

# Measures of Academic Progress (MAP) Vermont State-Aligned Version 2

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.

<b>Mathematics 2-5 Goal Structure</b>	<b>Mathematics 2-5 DesCartes</b>	<b>Mathematics 2-5 Report Names</b>
<b>Arithmetic, Number, and Operation Concepts</b>	<b>Arithmetic, Number, and Operation Concepts</b>	<b>Number and Operation</b>
Demonstrates conceptual understanding of rational numbers with respect to whole numbers*	Conceptual Understanding: Whole Numbers	
Demonstrates conceptual understanding of rational numbers with respect to positive fractional numbers*	Conceptual Understanding: Fractional Numbers	
Demonstrates conceptual understanding of rational numbers with respect to decimals, money, and percents*	Conceptual Understanding : Decimals and Money	
Demonstrates understanding of the relative magnitude of numbers: whole numbers, positive fractional numbers, decimals, benchmark percents, and integers*	Relative Magnitude of Numbers	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems involving addition and subtraction using whole numbers*	Operations: Add and Subtract Whole Numbers	

Demonstrates conceptual understanding of mathematical operations, and accurately solves problems involving multiplication and division using whole numbers*	Operations: Multiply and Divide Whole Numbers	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems involving addition and subtraction using fractions*	Operations: Add and Subtract Fractions	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems involving addition and subtraction using decimals and money*	Operations: Add and Subtract Decimals and Money	
Estimates and evaluates the reasonableness of solutions using whole numbers, fractions, decimals, and money*	Estimation and Reasonableness of Solutions	
Applies properties of numbers and operations to solve problems and to simplify computations involving whole numbers: odd, even, factors, multiples, prime, composite, divisibility and commutative, associative, and identity properties	Properties of Numbers and Operations	
<b>Geometry and Measurement Concepts</b>	<b>Geometry and Measurement Concepts</b>	<b>Geometry and Measurement</b>
Uses properties or attributes to identify, compare, describe, classify, or distinguish two- or three-dimensional shapes	Two- and Three-Dimensional Shapes	
Demonstrates conceptual understanding of congruency, similarity, scale, and transformations	Congruency and Similarity	
Demonstrates conceptual understanding of perimeter and area	Perimeter and Area	
Demonstrates conceptual understanding of volume	Volume	
Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems: length, temperature, weight, and volume	Length, Temperature, Weight, and Volume	
Determines elapsed and accrued time	Elapsed and Accrued Time	
Solves problems using the Cartesian coordinate system	Cartesian Coordinate System	

<b>Functions and Algebra Concepts</b>	<b>Functions and Algebra Concepts</b>	<b>Functions and Algebra</b>
Identifies and extends to specific cases a variety of patterns	Patterns	
Demonstrates a conceptual understanding of linear relationships as a constant rate of change	Linear Relationships	
Demonstrates conceptual understanding of algebraic expressions	Algebraic Expressions	
Demonstrates conceptual understanding of equality	Equality	
<b>Data, Statistics, and Probability Concepts</b>	<b>Data, Statistics, and Probability Concepts</b>	<b>Statistics and Probability</b>
Collects, organizes displays, interprets, and analyzes data to formulate or justify conclusions or predictions: tables, bar graphs, circle graphs, line graphs, tally charts, frequency charts, Venn diagrams, pictographs, line plots, and histogram	Data Organization and Interpretation	
Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, mode) or range to analyze situations, or to solve problems	Central Tendency and Range	
Uses counting techniques to solve problems; determines the likelihood, experimental, or theoretical probability of an event	Probability	
Note: Mathematical Dimensions, Mathematical Problem Solving and Reasoning: Applications are imbedded in each of the four Concept areas		

\*Denotes that calculator use is not permitted in this goal or sub-goal of the test

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Mathematics 6+ Goal Structure	Mathematics 6+ DesCartes	Mathematics 6+ Report Names
<b>Arithmetic, Number, and Operation Concepts</b>	<b>Arithmetic, Number, and Operation Concepts</b>	<b>Number and Operation</b>
Demonstrates conceptual understanding of rational numbers with respect to whole numbers*	Conceptual Understanding: Whole Numbers	
Demonstrates conceptual understanding of rational numbers with respect to positive fractional numbers*	Conceptual Understanding: Fractional Numbers	
Demonstrates conceptual understanding of rational numbers with respect to decimals and money*	Conceptual Understanding: Decimals and Money	
Demonstrates conceptual understanding of rational numbers with respect to ratios, proportional reasoning and percents	Conceptual Understanding: Proportions, Percents	
Demonstrates understanding of the relative magnitude of numbers	Relative Magnitude of Numbers	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems involving addition and subtraction using whole numbers*	Operations: Add and Subtract Whole Numbers	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems involving multiplication and division using whole numbers*	Operations: Multiply and Divide Whole Numbers	
-Demonstrates conceptual understanding of mathematical operations, and accurately solves problems using fractions*	Operations: Fractions	

