Nebraska Mathematics Standards
Grade 4

MA 4.1 Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.1.1 Number System: Students will represent and show relationships among positive rational numbers within the base-ten number system.

- MA 4.1.1.a Read and write numbers through the millions (e.g., 2,347,589 is the same as 2 million three hundred forty seven thousand five hundred eighty nine)
- MA 4.1.1.b Demonstrate multiple equivalent representations for decimal numbers through the hundredths place (e.g., 2 and 5 hundredths is 2.05; 6.23 is 6 + .2 + .03)
- MA 4.1.1.c Compare and order whole numbers and decimals through the hundredths place (e.g., money)
- MA 4.1.1.d Classify a number as even or odd
- MA 4.1.1.e Represent a fraction as parts of a whole and/or parts of a set
- MA 4.1.1.f Use visual models to find equivalent fractions (e.g.,
  \[
  \frac{2}{4} = \frac{1}{2} = \frac{1}{4} = \frac{2}{8} = \frac{5}{10} = \frac{2}{5} = \frac{3}{15}
  \]
- MA 4.1.1.g Determine the size of a fraction relative to one half using equivalent forms (e.g., Is 3/8 more or less than one half?)
- MA 4.1.1.h Locate fractions on a number line
- MA 4.1.1.i Round a whole number to millions

MA 4.1.2 Operations: Students will demonstrate the meaning of division with whole numbers.

- MA 4.1.2.a Use drawings, words, and symbols to explain the meaning of division [(e.g., as repeated subtraction: Sarah has 24 candies. She put them into bags of 6 candies each. How many bags did Sarah use?) (e.g., as equal sharing: Paul has 24 candies. He wants to share them equally among his 6 friends. How many candies will each friend receive?)]

MA 4.1.3 Computation: Students will compute fluently and accurately using appropriate strategies and tools.

- MA 4.1.3.a Compute whole number division facts 0 – 10 fluently
- MA 4.1.3.b Add and subtract decimals to the hundredths place (e.g., money)
- MA 4.1.3.c Multiply two-digit whole numbers
- MA 4.1.3.d Divide a three-digit number with one digit divisor with and without a remainder
- MA 4.1.3.e Mentally compute multiplication and division involving powers of 10
- MA 4.1.3.f Select and apply the appropriate method of computation when problem solving (e.g., models, mental computation, paper-pencil)
MA 4.1.4 Estimation: Students will estimate and check reasonableness of answers using appropriate strategies and tools.

MA 4.1.4.a Estimate the three-digit product and the two-digit quotient of whole number multiplication and division and check the reasonableness

MA 4.2 Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.2.1 Characteristics: Students will classify two-dimensional shapes and three-dimensional objects.

MA 4.2.1.a Identify two- and three-dimensional shapes according to their sides and angle properties
MA 4.2.1.b Classify an angle as acute, obtuse, and right
MA 4.2.1.c Identify parallel, perpendicular, and intersecting lines
MA 4.2.1.d Identify the property of congruency when dealing with plane geometric shapes

MA 4.2.2 Coordinate Geometry: Students will describe locations using coordinate geometry.

MA 4.2.2.a Identify the ordered pair of a plotted point in first quadrant by its location (e.g., (2, 3) is a point two right and three up from the origin)

MA 4.2.3 Transformations: Students will identify simple transformations.

MA 4.2.3.a Given two congruent geometric shapes, identify the transformation (e.g., translation, rotation, reflection) applied to an original shape to create a transformed shape

MA 4.2.4 Spatial Modeling: Student will use geometric models to solve problems.

MA 4.2.4.a Given a geometric model, use it to solve a problem (e.g., what shapes make a cylinder; streets run parallel and perpendicular)

MA 4.2.5 Measurement: Students will apply appropriate procedures and tools to estimate and determine measurement using customary and metric units.

MA 4.2.5.a Select and use appropriate tools to measure perimeter of polygons
MA 4.2.5.b Identify time to the minute on an analog clock
MA 4.2.5.c Solve problems involving elapsed time
MA 4.2.5.d Identify the appropriate metric unit for measuring length, weight, and capacity/volume (e.g., cm, m, Km; g, Kg; mL, L)
MA 4.2.5.e Estimate and measure length using customary (nearest ½ inch) and metric (nearest centimeter) units
MA 4.2.5.f Measure weight and temperature using customary units
MA 4.2.5.g Compute simple unit conversions for length within a system of measurement
MA 4.3 Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.3.1 Relationships: Students will represent and analyze relationships.
   MA 4.3.1.a Describe, extend, and apply rules about numeric patterns
   MA 4.3.1.b Represent and analyze a variety of patterns using words, tables, and graphs
   MA 4.3.1.c Use ≥, ≤ symbols to compare quantities
   MA 4.3.1.d Select appropriate operational and relational symbols to make a number sentence true

MA 4.3.2 Modeling in Context: Students will create and use models to represent mathematical situations.
   MA 4.3.2.a Model situations that involve the multiplication of whole numbers using number lines and symbols
   MA 4.3.2.b Describe and model quantitative change involving multiplication (e.g., money doubling)

MA 4.3.3 Procedures: Students will identify and apply properties of whole numbers to solve equations involving multiplication and division.
   MA 4.3.3.a Represent the idea of a variable as an unknown quantity using a letter or a symbol (e.g., n + 3, b – 2)
   MA 4.3.3.b Use symbolic representation of the identity property of multiplication (e.g., 5 * 1 = 5)
   MA 4.3.3.c Use symbolic representations of the commutative property of multiplication (e.g., 2 * 3 = 3 * 2)
   MA 4.3.3.d Solve simple one-step whole number equations (e.g., x + 2 = 3, 3 * y = 6)
   MA 4.3.3.e Explain the procedure(s) used in solving simple one-step whole number equations

MA 4.4 Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.

MA 4.4.1 Display and Analysis: Students will organize, display, compare, and interpret data.
   MA 4.4.1.a Represent data using dot/line plots
   MA 4.4.1.b Compare different representations of the same data
   MA 4.4.1.c Interpret data and draw conclusions using dot/line plots
   MA 4.4.1.d Find the mode and range for a set of whole numbers
   MA 4.4.1.e Find the whole number mean for a set of whole numbers

MA 4.4.2 Predictions and Inferences: Students will construct predictions based on data.
   MA 4.4.2.a Make predictions based on data to answer questions from tables and bar graphs
MA 4.4.3 Probability: Students will find, describe, and compare experimental probabilities.

MA 4.4.3.a Perform simple experiments and compare the degree of likelihood (e.g., more likely, equally likely, or less likely)