

# Measures of Academic Progress (MAP) Common Core Aligned Released July 2014

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>Operations and Algebraic Thinking</b>	<b>Operations and Algebraic Thinking</b>	<b>Algebraic Thinking</b>
Represent and solve problems involving the four operations; Understand and apply properties of operations and the relationship between addition and subtraction; add and subtract within 20; work with addition and subtraction equations; work with equal groups of objects to gain foundations for multiplication; understand properties of multiplication and the relationship between multiplication and division; multiply and divide within 100; write and interpret numerical expressions.	Represent and Solve Problems	

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<p>Analyze patterns and relationships: Identify and explain patterns in arithmetic; gain familiarity with factors and multiples; identify arithmetic patterns and explain them using properties of operations; generate a number or shape pattern that follows a given rule; generate two numerical patterns using two given rules, form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.</p>	<p>Analyze Patterns and Relationships</p>	
<p><b>Number and Operations</b></p>	<p><b>Number and Operations</b></p>	<p><b>Number &amp; Operations</b></p>
<p>Understand the place value system and counting and cardinality: Know number names and the count sequence; skip-count by 5s, 10s, and 100s; generalize place value understanding for multi-digit whole numbers; read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form; compare two multi-digit numbers based on meanings of the digits in each place; read, write, and compare decimals to thousandths; use place value understanding to round multi-digit whole numbers and decimals to any place.</p>	<p>Understand Place Value, Counting, and Cardinality</p>	
<p>Use place value understanding and properties of operations to perform multi-digit arithmetic: Perform operations with decimals to hundredths; fluently add, subtract, and multiply multi-digit whole numbers using the standard algorithm; use rounding with multi-digit arithmetic; find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors; use strategies based on place value and the properties of operations for multi-digit operations.</p>	<p>Number and Operations in Base Ten</p>	

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<p>Number and operations-fractions: Develop understanding of fractions as numbers; understand fraction equivalence and ordering; build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers; understand decimal notation for fractions, and compare decimal fractions; use equivalent fractions as a strategy to add and subtract fractions; apply and extend previous understandings of multiplication and division to multiply and divide fractions; solve word problems involving fractions.</p>	<p>Number and Operations-Fractions</p>	
<p><b>Measurement and Data</b></p>	<p><b>Measurement and Data</b></p>	<p><b>Measurement &amp; Data</b></p>
<p>Solve problems involving measurement and understand concepts of geometric measurement: Relate addition and subtraction to length by representing whole number sums and difference on a number line; tell and write time; use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money; convert like measurement units within a given measurement system; understand concepts of area and volume and relate area and volume to multiplication and addition; understand concepts of angle and measure angles; recognize perimeter as an attribute of plane figures and distinguish between linear and area measures; measure and estimate the length of an object.</p>	<p>Geometric Measurement and Problem Solving</p>	

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<p>Organize, represent, and interpret data: Generate measurement data by measuring lengths to the nearest whole unit, or by making repeated measurements of the same object; make a line plot to display a data set of measurements in fractions of a unit; use operations on fractions to solve problems involving information presented in line plots; draw a single-unit and scaled picture graph and a single-unit and 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.</p>	<p>Represent and Interpret Data</p>	
<p><b>Geometry</b></p>	<p><b>Geometry</b></p>	<p><b>Geometry</b></p>
<p>Reason with shapes and their attributes: Identify and describe shapes; analyze, compare, create, and compose shapes; draw points, lines, line segments, rays, angles, and perpendicular and parallel lines and identify these in two-dimensional figures; classify shapes by properties of their lines and angles; graph points on the coordinate plane to solve real-world and mathematical problems; classify two-dimensional figures into categories based on their properties; partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole; recognize a line of symmetry for a two-dimensional figure.</p>	<p>Reason with Shapes, Attributes, &amp; Coordinate Plane</p>	

