

Measures of Academic Progress (MAP) Massachusetts 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
Number Sense and Operations	Number Sense and Operations	Number Sense and Operations
Understand numbers, ways of representing numbers, relationships among numbers, and number systems: read, model, write, and represent whole numbers, positive fractions, positive decimals, and percents*	Understand Numbers: Read, Model, Write, Represent	
Understand numbers, ways of representing numbers, relationships among numbers, and number systems: compare, order, and determine equivalent forms of whole numbers, positive fractions, positive decimals, and percents*	Understand Numbers: Compare, Order, Translate	
Understand numbers, ways of representing numbers, relationships among numbers, and number systems: number theory concepts	Understand Numbers: Number Theory Concepts	
Understand meanings of operations and how they relate to one another: meanings, models, inverse relationships, and properties*	Meanings of Operations: How They Relate	

Understand meanings of operations and how they relate to one another: select and use appropriate operations to solve problems*	Meanings of Operations: Solve Problems	
Compute fluently and make reasonable estimates: addition and subtraction of whole numbers, positive fractions, positive decimals, and percents*	Compute Fluently: Addition and Subtraction	
Compute fluently and make reasonable estimates: multiply and divide whole numbers; multiply positive fractions and positive decimals (includes money)*	Compute Fluently: Multiplication and Division	
Compute fluently and make reasonable estimates: round whole numbers, positive fractions and positive decimals (includes money); and use estimation strategies*	Compute Fluently: Make Reasonable Estimates	
Patterns, Relations, and Algebra	Patterns, Relations, and Algebra	Patterns and Algebra
Understand patterns, relations, and functions: analyze symbolic, arithmetic, and geometric patterns and progressions	Patterns, Relations, and Functions	
Represent and analyze mathematical situations and structures using algebraic symbols: use symbol and letter variables in expressions, equations and inequalities; evaluate/simplify expressions; use properties of equality to solve simple equations	Mathematical Situations and Structures	
Use mathematical models to represent and understand quantitative relationships: represent real situations and mathematical relationships using models, tables, graphs, and symbols; solve linear equations and proportional relationships and apply them to solve problems	Quantitative Relationships	
Analyze change in various contexts: identify and describe relationships between two variables; determine how change in one variable relates to a change in the second variable	Change in Various Contexts	



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Geometry	Geometry	Geometry
Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships: identify, describe, model, compare, and classify two- and three-dimensional shapes (circles, triangles, quadrilaterals, polygons, cubes, prisms, spheres, and pyramids); identify relationships among points, lines, and planes; recognize similar figures	Two- and Three-Dimensional Shapes	
Specify locations and describe spatial relationships using coordinate geometry and other representational systems: identify positions of objects in space, and use appropriate language to describe and compare their relative positions; using ordered pairs of whole numbers and/or letters, graph, locate, identify points, and describe paths on the Cartesian coordinate plane	Locations and Spatial Relationships	
Apply transformations and use symmetry to analyze mathematical situations: identify and describe line symmetry and describe and perform transformations with two-dimensional shapes; determine if two shapes are congruent by measuring or by motions or series of motions	Transformations and Symmetry	
Use visualization, spatial reasoning, and geometric modeling to solve problems: match three-dimensional objects and their two-dimensional representations; predict and validate the results of partitioning, folding, and combining two- and three-dimensional shapes	Visualization, Spatial Reasoning, and Modeling	



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Measurement	Measurement	Measurement
Understand measurable attributes of objects and the units, systems, and processes of measurement: demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute; compare the length, weight, area, and volume of two or more objects by using direct comparison; carry out simple unit conversions within a system of measurement (includes money); identify parts of the day, week, year, and time at quarter-hour intervals	Measurable Attributes, Units, Systems, Processes	
Apply appropriate techniques, tools, and formulas to determine measurements: identify and use appropriate metric and English units and tools to estimate, measure, and solve problems involving length, weight, time, angle size, and temperature, perimeter and area of a rectangle, triangle, or irregular shape, and volume and surface area of rectangular prisms; identify, measure, describe, classify, and construct various angles, triangles, and quadrilaterals; solve problems involving simple unit conversions within a system of measurement	Techniques, Tools, and Formulas	
Data Analysis, Statistics, and Probability	Data Analysis, Statistics, and Probability	Data Analysis and Probability
Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them: collect and organize data using observations, measurements, surveys, or experiments, and identify appropriate ways to display the data	Formulate Questions: Collect, and Organize Data	
Select and use appropriate statistical methods to analyze data: construct and interpret lists, tallies, charts, tables, bar graphs, pictographs, circle graphs, line graphs, line plots, stem-and-leaf plots, and Venn diagrams; describe and compare data sets using the concepts of median, mean, mode, maximum and minimum, and range	Statistical Methods: Analyze Data	



