

Measures of Academic Progress (MAP) Western and Northern Canadian Protocol 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.

Mathematics 2-5 Goal Structure	Mathematics 2-5 DesCartes	Mathematics 2-5 Report Names
Number	Number	Number
Develop number sense: Say the number sequence forward and backward from 0 to 1000 by 1s, 2s, 3s, 4s, 5s, 10s, 25s, or 100s; illustrate, concretely and pictorially, the meaning of place value for numerals; represent and describe whole numbers pictorially and symbolically; demonstrate if a number is even or odd; describe order or relative position using ordinal numbers; compare and order numbers.	Represent, Describe, and Order Whole Numbers	
Develop number sense: Demonstrate an understanding of addition of numbers and their corresponding subtractions by solving problems involving addition and subtraction; apply estimation strategies to predict sums and differences; demonstrate an understanding of multiplication to solve problems; apply number properties for adding, subtracting and multiplying; demonstrate an understanding of division to solve problems; interpret remainders to solve problems.	Add, Subtract, Multiply, and Divide Whole Numbers	



Develop number sense: Demonstrate an understanding of fractions by using concrete and pictorial representations to name and record fractions for the parts of a whole or a set, create sets of equivalent fractions, compare fractions with like and unlike denominators; describe and represent decimals concretely, pictorially and symbolically; relate decimals to fractions; compare and order decimals by using benchmarks, place value, equivalent decimals.	Represent, Describe, Order: Fractions & Decimals	
Develop number sense: Demonstrate an understanding of addition and subtraction of decimals by using compatible numbers, estimating sums and differences, using mental math strategies to solve problems.	Addition and Subtraction of Decimals	
Patterns and Relations	Patterns and Relations	Patterns and Relations
Use patterns to describe the world and solve problems: Demonstrate an understanding of repeating, increasing, and decreasing patterns by describing, extending, comparing; determine the pattern rule to make predictions about subsequent elements; represent and describe patterns and relationships using charts and tables to solve problems; identify and explain mathematical relationships using charts and diagrams to solve problems.	Represent and Describe Patterns and Relationships	
Represent algebraic expressions in multiple ways: Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams; record equalities and inequalities symbolically; express a given problem as an equation in which a symbol is used to represent an unknown number; solve equations involving a symbol to represent an unknown number.	Algebraic Expressions, Equations, Inequalities	

Shape and Space	Shape and Space	Shape and Space
<p>Use direct and indirect measure to solve problems: Compare and order objects by length, height, and mass (weight) using nonstandard units; relate the passage of time in a problem-solving context; read and record time using digital and analog clocks; measure length to the nearest non-standard unit; demonstrate an understanding of measuring length, mass, and capacity by describing the relationship between the units, estimating using referents, measuring; demonstrate an understanding of perimeter and area of regular and irregular 2-D shapes; demonstrate an understanding of volume.</p>	<p>Direct and Indirect Measurement</p>	
<p>Describe and analyze the characteristics, position and motion of 3-D objects and 2-D shapes: Sort 2-D shapes and 3-D objects using attributes; describe 3-D objects according to the shape of the faces, and the number of edges and vertices; describe and construct rectangular and triangular prisms; describe, compare and construct 2-D shapes; sort regular and irregular polygons; identify and sort quadrilaterals according to their attributes; demonstrate an understanding of line symmetry; perform a transformation of a 2-D shape and describe the image.</p>	<p>Characteristics and Motion of Objects and Shapes</p>	
Statistics and Probability	Statistics and Probability	Statistics and Probability
<p>Collect, display and analyze data to solve problems: Gather and record data to answer questions; construct and interpret concrete graphs and pictographs to solve problems and draw conclusions; collect data and organize it using, tally marks, line plots, charts, lists to answer questions; construct, label and interpret bar graphs and double bar graphs to solve problems and draw conclusions; compare graphs in which different intervals or correspondences are used.</p>	<p>Collect, Display and Analyze Data</p>	