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Mathematics 6+ Goal Structure	Mathematics 6+ DesCartes	Mathematics 6+ Report Names
<b>Operations and Algebraic Thinking</b>	<b>Operations and Algebraic Thinking</b>	<b>Algebraic Thinking</b>
<p>Apply and extend previous understandings of arithmetic to algebraic expressions and equations: Solve one-variable equations and inequalities (including linear, quadratic, rational, and radical); use properties of operations to generate equivalent expressions; interpret the structure of expressions; solve real-life and mathematical problems using numerical and algebraic expressions and equations; work with radicals and integer exponents; use scientific notation; solve systems of equations; perform arithmetic operations on polynomials; represent and solve equations and inequalities graphically; understand the connections between proportional relationships, lines, and linear equations.</p>	<p>Expressions and Equations</p>	
<p>Use functions to model relationships between quantities: Define, evaluate, and compare functions; understand the concept of a function and use function notation; interpret functions that arise in applications in terms of the context; analyze functions using different representations; build new functions from existing functions; construct and compare linear, quadratic, and exponential models and solve problems; extend the domain of trigonometric functions using the unit circle; model periodic phenomena with trigonometric functions; prove and apply trigonometric identities.</p>	<p>Use Functions to Model Relationships</p>	

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The Real and Complex Number Systems	The Real and Complex Number Systems	Real & Complex Number Systems
<p>Analyze proportional relationships and use them to solve real-world and mathematical problems: Understand ratio concepts and use ratio reasoning to solve problems; use ratio and rate reasoning to solve real-world and mathematical problems; recognize and represent proportional relationships between quantities; use proportional relationships to solve multistep ratio and percent problems.</p>	<p>Ratios and Proportional Relationships</p>	
<p>Apply and extend previous understandings of operations: Divide fractions by fractions; compute fluently with multi-digit numbers and find common factors and multiples; add, subtract, multiply, and divide rational numbers; perform arithmetic operations with complex numbers; solve real-world and mathematical problems involving the four operations with rational numbers; reason quantitatively and use units to solve problems.</p>	<p>Perform Operations</p>	
<p>Apply and extend previous understandings of numbers to the system of rational numbers: Know that there are numbers that are not rational, and approximate them by rational numbers; extend the properties of exponents to rational exponents; use properties of rational and irrational numbers; solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.</p>	<p>Extend and Use Properties</p>	

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Geometry	Geometry	Geometry
<p>Solve real-world and mathematical problems involving area, circumference, surface area, volume, and angle measure; Visualize relationships between two-dimensional and three-dimensional objects; understand and apply theorems about circles; find arc lengths and areas of sectors of circles; translate between the geometric description and the equation for a conic section; use coordinates to prove simple geometric theorems algebraically; solve problems involving scale drawings of geometric figures.</p>	<p>Geometric Measurement and Relationships</p>	
<p>Understand congruence and similarity using physical models; Understand and apply the Pythagorean Theorem; experiment with transformations in the plane; understand congruence in terms of rigid motions; prove geometric theorems; understand similarity in terms of similarity transformations; use facts about the angle sum and exterior angle of triangles and about the angles created when parallel lines are cut by a transversal; prove theorems involving similarity; define trigonometric ratios and solve problems involving right triangles.</p>	<p>Congruence, Similarity, Right Triangles, &amp; Trig</p>	

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Statistics and Probability	Statistics and Probability	Statistics & Probability
<p>Summarize, represent, and interpret data on a single count or measurement variable and on two categorical and quantitative variables: Develop understanding of statistical variability; summarize and describe distributions; use measures of center and measures of variability; draw informal comparative inferences about two populations; investigate patterns of association in bivariate data; interpret linear models; represent data with plots on the real number line (dot plots, histograms, and box plots).</p>	<p>Interpreting Categorical and Quantitative Data</p>	
<p>Use random sampling and the rules of probability: Use random sampling to draw inferences about a population; investigate chance processes and develop, use, and evaluate probability models; understand and evaluate random processes underlying statistical experiments; make inferences and justify conclusions from sample surveys, experiments, and observational studies; understand independence and conditional probability and use them to interpret data; use the rules of probability to compute probabilities of compound events in a uniform probability model.</p>	<p>Using Sampling and Probability to Make Decisions</p>	



