COLORADO MODEL CONTENT STANDARDS FOR MATHEMATICS
Suggested
Grade Level Expectations

Standard 1:
Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.

GRADES K-4

In grades K-4, what students know and are able to do includes

1.1 Demonstrating meanings for whole numbers, commonly-used fractions and decimals (for example, 1/3, 3/4, 0.5, 0.75), and representing equivalent forms of the same number through the use of physical models, drawings, calculators, and computers.

First grade students will:

- using objects and pictures, represent whole numbers from 0 to 100 in a variety of ways
- using objects, demonstrate the meanings of equal, less than, and greater than with the whole numbers 0 to 100
- apply equalities using the '=' symbol
- using concrete materials, demonstrate the meanings of halves, thirds, and fourths of sets and wholes
- demonstrate the value of nickels, dimes, quarters, and dollars in terms of pennies (*for example, 25 pennies = 1 quarter*)

Standard 2:
Students use algebraic methods to explore, model and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.

GRADES K-4

In grades K-4, what students know and are able to do includes

2.1 Reproducing, extending, creating, and describing patterns and sequences using a variety of materials (for example, beans, toothpicks, pattern blocks, calculators, unifix cubes, colored tiles).

First grade students will:

- create and extend patterns using concrete materials (for example, uses pattern blocks to create a pattern and has another student extend the pattern)

Standard 3:

Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning an processes used in solving these problems.

GRADES K-4

In grades K-4, what students know and are able to do includes

3.1 Constructing, reading, and interpreting displays of data including tables, charts, pictographs, and bar graphs.

First grade students will:

- gather data about recurring and quantifiable events (for example, daily temperature or attendance)
- display and explain data from a bar graph or tallies

Standard 4:

Students use geometric concepts, properties, and relationships in problem solving situations and communicate the reasoning used in solving these problems.

GRADES K-4

In grades K-4, what students know and are able to do includes

4.1 Recognizing shapes and their relationships (for example, symmetry and congruence) using a variety of materials (for example, pasta, boxes, pattern blocks).

First grade students will:

- recognize two-dimensional congruent figures in different positions
- create simple designs using concrete materials such as tangrams and pattern blocks

Standard 5:

Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.

GRADES K-4

In grades K-4, what students know and are able to do includes

5.1 Knowing, using, describing, and estimating measures of length, perimeter, capacity, weight, time, and temperature;

First grade students will:

- tell time to the nearest hour and half-hour, using an analog and digital clock
- name the days of the week in order
- estimate and measures the length of objects to the nearest inch, foot and centimeter
- estimate and measure the capacity of a container in cups
- estimate and weigh an object on a balance with a non-standard unit
- measure temperature to the nearest 10ₒF
- describe the units for measuring time, length, capacity, and temperature
- tell the number of minutes in an hour, days in a week, pennies in a nickel, dime, quarter, and dollar

Standard 6:

Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.

GRADES K-4

In grades K-4, what students know and are able to do includes

6.1 Demonstrating conceptual meanings for the four basic arithmetic operations of addition, subtraction, multiplication, and division.

First grade students will:

- demonstrate the operations of addition and subtraction of whole numbers with concrete materials
- link the operations of addition and subtraction, and equality with mathematical terms (for example, add, subtract and equal) and mathematical symbols (for example, +, –, =)

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