

Measures of Academic Progress (MAP) Nebraska State-Aligned Version 4

The NWEA Goal Structure is a document that represents the content and structure of a state’s standards documents. Goal structures are created through an alignment process that links state standards documents to the NWEA item bank. The MAP tests and associated reports for teachers and students are based upon this structure and alignment.

The alignment process begins with a thorough review of a state’s standards documents by NWEA’s curriculum specialists. The general goal areas or strands within a state’s standards that appear across grade levels become the goals in the goal structure (indicated below as bold). Areas in a state’s standards documents that are determined to be sub-domains of the goals/strands become the sub-goals in the goal structure (indented under each goal below).

Goal and sub-goal names from the Goal Structure are shortened for technical reasons to create the headings in DesCartes. Report Names are shortened further to accommodate report specifications.

Mathematics 2-5 Goal Structure	Mathematics 2-5 DesCartes	Mathematics 2-5 Report Names
Number Sense	Number Sense	Number Sense
Represent and show relationships among positive rational numbers: Read and write numbers through the millions; demonstrate equivalent representations for whole numbers and decimals through the thousandths; compare and order whole numbers, fractions, and decimals; classify a number as even or odd; represent a fraction as parts of a whole and/or parts of a set; identify fractions in their simplest form and find common denominators; round whole numbers and decimals; recognize and generate equivalent forms of fractions, decimals, and percents; classify a number as prime or composite; identify factors and multiples of any whole number.*	Number System	

<p>Demonstrate the meaning of arithmetic operations with whole numbers: Explain the relationship between addition and subtraction, and between multiplication and division; explain the meaning of factors and product in a multiplication sentence; explain the meaning of the identity properties for addition and multiplication, the commutative and associative properties of addition and multiplication, and the distributive property of multiplication over addition.*</p>	<p>Meaning of Operations</p>	
<p>Compute fluently and accurately using appropriate strategies and tools: Select, apply and explain the appropriate method of computation when problem solving (e.g., models, mental computation, paper-pencil, technology); multiply two-digit whole numbers; divide a three-digit number with one digit divisor with and without a remainder; add and subtract positive rational numbers; multiply decimals; divide a decimal by a whole number.*</p>	<p>Computation</p>	
<p>Geometry and Measurement</p>	<p>Geometry and Measurement</p>	<p>Geometry and Measurement</p>
<p>Identify characteristics, describe properties of, and classify two-dimensional shapes and three-dimensional objects: compare two-dimensional shapes; justify congruence of two-dimensional shapes; identify lines, line segments, rays, and angles; classify an angle as acute, obtuse, and right; identify parallel, perpendicular, and intersecting lines; justify the classification of two-dimensional shapes; identify degrees on a circle; describe attributes of solid shapes.</p>	<p>Characteristics</p>	

<p>Identify locations using coordinate geometry, identify and use simple transformations, and use geometric models to solve problems: Plot points on a number line; compare whole numbers using location on a number line; determine the distance between two whole number points on a number line; plot the location of an ordered pair in the first quadrant; identify and draw lines of symmetry in two-dimensional shapes; perform one-step transformations on two dimensional shapes; demonstrate positional words; label lines, rays, line segments, and angles.</p>	<p>Coordinate Grid, Transformations, Spatial Modeling</p>	
<p>Apply appropriate procedures, tools, and formulas to determine measurements using customary and metric units: Identify the name and amount of a penny, nickel, dime, and quarter; count mixed coins and bills; identify time of day; identify time to the minute; solve problems involving elapsed time; measure perimeter and angles; identify correct unit to the measurement situation; compute simple unit conversions for length within a system of measurement; determine the area of rectangles and squares.</p>	<p>Measurement</p>	
<p>Algebraic Concepts</p>	<p>Algebraic Concepts</p>	<p>Algebraic Concepts</p>
<p>Represent, analyze, and generalize relationships: Sort or order objects by their attributes, then identify the classifying attribute; identify, describe, and extend numeric and non-numeric patterns; describe, extend, apply rules, and make generalizations about numeric, and geometric patterns; represent and analyze a variety of patterns using words, tables, and graphs; use symbols to compare quantities; select appropriate operational and relational symbols to make a number sentence true; communicate relationships using expressions and equations.</p>	<p>Relationships</p>	