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Reading Goal Structure	Reading DesCartes	Reading Report Names
<b>Literature</b>	<b>Literature</b>	<b>Literature</b>
<p>Key Ideas and Details: In literature, understand explicitly stated ideas; cite textual evidence, make and support inferences and conclusions; determine central ideas or themes, retell and summarize with key supporting details and ideas; analyze development and interaction of individuals, events and ideas; compare and contrast themes and characters within and across texts; identify and describe characters, settings, and major events in a story, using key details.</p>	Literature: Key Ideas and Details	
<p>Craft and Structure: In literature, analyze how word choice (word sounds [rhyme, alliteration]; analogies; allusion; multiple-meaning words; fresh, engaging, or beautiful language) shapes meaning or tone; analyze text structure, including the relationship of parts to each other and to the whole, the ordering of events, and devices such as flashback and foreshadowing; analyze point of view and purpose; integrate information from illustrations with information in the text; analyze how two texts address similar themes or topic in order to build knowledge or to compare the approaches the authors take.</p>	Literature: Craft and Structure	

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Informational Text	Informational Text	Informational Text
<p>Key Ideas and Details: In informational texts, understand explicitly stated ideas; cite textual evidence, make inferences, support conclusions; determine central ideas or themes, retell and summarize with key supporting details and ideas; compare and contrast important points and main ideas within and across texts; analyze development and interaction of individuals, events, and ideas.</p>	<p>Informational Text: Key Ideas and Details</p>	
<p>Craft and Structure: In informational text, analyze how word choice (e.g., the language of a court opinion vs that of a newspaper, analogies, allusions) affects the meaning and tone of a text; analyze how authors use and refine the meaning of key terms; analyze and evaluate text structure, including the relationship of parts to each other and to the whole, the development and refinement of ideas or claims, and the effectiveness of a given structure for an exposition or argument. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence. Compare and contrast different authors' presentations of similar ideas.</p>	<p>Informational Text: Craft and Structure</p>	
Vocabulary Acquisition and Use	Vocabulary Acquisition and Use	Vocabulary
<p>Context Clues and Reference: Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials as appropriate. Acquire grade-appropriate general academic and domain-specific words and phrases.</p>	<p>Context Clues and Reference</p>	

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<p>Word Relationships and Nuance: Demonstrate understanding of word relationships and nuances in word meanings. Use the relationship between particular words (e.g., synonyms, antonyms, homographs, cause/effect, part/whole, item/category, analogy) to better understand each of the words. Acquire grade-appropriate general academic and domain-specific words and phrases.</p>	<p>Word Relationships and Nuance</p>	
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Language Usage Goal Structure	Language Usage DesCartes	Language Usage Report Names
<p><b>Writing: Plan and Organize Arguments, Informative/Explanatory Texts, and Narratives, Maintain Style, Use Precise Language, and Conduct Research to Build and Present Knowledge</b></p>	<p><b>Writing: Plan, Organize, Develop, Revise, Research</b></p>	<p><b>Plan, Organize, Research</b></p>
<p>Introduce claim(s), establish the significance of the claim(s), distinguish claim(s) from alternate or opposing claims. Introduce a topic; organize complex ideas, concepts, and information to create a unified whole; include formatting and graphics. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. Use transition and temporal words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, clarify relationships, and build toward a particular tone and outcome. Provide a concluding statement or section that follows from and supports the argument, information or explanation, or narrated experiences or events.</p>	<p>Plan, Organize; Create Cohesion, Use Transitions</p>	