<p>Use experimental or theoretical probabilities to represent and solve problems involving uncertainty: Describe the likelihood of a single outcome occurring using words, such as impossible, possible, certain; compare the likelihood of two possible outcomes occurring using words, such as less likely, equally likely, more likely; conduct a given probability experiment a number of times, record the outcomes and explain the results.</p>	<p>Experimental and Theoretical Probabilities</p>	
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Mathematics 6+ Goal Structure	Mathematics 6+ DesCartes	Mathematics 6+ Report Names
Number	Number	Number
<p>Develop number sense: Demonstrate an understanding of place value for numbers; relate improper fractions to mixed numbers; demonstrate an understanding of the relationship between positive repeating decimals and positive fractions, and positive terminating decimals and positive fractions; demonstrate an understanding of integers; compare and order positive fractions, positive decimals, and whole numbers by using benchmarks, place value, equivalent fractions and/or decimals; demonstrate an understanding of rational numbers by comparing and ordering rational numbers; demonstrate an understanding of irrational numbers by representing, identifying and simplifying irrational numbers</p>	<p>Numbers and Their Relationships</p>	
<p>Develop number sense: Demonstrate an understanding of factors and multiples by determining multiples, factors, prime factors, greatest common factor, and least common multiple, and identifying prime and composite numbers; determine why a number is divisible by 2, 3, 4, 5, 6, 8, 9 or 10; demonstrate an understanding of perfect square, square root, cube root; demonstrate an understanding of powers with whole number, integral and rational exponents; demonstrate an understanding of operations on powers with integral bases and whole number exponents</p>	<p>Factors, Multiples, Roots, and Powers</p>	



Develop number sense: Apply the order of operations; solve problems involving large numbers; demonstrate an understanding of the addition, subtraction, multiplication and division of decimals; demonstrate an understanding of adding, subtracting, multiplying, and dividing positive fractions and mixed numbers; demonstrate an understanding of addition, subtraction, multiplication, and division of integers	Operations: Decimals, Fractions, Integers	
Develop number sense: Demonstrate an understanding of ratio and rate; demonstrate an understanding of percent; solve problems involving percents; solve problems that involve rates, ratios and proportional reasoning.	Ratio, Rates, Percents, Proportional Reasoning	
Patterns and Relations	Patterns and Relations	Patterns and Relations
Use patterns to describe the world and solve problems: Demonstrate an understanding of the relationships within tables of values to solve problems; demonstrate an understanding of written patterns and their equivalent linear relations; generalize a pattern arising from a problem-solving context using linear equations, graphs and tables	Represent and Describe Patterns and Relationships	
Use patterns to describe the world and solve problems: Demonstrate an understanding of slope; determine the equation of a linear relation, given a graph, a point and the slope, two points, a point and the equation of a parallel or perpendicular line; relate linear relations expressed in slope–intercept form, general form, slope–point form to their graphs; demonstrate an understanding of relations and functions; determine the characteristics of the graphs of linear relations and quadratic functions, including the intercepts, slope, domain, range, vertex, axis of symmetry	Relations and Characteristics of Graphs	



<p>Represent algebraic expressions in multiple ways: Represent generalizations arising from number relationships using equations with letter variables; evaluate an expression given the value of the variable(s); demonstrate an understanding of preservation of equality; model and solve problems that can be represented by linear equations and inequalities; model and solve problems that involve systems of linear equations and inequalities in two variables; demonstrate an understanding of polynomials; model operations of polynomial expressions; demonstrate an understanding of common factors and trinomial factoring</p>	<p>Algebraic Expressions, Equations, Inequalities</p>	
<p>Shape and Space</p>	<p>Shape and Space</p>	<p>Shape and Space</p>
<p>Use direct and indirect measure to solve problems: Solve problems that involve linear measurement; apply proportional reasoning to problems that involve conversions within SI units of measure; demonstrate that the sum of interior angles is 180° in a triangle; draw nets for 3-D objects; apply formulas for determining the perimeter and area of polygons and circles; apply formulas for determining the volume and surface area; demonstrate an understanding of circles by describing the relationships among radius, diameter, circumference and pi; solve problems using circle properties; apply the Pythagorean theorem to solve problems; apply the primary trigonometric ratios to solve problems that involve right triangles.</p>	<p>Direct and Indirect Measurement</p>	
<p>Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them: Compare triangles, including scalene, isosceles, equilateral, right, obtuse, and acute; describe and compare regular and irregular polygons; demonstrate an understanding of similarity of polygons; solve problems that involve scale diagrams, using proportional reasoning; perform geometric constructions; solve problems that involve the properties of angles and triangles; draw and interpret top, front and side views of 3-D objects</p>	<p>Characteristics of 3-D Objects and 2-D Shapes</p>	