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Develop and evaluate inferences and predictions that are based on data: draw conclusions, and make predictions	Inferences and Predictions	
Understand and apply basic concepts of probability: classify outcomes as certain, likely, unlikely, or impossible using concrete objects such as counters, number cubes, spinners, or coins; predict the probability of outcomes of simple experiments and test the predictions; use appropriate ratios between 0 and 1 to represent the probability of the outcome and associate the probability with the likelihood of the event; use tree diagrams and other models (e.g., lists and tables) to represent possible or actual outcomes of trials	Basic Concepts of Probability	

*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
Number Sense and Operations	Number Sense and Operations	Number Sense and Operations
Understand numbers, ways of representing numbers, relationships among numbers, and number systems: read, model, write, and represent; rational, real, and complex numbers	Understand Numbers: Read, Model, Write, Represent	
Understand numbers, ways of representing numbers, relationships among numbers, and number systems: compare, order, and determine equivalent forms of rational, real, and complex numbers	Understand Numbers: Compare, Order, Translate	
Understand numbers, ways of representing numbers, relationships among numbers, and number systems: number theory concepts	Understand Numbers: Number Theory Concepts	
Understand meanings of operations and how they relate to one another: meanings, models, inverse relationships, properties, order of operations, powers, roots, and absolute value	Meanings of Operations: How They Relate	
Understand meanings of operations and how they relate to one another: select and use appropriate operations to solve problems*	Meanings of Operations: Solve Problems	
Compute fluently and make reasonable estimates: addition and subtraction of rational, real, and complex numbers	Compute Fluently: Addition and Subtraction	
Compute fluently and make reasonable estimates: multiplication and division of rational, real, and complex numbers	Compute Fluently: Multiplication and Division	
Compute fluently and make reasonable estimates: estimation strategies*	Compute Fluently: Make Reasonable Estimates	
Patterns, Relations, and Algebra	Patterns, Relations, and Algebra	Patterns and Algebra
Understand patterns, relations, and functions	Patterns, Relations, and Functions	



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Represent and analyze mathematical situations and structures using algebraic symbols	Mathematical Situations and Structures	
Use mathematical models to represent and understand quantitative relationships	Quantitative Relationships	
Analyze change in various contexts	Change in Various Contexts	
Geometry	Geometry	Geometry
Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships	Two- and Three-Dimensional Shapes	
Specify locations and describe spatial relationships using coordinate geometry and other representational systems	Locations and Spatial Relationships	
Apply transformations and use symmetry to analyze mathematical situations	Transformations and Symmetry	
Use visualization, spatial reasoning, and geometric modeling to solve problems	Visualization, Spatial Reasoning, and Modeling	
Measurement	Measurement	Measurement
Understand measurable attributes of objects and the units, systems, and processes of measurement	Measurable Attributes, Units, Systems, Processes	
Apply appropriate techniques, tools, and formulas to determine measurements	Techniques, Tools, and Formulas	
Data Analysis, Statistics, and Probability	Data Analysis, Statistics, and Probability	Data Analysis and Probability
Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them	Formulate Questions: Collect, and Organize Data	
Select and use appropriate statistical methods to analyze data	Statistical Methods: Analyze Data	
Develop and evaluate inferences and predictions that are based on data	Inferences and Predictions	
Understand and apply basic concepts of probability	Basic Concepts of Probability	

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Reading Goal Structure	Reading DesCartes	Reading Report Names
Language: Vocabulary and Concept Development; Reading and Literature; Beginning Reading	Language, Vocabulary, and Reading	Lang: Vocab, Concept Devel
Classifying words and understanding word parts: identify and sort common words into various classifications; identify and sort common words into conceptual categories; recognize that words are constructed of many parts; letters, syllables, root words, prefixes, and suffixes; recognize that prefixes can change the meanings of root words; identify the meaning of common prefixes; identify roots of words; determine the meaning of unfamiliar words by using knowledge of common Greek and Latin roots, suffixes, and prefixes	Classifying Words and Understanding Word Parts	
Compound words and words in context: use knowledge of the meaning of individual words to predict the meaning of unknown compound words; determine the meaning of unknown words using their context.	Compound Words and Words in Context	
Multiple meaning words, antonyms and synonyms: recognize and use words with multiple meanings and be able to determine which meaning is intended from the context of the sentence; identify and apply the meaning of the terms antonym and synonym	Multiple Meaning Words/Antonyms and Synonyms	

