

Measures of Academic Progress (MAP) Vermont State-Aligned Version 3

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
Arithmetic, Number, and Operation Concepts	Arithmetic, Number, and Operation Concepts	Number and Operations
Demonstrates conceptual understanding of rational numbers with respect to whole numbers through equivalency, composition, decomposition, or place value, using models, explanations, or other representations; connects number words and numerals to quantities; shows correct sequence of ordinal and cardinal numbers.	Conceptual Understanding: Whole Numbers	
Demonstrates conceptual understanding of rational numbers with respect to positive fractional numbers (proper, mixed number, and improper), decimals, or benchmark percents, as a part to whole relationship in area, set, or linear models using models, explanations, or other representations.	Conceptual Understanding: Rational Numbers	

Demonstrates understanding of the relative magnitude of numbers by ordering or comparing whole numbers; demonstrates one-one correspondence; shows the relationship between whole numbers; compares cardinal numbers; orders, compares, or identifies equivalent positive fractional numbers, decimals, or benchmark percents within number formats, or integers in context using models or number lines.	Relative Magnitude	
Demonstrates conceptual understanding of mathematical operations involving addition, subtraction, multiplication, and division of whole numbers, and meaning of a remainder; mentally adds, subtracts, multiplies and divides whole numbers; solves problems in context involving addition, subtraction, multiplication, and multiple operations; applies properties of numbers (odd, even, factor, multiple, prime, composite, divisibility, remainders, commutative, identity, associative).	Operations, Properties and Problems: Whole Numbers	
Accurately solves problems involving addition or subtraction of fractions and decimals; demonstrates understanding of monetary value of coins; adds coins together and represents the result in dollar notation; makes change from \$1.00 or less, recognizes equivalent coin representations of the same value.	Operations and Problems: Decimals and Fractions	
Estimates and evaluates the reasonableness of solutions.	Estimation	
Geometry and Measurement Concepts	Geometry and Measurement Concepts	Geometry and Measurement
Uses composition or decomposition to sort or classify; uses properties or attributes of angles or sides to identify, describe, or distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, octagons, or quadrilaterals; classifies angles; recognizes symmetrical figures; uses properties or attributes to identify, compare, or describe three-dimensional shapes (rectangular prisms, triangular prisms, cylinders, spheres, pyramids, or cones).	Properties and Attributes of Shapes	

Demonstrates conceptual understanding of congruency by matching congruent figures using reflections, translations, or rotations; demonstrates conceptual understanding of similarity by applying scales on maps, identifying similar figures, or solving problems involving similar figures; find and name locations with simple relationships; solves problems using the Cartesian coordinate system to describe positions on a map, to locate coordinates and to represent data from tables.	Congruence, Similarity, and Coordinates	
Demonstrates conceptual understanding of perimeter and area by using models or manipulatives to surround and cover polygons; demonstrates conceptual understanding of perimeter and area of polygons, area of rectangles or right triangles, area of polygons or irregular figures on grids, and volume of rectangular prisms using a variety of models, manipulatives, or formulas.	Perimeter, Area, and Volume	
Selects an appropriate tool with which to measure length, temperature, weight, and uses nonstandard units for linear measurement and weight; measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands; determines elapsed and accrued time.	Measurement, Units, Conversion and Time	
Functions and Algebra Concepts	Functions and Algebra Concepts	Functions and Algebra
Identifies and extends a variety of patterns (non-numeric, linear, and nonlinear) represented in models, tables, sequences, or in problem situations, and writes a rule in words or symbols; demonstrates a conceptual understanding of change qualitatively and quantitatively; demonstrates a conceptual understanding of linear relationships as a constant rate of change by identifying, describing, or comparing situations that represent constant rates of change.	Patterns and Linear Relationships	

Demonstrates conceptual understanding of algebraic expressions by using letters or symbols to represent unknown quantities; evaluates simple linear algebraic expressions using whole numbers; solves one-step equations; finds the value that will make an open sentence true; shows equivalence between two expressions; simplifies numerical expressions.	Algebraic Expressions and Equality	
Data, Statistics, and Probability Concepts	Data, Statistics, and Probability Concepts	Statistics and Probability
Analyzes patterns, trends, or distributions in data by determining or using measures of central tendency or range; identifies or describes representations that best display a given set of data; organizes, displays, and interprets data using models, pictographs, tally charts, frequency charts, tables, bar graphs, circle graphs, line graphs, line plots, histograms, or Venn diagrams to answer questions, to formulate or justify conclusions, to make predictions, or to solve problems.	Organize, Display, Analyze and Interpret Data	
Uses counting techniques to solve problems in context involving combinations or simple permutations using a variety of strategies; determines the possible outcomes for a sample space that contains equally likely outcomes; uses experimental probability to describe the likelihood or chance of an event; determines the theoretical probability of an event.	Counting and Probability	