<p>Create, use, and compare models representing mathematical situations: Model situations that involve the addition, subtraction, and multiplication of whole numbers using objects, number lines, and symbols; model situations that involve the addition, subtraction, and multiplication of positive rational numbers using words, graphs, and tables; describe and model quantitative change involving addition, subtraction, and multiplication; represent a variety of quantitative relationships using tables and graphs.</p>	<p>Modeling in Context</p>	
<p>Apply properties of simple positive rational numbers to solve one-step equations: Represent the idea of a variable as an unknown quantity using a letter or a symbol; use symbolic representations of the commutative, identity, and associative property; solve one-step addition and subtraction equations involving common positive rational numbers; evaluate numerical expressions by using parentheses with respect to order of operations; evaluate simple algebraic expressions involving addition and subtraction.</p>	<p>Procedures</p>	
<p>Data Analysis & Probability</p>	<p>Data Analysis & Probability</p>	<p>Data Analysis and Probability</p>
<p>Organize, display, compare, and interpret data: Sort and classify objects by more than one attribute; compare and interpret information from displayed data; compare different representations of the same data; represent and interpret data using tally marks, horizontal and vertical bar graphs, pictographs, dot/line plots, and line graphs; draw conclusions based on a set of data; find the mean, median, mode, and range for a set of whole numbers; make predictions based on data to answer questions.</p>	<p>Display, Analysis, Predictions & Inferences</p>	

<p>Determine theoretical probabilities: Describe outcomes as possible, impossible, or certain for simple experiments; compare the degree of likelihood (e.g., more likely, equally likely, or less likely) of simple experiments; generate a list of possible outcomes for a simple event.</p>	<p>Probability</p>	
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*Denotes that calculator use is not permitted in this goal or sub-goal of the test.

Measures of Academic Progress (MAP) Nebraska State-Aligned Version 4

Mathematics 6+ Goal Structure	Mathematics 6+ DesCartes	Mathematics 6+ Report Names
Number Sense	Number Sense	Number Sense
<p>Represent and show relationships among real numbers: Show equivalence among fractions, decimals, and percents; demonstrate equivalent forms of irrational numbers; compare and order real numbers; represent large and small numbers using scientific notation; classify numbers; compare, contrast and apply the properties of numbers and the real number system, including rational, irrational, imaginary, and complex numbers; identify the prime factorization of numbers; find least common multiple and greatest common divisor given two numbers.</p>	<p>Number System</p>	
<p>Demonstrate the meaning and effects of arithmetic operations with real numbers: Use drawings, words, and symbols to explain the meaning of addition, subtraction, multiplication and division of fractions, decimals, and integers; use words and symbols to explain the zero property of multiplication; use words and symbols to explain why division by zero is undefined; use drawings, words, and symbols to explain that the distance between two numbers on the number line is the absolute value of their difference.*</p>	<p>Meaning of Operations</p>	

<p>Compute fluently and accurately using appropriate strategies and tools: Compute accurately with real numbers; select and apply the method of computation when problem solving using real numbers; solve problems involving percent of numbers, and ratios and proportions; evaluate expressions involving absolute value of integers; calculate squares of integers, the square roots of perfect squares; simplify exponential expressions; multiply and divide numbers using scientific notation; decide if the problem calls for an approximation or an exact number.*</p>	<p>Computation</p>	
<p>Geometry and Measurement</p>	<p>Geometry and Measurement</p>	<p>Geometry and Measurement</p>
<p>Analyze characteristics, properties, and relationships among geometric shapes and objects: Justify the classification of three dimensional objects; identify and describe similarity of two-dimensional shapes; compare and contrast relationships between similar and congruent objects; name line, line segment, ray, and angle; identify pairs of angles; apply geometric properties to solve problems; prove geometric theorems using deductive reasoning; identify and apply right triangle relationships; know basic properties of a circle and solve problems.</p>	<p>Characteristics</p>	
<p>Use coordinate geometry to analyze and describe relationships in the coordinate plane: Plot the location of an ordered pair in the coordinate plane; use coordinate geometry to represent and examine the properties of rectangles and squares using horizontal and vertical segments; use coordinate geometry to analyze geometric situations (e.g., parallel lines, perpendicular lines); apply the midpoint and distance formulas.</p>	<p>Coordinate Geometry</p>	

