins whose total value is \$5.00 or less;
- b) compare the value of two sets of coins or two sets of coins and bills; and
- c) make change from \$5.00 or less.

3.7 The student will estimate and use U.S. Customary and metric units to measure

- a) length to the nearest  $\frac{1}{2}$  inch, inch, foot, yard, centimeter, and meter; and
- b) liquid volume in cups, pints, quarts, gallons, and liters.

3.8 The student will estimate and

- a) measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units; and
- b) count the number of square units needed to cover a given surface in order to determine its area.

3.9 The student will

- a) tell time to the nearest minute, using analog and digital clocks;
- b) solve practical problems related to elapsed time in one-hour increments within a 12-hour period; and
- c) identify equivalent periods of time and solve practical problems related to equivalent periods of time.

3.10 The student will read temperature to the nearest degree.

3.11 The student will identify and draw representations of points, lines, line segments, rays, and angles.

3.12 The student will

- a) define polygon;
- b) identify and name polygons with 10 or fewer sides; and
- c) combine and subdivide polygons with three or four sides and name the resulting polygon(s).

3.13 The student will identify and describe congruent and noncongruent figures.

### **Probability and Statistics**

3.14 The student will investigate and describe the concept of probability as a measurement of chance and list possible outcomes for a single event.

- 3.15 The student will
- a) collect, organize, and represent data in pictographs or bar graphs; and
  - b) read and interpret data represented in pictographs and bar graphs.

**Patterns, Functions, and Algebra**

- 3.16 The student will identify, describe, create, and extend patterns found in objects, pictures, numbers and tables.
- 3.17 The student will create equations to represent equivalent mathematical relationships.