

CCSS Math Content Priority Standards: 3rd Grade

2020 Colorado Academic Standards for Mathematics are now more closely aligned to Common Core State Standards (CCSS). Please click this link for information regarding new features and adjustments to the 2020 Colorado Academic Standards for Mathematics.

<https://www.cde.state.co.us/comath/2020cas-ma-lookfor>

The language in some 2020 Colorado Academic Standards for Mathematics is slightly different from CCSS. For this document, the language from CCSS is used.

Operations and Algebraic Thinking (OA):

3.OA.A: Represent and solve problems involving multiplication and division.

3.OA.A.3: Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.A.4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$.

3.OA.B: Understand properties of multiplication and the relationship between multiplication and division.

3.OA.B.5: Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)

3.OA.C: Multiply and divide within 100.

3.OA.C.7: Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

3.OA.D: Solve problems involving the four operations and identify and explain patterns in arithmetic.

3.OA.D.8: Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

3.OA.D.9: Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.

Number and Operations—Fractions (NF):

**Grade 3 expectations in this domain are limited to fractions with denominators 2,3,4,6, and 8.*

3.NF.A: Develop understanding of fractions as numbers.

- 3.NF.A.1: Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
- 3.NF.A.2: Describe a fraction as a number on the number line; represent fractions on a number line diagram.
- 3.NF.A.3: Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.
 - 3.NF.A.3.A: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
 - 3.NF.A.3.B: Recognize and generate simple equivalent fractions, e.g., $12 = 24$, $46 = 23$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

Measurement and Data (MD):

3.MD.A: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

- 3.MD.A.1: Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
- 3.MD.A.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (This excludes compound units such as cm^3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (This excludes multiplicative comparison problems, such as problems involving notions of “times as much.”)

3.MD.B: Represent and interpret data.

- 3.MD.B.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

3.MD.C: Geometric measurement: Use concepts of area and relate area to multiplication and to addition.

- 3.MD.C.5: Recognize area as an attribute of plane figures and understand concepts of area measurement.
- 3.MD.C.6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
- 3.MD.C.7: Use concepts of area and relate area to the operations of multiplication and addition.