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Mathematics 6+ Goal Structure	Mathematics 6+ DesCartes	Mathematics 6+ Report Names
Arithmetic, Number, and Operation Concepts	Arithmetic, Number, and Operation Concepts	Number and Operations
Demonstrates conceptual understanding of rational numbers with respect to ratios, rates, and percents using models, explanations, or other representations; accurately solves problems involving conceptual understanding of real numbers, or simple vectors; demonstrates conceptual understanding of proportional reasoning.	Conceptual Understanding: Real Numbers	
Demonstrates understanding of the relative magnitude of numbers by ordering, comparing, or identifying equivalent rational numbers within and across number formats, common irrational numbers, numbers with whole-number bases and whole-number exponents, integers, square roots, absolute values, or numbers represented in scientific notation; accurately solves problems involving magnitude of real numbers.	Relative Magnitude	
Demonstrates understanding of mathematical operations by illustrating the meaning of a power; operates with integers, exponents, and takes square or cube roots; applies properties of numbers operations, exponents and scientific notation to solve problems and to simplify computations; mentally multiplies and divides whole numbers through twelve with accuracy; applies the conventions of order of operations.	Operations, Properties and Problems: Integers	
Accurately solves problems involving single or multiple operations on fractions, and decimals; solves problems involving proportional reasoning, percents, rates, integers, and compound interest; applies the conventions of order of operations.	Operations and Problems: Rational Numbers	



Estimates and evaluates the reasonableness of numerical computations and solutions.	Estimation	
Geometry and Measurement Concepts	Geometry and Measurement Concepts	Geometry and Measurement
Uses properties or attributes to identify, describe, classify, or distinguish among types of triangles, quadrilaterals, and three-dimensional shapes; sketches solids and nets; constructs or accurately represents angles, bisectors, congruent segments, perpendicular lines, triangles, regular polygons, and inscribed or circumscribed figures; uses properties and attributes of lines and angles; models situations geometrically; applies theorems; applies the Pythagorean Theorem, Triangle Inequality, and the sum of the angles in a convex polygon.	Properties, Attributes and Theorems	
Demonstrates congruency using transformations, the properties of angles, and length of segments; applies the concepts of congruency by solving problems on a coordinate plane involving reflections, translations, or rotations; applies concepts of similarity, congruency or right triangle trigonometry to determine length or angle measures and to solve problems involving scale; solves problems using the Cartesian coordinate system to locate coordinates and to represent data from tables.	Congruence, Similarity and Coordinates	
Demonstrates conceptual understanding of perimeter, circumference, and area of two-dimensional figures or composites of two-dimensional figures, surface area or volume of three-dimensional figures or composites of three-dimensional figures in problem-solving situations and expresses formulas for perimeter, area, surface area or volume; expresses all measures using appropriate units.	Perimeter, Area, Volume and Surface Area	



Measures and uses units of measures appropriately and consistently when solving problems across the content strands; makes conversions within or across systems and makes decisions concerning an appropriate degree of accuracy in problem situations involving measurement; uses measurement conversion strategies to solve problems.	Measurement, Units and Conversion	
Functions and Algebra Concepts	Functions and Algebra Concepts	Functions and Algebra
Identifies and extends a variety of patterns represented in models, tables, sequences, graphs, or in problem situations; generalizes a linear relationship; determines slopes and intercepts represented in graphs, tables, or problem situations; describes the meaning of slope and intercept; distinguishes between linear and nonlinear relationships; demonstrates conceptual understanding of linear and nonlinear functions through analysis of intercepts, domain, range and constant or variable rates of change.	Patterns, Linear and Non-Linear Relationships	
Demonstrates conceptual understanding of algebraic expressions by evaluating, simplifying, or writing algebraic expressions; write equivalent forms of algebraic expressions or formulas; solves linear equations, or systems of two linear equations using tables, graphs, algebraic manipulation; demonstrates conceptual understanding of inequality by solving linear inequalities, and comparing values of systems of linear functions using tables, graphs, algebraic manipulation.	Algebraic Expressions and Equality	

Data, Statistics, and Probability Concepts	Data, Statistics, and Probability Concepts	Statistics and Probability
Organize, display, and interpret data; answer questions, justify conclusions, and make predictions; identify representations that best display a given set of data; analyzes patterns, trends, or distributions in single variable and two variable data using measures of central tendency, dispersion, outliers, quartile values, regression lines or correlation to solve problems; evaluates samples.	Organize, Display, Analyze and Interpret Data	
Uses counting techniques, combinations, arrangements or permutations to solve problems; determines possible outcomes for a sample space; determines the experimental or theoretical probability of an event; designs fair games; represent probabilities using fractions, decimals, or percents; determine the fairness of a game; compares and contrasts theoretical and experimental probabilities, and compound events.	Counting and Probability	