<p>Apply and analyze transformations, and use spatial reasoning, and geometric modeling to solve problems: Perform and describe positions and orientation of shapes under single transformations; identify lines of symmetry for a reflection; explain the effects of simple transformations on the ordered pairs of two-dimensional shapes; perform and describe positions and sizes of shapes under dilations; perform and describe multiple transformations; identify and create two-dimensional drawings of three-dimensional objects.</p>	<p>Transformations and Spatial Modeling</p>	
<p>Apply the units, systems, and formulas to solve problems: Estimate and measure length; measure volume/capacity; convert length, weight (mass), and liquid capacity from one unit to another; convert between various units of area and volume; convert equivalent rates; measure angles; find the perimeter, area, surface area and volume of complex shapes and objects; apply the Pythagorean theorem; use scale factors to find missing lengths in similar shapes; find arc length and area of sectors of a circle.</p>	<p>Measurement</p>	
<p>Algebraic Concepts</p>	<p>Algebraic Concepts</p>	<p>Algebraic Concepts</p>
<p>Generalize, represent, and analyze relationships using algebraic symbols: Describe relationships using algebraic expressions, equations, and inequalities; identify relationships as increasing, decreasing, or constant; recognize equivalent forms of simple algebraic expressions; represent and analyze a variety of patterns; graph and interpret linear inequalities; identify characteristics of linear and non-linear functions; graph linear and non-linear functions; identify domain and range of functions; compare and analyze the rate of change; represent, interpret, and analyze functions and their inverses.</p>	<p>Relationships</p>	

<p>Model and analyze quantitative relationships: Model contextualized problems using various representations (e.g., graphs, tables, one variable equalities, one variable inequalities, linear equations in slope intercept form, inequalities in slope intercept form, system of linear equations with two variables); analyze situations to determine the type of algebraic relationship (e.g., linear, nonlinear); model contextualized problems using various representations for non-linear functions (e.g., quadratic, exponential, square root, and absolute value).</p>	<p>Modeling in Context</p>	
<p>Solve equations and inequalities: Explain the multiplication property of equality, additive inverse of addition, multiplicative inverse, and apply the reflexive, symmetric, and transitive properties; evaluate numerical and algebraic expressions; add and subtract, multiply, divide, and factor polynomials; add, subtract, multiply, divide, and simplify rational expressions; analyze and solve systems of linear equations; use the formulas for the general term and summation of finite arithmetic and geometric series; combine functions by composition, addition, subtraction, multiplication, and division.</p>	<p>Procedures</p>	
<p>Data Analysis & Probability</p>	<p>Data Analysis & Probability</p>	<p>Data Analysis and Probability</p>
<p>Organize, display, compare, and interpret data: Formulate a question and design a survey or an experiment in which data is collected and displayed; compute, identify, and interpret measures of central tendency; select the most appropriate unit of central tendency for sets of data; explain how transformations of data affect measures of central tendency; describe the shape and determine spread and outliers of a data set; explain how statistics are used or misused; explain the impact of sampling methods, bias, and the phrasing of questions asked during data collection.</p>	<p>Display and Analysis</p>	

<p>Develop and evaluate inferences to make predictions: Make predictions based on data and create questions to further investigate the quality of the predictions; compare data sets and evaluate conclusions using graphs and summary statistics; develop linear equations for linear models to predict unobserved outcomes using regression line and correlation coefficient; recognize when arguments based on data confuse correlation with causation.</p>	<p>Predictions and Inferences</p>	
<p>Apply and analyze concepts of probability: Identify dependent and independent events and calculate their probabilities; use the appropriate counting techniques to determine the probability of an event (e.g., combinations, permutations); compare and contrast theoretical and experimental probabilities; identify complementary events and calculate their probabilities; construct a sample space and a probability distribution.</p>	<p>Probability</p>	