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<p>Support claim(s) with reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text; develop claim(s) and counterclaims, supplying the most relevant evidence for each while pointing out the strengths and limitations in a manner that anticipates the knowledge level, concerns, values, and possible biases of a variety of audiences. Develop a variety of topics by selecting significant and relevant facts, extended definitions, concrete details, quotations, or other information appropriate to audience knowledge of the topics. Use narrative techniques to show the response of characters to situations and to develop a range of experiences, events, and/or characters. Conduct research based on focused questions, demonstrating understanding of the subject under investigation, to answer a question, or to solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject. Gather relevant information from multiple print sources, assess the credibility and accuracy of each source, and integrate information; take notes and categorize; summarize, paraphrase, or quote data and conclusions while avoiding plagiarism and providing bibliographic information, following a standard format for citation so that it conforms to the guidelines in a style manual.</p>	<p>Provide Support; Develop Topics; Conduct Research</p>	
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<p>Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline (e.g., opinion, informative/explanatory, narrative, poetic, descriptive, business) in which they are writing. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of experiences, events, setting, and/or characters. Choose words and phrases for effect. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style. Choose language that expresses ideas concisely, eliminating wordiness and redundancy. Use verbs in the active and passive voice to achieve particular effects (e.g., emphasizing the actor or the action, expressing uncertainty or describing a state contrary to fact). Maintain consistency in style and tone. Choose punctuation for effect.</p>	<p>Establish and Maintain Style: Use Precise Language</p>	
<p>Plan, produce, and revise for clear and coherent writing in which the development, organization, and style are appropriate to a range of tasks, purposes, and audiences. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).</p>	<p>Purpose and Audience</p>	

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Language: Understand and Edit for Conventions of Standard English Grammar and Usage; Parts of Speech and Phrases, Clauses, Agreement, and Sentence Structures	Language: Understand, Edit for Grammar, Usage	Understand Grammar, Usage
<p>Explain the function of nouns, pronouns, verbs, adjectives, and adverbs. Use relative pronouns and relative adverbs. Use reflexive and intensive pronouns. Recognize and correct pronouns with unclear or ambiguous antecedents and inappropriate shifts in pronoun number and person. Ensure that pronouns are in the proper case. Use common, proper, possessive, and collective nouns. Form and use regular and irregular plural nouns, singular and plural nouns with matching verbs in basic sentences, and abstract nouns. Use modal auxiliaries. Use personal, possessive, and indefinite pronouns. Recognize and correct inappropriate shifts in verb tense, voice, and mood. Form and use the past tense of regular and irregular verbs and simple, progressive, and perfect verb tenses. Use adjectives and adverbs, depending on what is to be modified. Order adjectives within sentences. Correctly use frequently confused words. Understand and use conjunctions, prepositions, interjections, and determiners (e.g., articles, demonstratives). Understand and use interrogatives.</p>	<p>Parts of Speech</p>	

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<p>Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial), recognizing and correcting misplaced and dangling modifiers. Ensure subject-verb and pronoun-antecedent agreement. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. Produce simple, compound, and complex sentences. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. Use parallel structure. Produce, expand, and rearrange complete simple and compound sentences.</p>	<p>Phrases, Clauses, Agreement, Sentences</p>	
<p><b>Language: Understand and Edit for Conventions of Standard English Capitalization, Punctuation, and Spelling</b></p>	<p><b>Language: Understand, Edit Mechanics</b></p>	<p><b>Punctuate, Spell Correctly</b></p>
<p>Capitalize the first word in a sentence and the pronoun I, dates and names of people, holidays, product names, geographic names, and appropriate words in titles.</p>	<p>Capitalization</p>	



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<p>Use punctuation (comma, ellipsis, dash) to indicate a pause or break. Observe hyphenation conventions. Recognize end punctuation. Use end punctuation for sentences. Use punctuation to separate items in a series. Use an ellipsis to indicate an omission. Use a comma before a coordinating conjunction in a compound sentence or to separate an introductory element from the rest of the sentence. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements. Use a comma to separate coordinate adjectives. Use commas in dates, in greetings and closings of letters, and in addresses. Use an apostrophe to form contractions and possessives. Use commas and quotation marks in dialogue and to mark direct speech and quotations. Use a semicolon (and perhaps a conjunctive adverb) to link closely related independent clauses. Use a colon to introduce a list or quotation. Use underlining, quotation marks, or italics to indicate titles of works.</p>	<p>Punctuation</p>	
<p>Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words, for high-frequency and other studied words, and for adding suffixes to base words. Generalize learned spelling patterns when writing words. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.</p>	<p>Spelling</p>	