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Reading Goal Structure	Reading DesCartes	Reading Report Names
Reading Strategies	Reading Strategies	Reading Strategies
Early reading skills and strategies: phonological awareness and concepts of print, rhyming words, blending, segmenting, isolating phonemes, distinguishing printed letters words	Phonological Awareness and Concepts of Print	
Word identification skills and strategies: names upper/lower case, sound/symbol correspondence, high frequency words, consonant and vowel diagraphs, multisyllabic words, word patterns	Word Identification Skills and Strategies	
Vocabulary strategies and breadth of vocabulary: synonyms, antonyms, categorizing words, base words, context clues, multiple meaning words, word origins, common roots, analogies, content specific vocabulary, affixes, foreign language derivations	Vocabulary Strategies and Breadth of Vocabulary	
Comprehension Strategies While Reading Literary and Informational Text	Comprehension Strategies: Literary, Informational	Comprehension Strategies
Predicting and making text-based inferences: predicting, making simple inferences, making connections, determining importance, locating and using text features, using text structure clues (e.g., chronological, compare/contrast, proposition and support) summarizing	Predict and Make Text-Based Inferences	
Using text structure clues (e.g., chronological, compare/contrast, proposition and support, description, classification, logical/sequential)	Use Text Structure Clues	

Initial Understanding of Literary Text	Initial Understanding of Literary Text	Understand Literary Text
Recognize a variety of literary texts and characteristics: distinguishing among a variety of literary types of text and their characteristics	Recognize a Variety of Literary Texts	
Demonstrate understanding of elements of literary texts: elements of literary texts	Understand Elements of Literary Texts	
Identify literary devices: identifying literary devices	Identify Literary Devices	
Retell the key elements of a story: retell the key elements of a story, paraphrasing or summarizing key ideas/plot with events sequenced	Retell Key Elements of a Story	
Initial Understanding of Information Text	Initial Understanding of Informational Text	Understand Inform Text
Recognize a variety of informational text and characteristics	Recognize a Variety of Informational Text	
Obtain information from text features	Obtain Information from Text Features	
Locate and record information, stated central/main ideas or details within text	Locate and Record Information	
Organize information, paraphrase, and summarize	Paraphrase and Summarize	
Analysis and Interpretation of Literary Text/Citing Evidence	Analysis and Interpretation of Literary Text	Analyze Literary Text
Determine how author's purpose, message/theme or underlying beliefs are supported within text [author's purpose, message]	Determine Purpose, Theme, Beliefs Within Text	
Makes inferences about causes/effects [infer cause, effect]	Make Inferences About Causes/Effects	

Analysis and Interpretation of Informational Text/Citing Evidence	Analysis and Interpretation of Informational Text	Analyze Inform Text
Drawing inferences about text, including author's purpose, or forming and supporting opinions/judgments and assertions about central ideas that are relevant	Infer Purpose, Support Opin/Judg, Assertion	
Distinguishing fact from opinion	Distinguish Fact From Opinion	
Identify possible bias/propaganda	Identify Possible Bias/Propaganda	
Evaluating the accuracy of information: expertise of authors, evaluating clarity and accuracy of information	Evaluate the Accuracy of Information	
Make inferences about causes or effects	Make Inferences About Causes or Effects	

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Language Usage Goal Structure	Language Usage DesCartes	Language Usage Report Names
Writing Process	Writing Process	Writing Process
Use prewriting	Use Prewriting	
Use drafting	Use Drafting	
Use revising and editing	Use Revising and Editing	
Writing Conventions	Writing Conventions	Writing Conventions
Correctly spell	Correctly Spell	
Understand features of print	Understand Features of Print	
Use capitals	Use Capitals	
Use grammar	Use Grammar	
Writing Conventions (Punctuation)	Writing Conventions (Punctuation)	Conventions (Punctuation)
Use end punctuation	Use End Punctuation	
Use contractions, apostrophes	Use Contractions, Apostrophes	
Use commas	Use Commas	
Use quotations	Use Quotations	
Use punctuation	Use Punctuation	

Structures of Language	Structures of Language	Structures of Language
Use varied sentence structures	Use Varied Sentence Structures	
Use paragraph forms	Use Paragraph Forms	
Use organizational text structures	Use Organizational Text Structures	
Writing in Response to Literary, Informational Text	Writing in Response to Literary, Informational Text	Response: Lit, Informational
Start and maintain focus/purpose	Start and Maintain Focus/Purpose	
Select context appropriate to audience	Select Context Appropriate to Audience	
Informational writing	Informational Writing: Reports, Procedures, Persuasive	
Expressive and reflective writing	Expressive and Reflective Writing: Narrative, Personal, Poetry	