Describe and analyze position and motion of objects and shapes: Identify and plot points in the Cartesian plane; perform a combination of translation(s), rotation(s) and/or reflection(s) on a single 2-D shape, and describe the image; demonstrate an understanding of tessellation by explaining the properties of shapes that make tessellating possible; demonstrate an understanding of line and rotation symmetry	Position and Motion of Objects and Shapes	
Statistics and Probability	Statistics and Probability	Statistics and Probability
Collect, display and analyze data to solve problems: Create, label and interpret line graphs and circle graphs to solve problems and draw conclusions; demonstrate an understanding of central tendency and range; determine the effect on the mean, median and mode when an outlier is included in a data set; select a sample of a population to answer a question; describe the effect of bias on the collection of data; demonstrate an understanding of normal distribution; interpret statistical data, using confidence intervals	Collect, Display and Analyze Data	
Use experimental or theoretical probabilities to represent and solve problems involving uncertainty: Demonstrate an understanding of probability by identifying all possible outcomes of a probability experiment, differentiating between experimental and theoretical probability, determining the theoretical probability of outcomes in a probability experiment, determining the experimental probability of outcomes in a probability experiment, comparing experimental results with the theoretical probability for an experiment; solve problems involving the probability of independent events	Experimental and Theoretical Probabilities	



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Reading Goal Structure	Reading DesCartes	Reading Report Names
<p>Students will listen, speak, read, write, view, and represent to explore thoughts, ideas, feelings, and experiences; students will listen, speak, read, write, view, and represent to comprehend and respond personally and critically to oral, print, and other media texts; students will listen, speak, read, write, view, and represent to manage ideas and information: clarify and extend; use strategies and cues; select and process</p>	<p>Clarify and Extend; Select and Process</p>	<p>Clarify, Extend, Select, Process</p>
<p>Explain opinions; extend understanding: explore various viewpoints and consider the consequences of particular positions when generating and responding to texts; extend breadth and depth of understanding by considering various experiences, perspectives, and sources of knowledge when generating and responding to texts</p>	<p>Explain Opinions; Extend Understanding</p>	
<p>Comprehension strategies: recognize and anticipate meaning from print, symbols, and images; revise understanding based on further information; self-correct understanding using a variety of strategies (such as rereading for story sense); use comprehension strategies (such as recognizing main ideas and significant supporting details, paraphrasing ideas) appropriate to the type of text and purpose; enhance understanding by rereading and discussing relevant passages; reread to check meaning</p>	<p>Comprehension: Main Idea, Details, Paraphrase</p>	
<p>Make sense of information: use knowledge of text features and persuasive techniques to sort and relate ideas in extended texts</p>	<p>Make Sense of Info: Text Features, Persuasive</p>	

Students will listen, speak, read, write, view, and represent to comprehend and respond personally and critically to oral, print, and other media texts: use strategies and cues	Use Strategies and Cues	Strategies and Cues
Comprehension strategies: explain anticipated meaning, recognize relationships, and draw conclusions; confirm predictions, inferences, and conclusions	Comprehension: Prediction, Inference, Conclusion	
Textual cues: use textual cues (such as common literary, expository, and media text structures) and prominent organizational patterns (such as chronology, cause and effect, comparison and contrast, problem and solution) to construct and confirm meaning and interpret texts; use textual cues and prominent organizational patterns to construct and confirm meaning and interpret texts	Textual Cues	
Cueing systems: use syntactic, semantic, graphophonic, and pragmatic cueing systems (such as context clues)	Cueing Systems	
Students will listen, speak, read, write, view, and represent to comprehend and respond personally and critically to oral, print, and other media texts: understand forms and techniques	Respond to Texts	Respond to Texts
Experience various texts [informational]: experience texts from a variety of genres (such as magazine articles, diaries, drama, advertisements) and cultural traditions	Experience Various Texts [Informational]	
Appreciate the artistry of texts: identify and describe techniques used to create mood in print and other media texts; examine how language and stylistic choices in print and other media texts accomplish a variety of purposes; identify descriptive and figurative language in a variety of print and other media texts and discuss how it enhances understanding of people, places, and actions	Appreciate the Artistry of Texts	