Demonstrates conceptual understanding of mathematical operations, and accurately solves problems using decimals and money*	Operations: Decimals and Money	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems using integers; accurately solves problems involving conceptual understanding and magnitude of real numbers, or simple vectors	Operations: Integers, Real Numbers, and Vectors	
Demonstrates conceptual understanding of mathematical operations, and accurately solves problems using exponents, square roots, proportional reasoning, and percentages	Operations: Exponents, Roots, Proportions, Percent	
Estimates and evaluates the reasonableness of solutions*	Estimation and Reasonableness of Solutions	
Applies properties of numbers and operations to solve problems and to simplify computations: odd, even, factors, multiples, prime, composite, divisibility, GCF, LCM, prime factorization, and commutative, associative, identity, and distributive properties	Properties of Numbers and Operations	
<b>Geometry and Measurement Concepts</b>	<b>Geometry and Measurement Concepts</b>	<b>Geometry and Measurement</b>
Uses properties or attributes to identify, compare, describe, classify, or distinguish two- or three-dimensional shapes; constructs or accurately represents and sketches a variety of two- and three-dimensional objects; use and apply the Triangle Inequality theorem and the Pythagorean Theorem to solve mathematical situations or problems in context	Two- and Three-Dimensional Shapes	
Demonstrates conceptual understanding of congruency, similarity, scale, transformations, and right triangle trigonometry	Congruency and Similarity	
Demonstrates conceptual understanding of perimeter, circumference, and area	Perimeter, Circumference, and Area	

Demonstrates conceptual understanding of volume and surface area	Volume and Surface Area	
Measures and uses units of measures appropriately and consistently, and makes conversions within and across systems when solving problems: length, temperature, weight, volume	Length, Temperature, Weight, and Volume	
Determines elapsed and accrued time	Elapsed and Accrued Time	
Solves problems using the Cartesian coordinate system	Cartesian Coordinate System	
<b>Functions and Algebra Concepts</b>	<b>Functions and Algebra Concepts</b>	<b>Functions and Algebra</b>
Identifies and extends to specific cases a variety of patterns; solves and models problems by formulating, extending, or generalizing linear and common nonlinear functions/relations	Patterns	
Demonstrates a conceptual understanding of linear relationships as a constant rate of change; demonstrates conceptual understanding of linear relationships and linear and nonlinear functions	Linear Relationships and Functions	
Demonstrates conceptual understanding of algebraic expressions	Algebraic Expressions	
Demonstrates conceptual understanding of equality	Equality	
<b>Data, Statistics, and Probability Concepts</b>	<b>Data, Statistics, and Probability Concepts</b>	<b>Statistics and Probability</b>
Collects, organizes, displays, interprets, and analyzes data to formulate or justify conclusions or predictions: tables, bar graphs, circle graphs, line graphs, tally charts, frequency charts, Venn diagrams, pictographs, line plots, histograms, stem-and-leaf plots, scatter plots, box-and-whisker plots, and frequency distributions	Data Organization and Interpretation	

Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, mode) or dispersion (range or variation), outliers, quartile values, estimated line of best fit, regression line, and correlation to analyze situations or to solve problems; evaluates the sample from which the statistics were developed (bias)	Central Tendency and Range	
Uses counting techniques to solve problems; determines the likelihood, experimental, or theoretical probability of an event; compares and contrasts theoretical and experimental probabilities and determines and/or interprets the expected outcome of an event	Probability	
Note: Mathematical dimensions, mathematical problem solving, and reasoning: applications are imbedded in each of the four concept areas		

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Reading Goal Structure	Reading DesCartes	Reading Report Names
<b>Reading Strategies</b>	<b>Reading Strategies</b>	<b>Reading Strategies</b>
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	
<b>Comprehension Strategies While Reading Literary and Informational Text</b>	<b>Comprehension Strategies: Literary, Informational</b>	<b>Comprehension Strategies</b>
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	



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Using text structure clues (e.g., chronological, compare/contrast, proposition and support, description, classification, logical/sequential)	Use Text Structure Clues	
<b>Initial Understanding of Literary Text</b>	<b>Initial Understanding of Literary Text</b>	<b>Understand Literary Text</b>
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	
<b>Initial Understanding of Information Text</b>	<b>Initial Understanding of Informational Text</b>	<b>Understand Inform Text</b>
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	
<b>Analysis and Interpretation of Literary Text/Citing Evidence</b>	<b>Analysis and Interpretation of Literary Text</b>	<b>Analyze Literary Text</b>



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	
<b>Analysis and Interpretation of Informational Text/Citing Evidence</b>	<b>Analysis and Interpretation of Informational Text</b>	<b>Analyze Inform Text</b>
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
<b>Writing Process</b>	<b>Writing Process</b>	<b>Writing Process</b>
Use prewriting	Use Prewriting	
Use drafting	Use Drafting	
Use revising and editing	Use Revising and Editing	
<b>Writing Conventions</b>	<b>Writing Conventions</b>	<b>Writing Conventions</b>
Correctly spell	Correctly Spell	
Understand features of print	Understand Features of Print	
Use capitals	Use Capitals	
Use grammar	Use Grammar	
<b>Writing Conventions (Punctuation)</b>	<b>Writing Conventions (Punctuation)</b>	<b>Conventions (Punctuation)</b>
Use end punctuation	Use End Punctuation	
Use contractions, apostrophes	Use Contractions, Apostrophes	
Use commas	Use Commas	
Use quotations	Use Quotations	



Use punctuation	Use Punctuation	
<b>Structures of Language</b>	<b>Structures of Language</b>	<b>Structures of Language</b>
Use varied sentence structures	Use Varied Sentence Structures	
Use paragraph forms	Use Paragraph Forms	
Use organizational text structures	Use Organizational Text Structures	
<b>Writing in Response to Literary, Informational Text</b>	<b>Writing in Response to Literary, Informational Text</b>	<b>Response: Lit, Informational</b>
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	