Reading and literature: beginning reading; students will understand the nature of written English and the relationship of letters and spelling patterns to the sounds of speech; demonstrate understanding of the forms and functions of written English; use letter-sound knowledge to identify unfamiliar words in print and gain meaning; demonstrate understanding of the various features of written English; use letter-sound knowledge to decode written English	Reading and Literature: Beginning Reading	
Understanding a Text: Imaginative/Literary Texts Students will identify the basic facts and main ideas in a text and use them as the basis for interpretation	Understanding a Text: Imaginative/Literary	Understand Text Imag/Lit
Predict, interpret, conclude: make predictions using prior knowledge, pictures, and text; identify and draw conclusions from the author's use of description of setting, characters, and events; identify and draw conclusions from the author's use of sensory details; interpret a character's traits, emotions, or motivation and give supporting evidence from a text; distinguish cause from effect; identify the speaker of a poem or narrator of a story	Predict, Interpret, Conclude	
Retell: retell a main event from a story heard or read; retell a story's beginning, middle, and end	Retell	
Understanding a Text: Informational/Expository Texts Students will identify the basic facts and main ideas in a text and use them as the basis for interpretation	Understanding a Text: Informational/Expository	Understand Text Inform/Expos
Locate facts: retell important facts from a text heard or read; locate facts that answer the reader's questions; distinguish fact from opinion or fiction	Locate Facts	
Predict, summarize, analyze: make predictions about the content of the text using prior knowledge and text; summarize main ideas and supporting details; identify and analyze main ideas and supporting details	Predict, Summarize, Analyze	



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Theme and author's purpose: distinguish between the concepts of theme in a literary work and author's purpose in an expository text	Theme and Author's Purpose	
Genre/Elements of Fiction and Nonfiction	Genre/Elements of Fiction and Nonfiction	Genre/Fict, Nonfiction
Genre: students will identify, analyze, and apply knowledge of the characteristics of different genres; distinguish among forms of literature such as poetry, prose, fiction, nonfiction, and drama and apply this knowledge as a strategy for reading and writing; identify and analyze the characteristics of various genres	Genre: Characteristics of Genres	
Fiction: students will identify, analyze, and apply knowledge of the structure and elements of fiction and provide evidence from the text to support their understanding; identify the elements of fiction and analyze how major events lead from problem to solution; identify personality traits of characters and the thoughts, words, and actions that reveal their personalities; locate and analyze such elements in fiction as point of view	Fiction: Structure and Elements	
Nonfiction: students will identify, analyze, and apply knowledge of the purpose, structure, and elements of nonfiction or informational materials and provide evidence from the text to support their understanding; identify and use knowledge of common textual features; analyze and explain the structure and elements of nonfiction works; identify and use knowledge of common graphic features; identify and use knowledge of common organizational structures	Nonfiction: Structure and Elements	

Style and Language: Students will identify and analyze how an author's words appeal to the senses, create imagery, suggest mood, and set tone and provide evidence from the text to support their understanding	Style and Language	Style and Language
Style and language: identify sensory details, figurative language, rhythm or flow when responding to literature; identify and analyze imagery and figurative language; identify, analyze, and evaluate an author's use of rhetorical devices in persuasive argument	Style and Language	
Persuasive devices: identify, analyze, and evaluate an author's use of rhetorical devices in persuasive argument	Persuasive Devices	

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Language Usage Goal Structure	Language Usage DesCartes	Language Usage Report Names
Writing: Focus, Organization, Detail	Writing: Focus, Organization, Detail	Writing: Focus, Org, Detail
Imaginative/literary writing: write stories or scripts with well-developed characters, setting, dialogue, clear conflict and resolution, and sufficient descriptive detail; write well-organized stories or scripts with an explicit or implicit theme and details that contribute to a definite mood or tone and using a variety of literary techniques; write poems using a range of poetic techniques, forms, and figurative language	Imaginative/Literary Writing	
Informational/expository writing: write well-organized essays that have a clear focus, logical development, effective use of detail, and variety in sentence structure	Informational/Expository Writing	
Consideration of Audience and Purpose	Consideration of Audience and Purpose	Audience and Purpose
Forms and genres: use a variety of forms or genres when writing for different purposes; make distinctions among fiction, nonfiction, dramatic literature, and poetry, and use these genres selectively when writing for different purposes	Forms and Genres	
Appropriate language: use appropriate language for different audiences and purposes; use different levels of formality, style, and tone when composing for different audiences	Appropriate Language	



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Revising	Revising	Revising
Revise writing: revise writing to improve level of detail and precision of language, combine sentences, vary sentences, and rearrange text; revise writing by attending to topic/idea development, organization, level of detail, language/style; revise writing to improve style, word choice, sentence variety, and subtlety of meaning after rethinking how well questions of purpose, audience, and genre have been addressed	Revise Writing	
Sentences: use knowledge of correct sentence structure and types of sentences	Sentences	
Standard English Conventions: Mechanics	Standard English Conventions: Mechanics	Mechanics
Use knowledge of correct mechanics: punctuation	Use Knowledge of Correct Mechanics: Punctuation	
Use knowledge of correct mechanics: capitalization	Use Knowledge of Correct Mechanics: Capitalization	
Use knowledge of correct standard English spelling	Use Knowledge of Correct Standard English Spelling	
Standard English Conventions: Usage	Standard English Conventions: Usage	Usage
Use knowledge of correct usage	Use Knowledge of Correct Usage	