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Reading Goal Structure	Reading DesCartes	Reading Report Names
Students will learn and apply strategies to read words and increase grade level vocabulary	Strategies to Read Words, Increase Vocabulary	Read Words, Vocabulary
Students will identify concepts of print; demonstrate phonological awareness; identify spelling and sound patterns.	Use Phonics and Spelling, Sound Patterns	
Students will apply word structure elements and word patterns to determine meaning; use knowledge of parts of speech, compounds, affixes, roots, and word origins.	Use Prefixes, Suffixes, Roots	
Students will identify and use context clues and text features to determine meaning of unknown words.	Use Vocabulary and Context Clues	
Students will identify semantic relationships; identify synonyms, antonyms, multiple meaning words.	Use Multiple Meaning Words, Synonyms, Antonyms	
Students will summarize narrative and informational text using main idea and supporting details	Use Main Idea, Supporting Details	Main Idea, Details
Students will summarize narrative text using main idea and supporting details.	Use Main Idea, Details in Narrative Text	
Students will summarize informational text using main idea and supporting details.	Use Main Idea, Details in Informational Text	
Students will infer meaning, draw conclusions, and predict using narrative and informational text	Infer, Draw Conclusions, Predict	Infer, Predict
Students will answer inferential and interpretive questions in narrative and informational text.	Make Inferences, Draw Conclusions	
Students will make and confirm predictions while reading narrative and informational text.	Make and Confirm Predictions	

Students will distinguish characteristics of and analyze text features to locate information in and gain meaning from narrative and informational text.	Identify Characteristics, Features of Text	Text Features, Characteristics
Students will identify defining characteristics of and analyze information from text features in narrative text	Identify Features of Narrative Text	
Students will identify defining characteristics of and analyze information from text features in informational text.	Identify Features of Informational Text	
Students will identify author's bias and purpose and perspective, and analyze elements of text, stylistic devices, and organizational patterns in narrative and informational text	Identify Bias, Purpose, Text Elements, Devices	Bias, Purpose, Text Elements
Identify and analyze author's bias, purpose and perspective in narrative and informational text.	Identify Author Bias, Purpose, and Perspective	
Identify and analyze elements of text and organizational patterns in narrative and informational text.	Identify and Analyze Text Elements, Patterns	
Identify and analyze use of stylistic and literary devices in narrative text.	Analyze Use of Stylistic and Literary Devices	

Measures of Academic Progress (MAP) Nebraska State-Aligned Version 4

Language Usage Goal Structure	Language Usage DesCartes	Language Usage Report Names
Students will use correct spelling, grammar, punctuation, and other standard conventions appropriate for grade level	Use Conventions Appropriate for Grade Level	Conventions
Students will use correct spelling appropriate for grade level.	Use Correct Spelling	
Students will use correct grammar appropriate for grade level.	Use Correct Grammar	
Students will use correct capitalization/punctuation appropriate for grade level.	Use Correct Capitalization and Punctuation	
Students will apply the writing process to plan, draft, revise, edit and publish writing	Apply the Writing Process	Writing Process
Students will use prewriting activities and tools to generate drafts.	Use Prewriting Activities to Generate Drafts	
Students will revise to improve writing by adding details.	Revise to Improve Writing	
Students will edit writing for format and conventions.	Edit Writing for Format and Conventions	
Students will compose grammatically correct sentences of varying length, complexity, and type developing coherent paragraphs relevant to topic, purpose and genre	Compose Sentences; Develop Coherent Paragraphs	Sentences and Paragraphs
Students will compose sentences of varying length, complexity, and type.	Compose Sentences of Varying Complexity, Type	
Students will develop coherent paragraphs relevant to topic, purpose, and genre.	Develop Paragraphs Relevant to Purpose, Genre	
Students will write in multiple genres considering audience, purpose (e.g., inform, entertain, persuade, instruct) typical characteristics, organizational structure, and compare and analyze models and examples of various genres	Write Genres Considering Purpose, Organization	Genre, Purpose, Organization
Students will consider audience, characteristics, organizational structure and write to inform and instruct.	Write to Inform and Instruct	

Students will consider audience, characteristics, organizational structure and write to entertain.	Write to Entertain; Use Figurative Language	
Students will consider audience, characteristics, organizational structure and write to persuade.	Write to Persuade	
Students will select and apply organizational structure appropriate to task and analyze and compare models of various genres.	Apply Organizational Structure; Analyze Genres	