Students will listen, speak, read, write, view, and represent to comprehend and respond personally and critically to oral, print, and other media texts: understand forms and techniques	Understand Forms and Techniques	Forms and Techniques
Forms and genres [literary]: recognize the distinguishing features of a variety of forms of texts (such as stories, poetry, plays, drum dances, news reports)	Forms and Genres [Literary]	
Techniques and elements: identify significant elements and techniques in a variety of texts, and examine how they interact to create effects	Techniques and Elements	
Vocabulary; cueing systems : experiment with letters, sounds, words, and word patterns; apply knowledge of word patterns (such as root words, prefixes, suffixes) in a variety of contexts; use syntactic, semantic, graphophonic, and pragmatic cueing systems (such as structural analysis to identify foreign roots, prefixes, suffixes) to construct and confirm meaning and interpret texts (including meaning of specialized and technical vocabulary)	Vocabulary; Cueing Systems	



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Language Usage Goal Structure	Language Usage DesCartes	Language Usage Report Names
<p>Students will listen, speak, read, write, view, and represent to explore thoughts, ideas, feelings, and experiences; students will listen, speak, read, write, view, and represent to comprehend and respond personally and critically to oral, print, and other media texts: discover and explore; clarify and extend; understand forms and techniques</p>	<p>Discover/Explore; Clarify/Extend; Understand Forms</p>	<p>Disc/Explore, Clarify/Extend</p>
<p>Experiment with language and forms; create original texts: use a variety of forms to organize and give meaning to familiar experiences, ideas, and information; create original texts to communicate and demonstrate understanding of forms and techniques</p>	<p>Experiment Language/Forms; Create Original Texts</p>	
<p>Combine ideas; experiment with language: group and sort ideas and information to make sense; experiment with words and sentence patterns to create word pictures; identify creative uses of language; explain imagery; recognize figurative language and techniques, mood, tone, style</p>	<p>Combine Ideas; Experiment with Language</p>	

<p>Students will listen, speak, read, write, view, and represent to manage ideas and information: plan and focus; select and process; organize, record, evaluate</p>	<p>Plan; Select/Process; Organize/Record/Evaluate</p>	<p>Plan Select Organize/Eval</p>
<p>Create and follow a plan; identify sources; evaluate sources; access information; organize information; record information; evaluate information: develop and select from a repertoire of inquiry and research strategies and adjust plan according to changes in audience, purpose, and context; identify and discuss diverse information sources relevant to particular inquiry or research needs; evaluate factors that affect the credibility, authenticity, accuracy, and bias of information sources for inquiry or research; access information to accomplish a particular purpose within the topic parameters and time available; organize information using appropriate forms [such as charts, diagrams, outlines, electronic databases and filing systems, notes] for specific purposes; select and record important information and ideas using an organizational structure appropriate for purpose and information source; document sources accurately; evaluate information for completeness, accuracy, usefulness, and relevance</p>	<p>Create/Follow Plan; Identify, Evaluate Sources</p>	
<p>Make sense of information: use knowledge of text cues, organizational patterns to extract, infer, synthesize, organize, and integrate ideas from extended texts</p>	<p>Make Sense of Information</p>	
<p>Students will listen, speak, read, write, view, and represent to enhance the clarity and artistry of communication: generate and focus; enhance and improve</p>	<p>Generate and Focus; Enhance and Improve</p>	<p>Generate Focus Enhance Improve</p>
<p>Generate ideas; choose forms: generate, evaluate, and select ideas to focus and clarify a topic and perspective appropriate for audience, purpose; adapt and use forms appropriate for audience, purpose, and context</p>	<p>Generate Ideas; Choose Forms</p>	
<p>Organize ideas: adapt models to enhance texts using organizational patterns (such as stanzas, chronological order, paragraphs)</p>	<p>Organize Ideas</p>	



Revise content: evaluate and revise drafts to ensure appropriate content and language use and to enhance precision, unity, and coherence	Revise Content	
Students will listen, speak, read, write, view, and represent to enhance the clarity and artistry of communication: attend to conventions	Attend to Conventions	Attend to Conventions
Grammar and usage: analyze and edit texts for appropriate word choice, grammatical structures, and register to achieve clarity, artistry, and effectiveness	Grammar and Usage	
Spelling: know and apply Canadian spelling conventions for a broad repertoire of words and monitor for correctness	Spelling	
Capitalization and punctuation: know and apply capitalization and punctuation conventions to clarify intended meaning, referring to appropriate style manuals and other resources	Capitalization and Punctuation	

