A Guide to the Colorado Academic Standards

COLORADO ACADEMIC STANDARDS

Mathematics

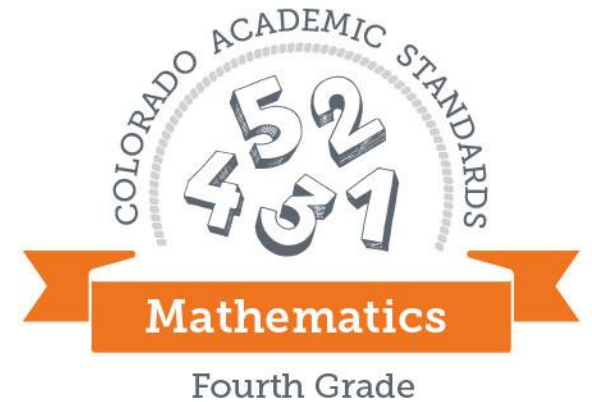Fourth Grade

Working Together

To support families and teachers in realizing the goals of the Colorado Academic Standards, this guide provides an overview of the learning expectations for Fourth Grade Mathematics. This guide offers some learning experiences students may engage in during this school year, experiences that may also be supported at home.

Why Standards?

Created by Coloradans for Colorado students, the Colorado Academic Standards provide a grade-by-grade road map to help ensure students are successful in college, careers, and life. The standards aim to improve what students learn and how they learn in ten content areas – emphasizing critical-thinking, creativity, problem solving, collaboration, and communication as important life skills in the 21st century.

Mathematics for Elementary Schools (k-5)

The mathematics standards in the elementary years focus on developing students' understanding of number and those concepts from geometry that strengthen students' ability to visualize number. In each grade students are asked to make sense of problems, explain their thinking, and show their world using mathematics.

Where can I learn more?

- Contact your school district regarding local decisions related to standards, curriculum, resources, and instruction.
- Colorado Academic Standards Booklets: http://www.cde.state.co.us/standardsandinstruction/GradeLevelBooks.asp
- Mary Pittman, Mathematics Content Specialist at 303-854-4560, Pittman_m@cde.state.co.us

At the end of Fourth Grade, students can...

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Mathematics

Fourth Grade

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Mathematics Learning Expectations for Fourth Grade

Number
Fluently (consistently) add and subtract multi-digit numbers; solve simple multi-digit multiplication and division problems by making connections to place value; generate and analyze patterns involving multiplication and division.

Number
Extend the concept of multiplication to multiplying a fraction by whole number through the idea of scaling (the picture is 3 times the original size versus the picture is 1/3 times the original size); compare and contrast simple addition and subtraction of fractions to whole number addition and subtraction; compare the size of fractions.

Measurement and Data
Solve word problems involving measurements including simple conversions from one unit to another; find the measure of angles; classify shapes based on line and angles; create bar graphs from measurement data.

Throughout the Fourth Grade, you may find students…

- Adding and subtracting large numbers with ease and explaining the connection between addition and subtraction (making or breaking apart groups of ten).

- Solving simple multi-digit multiplication and division problems.

- Solving word problems about the simple addition and subtraction of fractions.

- Explaining what it means when something is one-half or one-third times the original size (1/2X1; 1/3 x1) versus three times the original size of an object (3X1).

- Describing turns with angle measurements ("He just did a 180 on his skateboard").

- Exploring what happens when you measure an item in inches versus feet and vice versa.