

Measures of Academic Progress (MAP) Arkansas State-Aligned Version 1

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.

Concepts and Process Goal Structure 2-8	Concepts and Processes DesCartes 2-8	Concepts and Processes Report Names
Nature of Science: Characteristics of Science	Nature of Science: Characteristics of Science	Characteristics of Science
Characteristics of hypotheses, laws, theories	Characteristics of Hypotheses, Laws, Theories	
Development of theories	Development of Theories	
Characteristics of science	Characteristics of Science	
Nature of Science: Processes of Science; Question, Hypothesize, Design	Nature of Science: Processes of Science: Question, Hypothesize, Design	Hypothesize, Design
Ask questions, formulate testable problems	Ask Questions, Formulate Testable Problems	
Make predictions and hypotheses	Make Predictions and Hypotheses	
Apply components of experimental design; lab safety	Apply Components of Experimental Design; Lab Safety	

Nature of Science: Processes of Science: Observe, Interpret, Infer, Draw Conclusions, Communicate	Nature of Science: Processes of Science: Observe, Interpret, Infer, Draw Conclusions, Communicate	Observe, Inter, Conclude
Make observations and collect empirical evidence	Make Observations and Collect Empirical Evidence	
Interpret scientific data	Interpret Scientific Data	
Draw conclusions; formulate inferences	Draw Conclusions; Formulate Inferences	
Communicate observations and results	Communicate Observations and Results	

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Concepts and Processes Goal Structure Grade 10	Concepts and Process DesCartes Grade 10	Concepts and Processes Grade 10 Report Names
Science as a Way of Knowing; Connections Between Pure and Applied Science	Science as a Way of Knowing; Connections	Way of Knowing; Connections
Compare and contrast hypotheses, theories, and laws; distinguish between a scientific theory and the term “theory” used in general conversation	Hypotheses, Theories and Laws	
Summarize the guidelines of science: explanations are based on observations, evidence, and testing; hypotheses must be testable; understandings and/or conclusions may change with additional empirical data; scientific knowledge must have peer review and verification before acceptance; discuss why scientists should work within ethical parameters	Guidelines of Science; Ethical Parameters	
Explain how the cyclical relationship between science and technology results in reciprocal advancements in science and technology	Relationship Between Science and Technology	
Designing and Conducting Scientific Inquiry to Solve Problems	Designing and Conducting Scientific Inquiry	Scientific Inquiry
Develop and explain the appropriate procedure, controls, and variables (dependent and independent) in scientific experimentation; research and apply appropriate safety precautions when designing and/or conducting scientific investigations	Appropriate Procedure, Controls, Variables; Safety	
Gather and analyze data using appropriate summary statistics	Gather and Analyze Data	
Formulate valid conclusions without bias; identify sources of bias that could affect experimental outcome	Formulate Valid Conclusions; Bias	



Communicate experimental results using appropriate reports, figures, and tables	Communicate Experimental Results	
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General Science Goal Structure 2-8	General Science DesCartes 2-8	General Science 2-8 Report Names
Life Science	Life Science	Life Science
Living systems: characteristics, structure and function	Living Systems: Characteristics, Structure, Funct	
Life cycles, reproduction and heredity	Life Cycles, Reproduction and Heredity	
Populations and ecosystems	Populations and Ecosystems	
Physical Science	Physical Science	Physical Science
Matter: properties and changes	Matter: Properties and Changes	
Motion and forces	Motion and Forces	
Energy and transfer of energy	Energy and Transfer of Energy	
Earth and Space Science	Earth and Space Science	Earth and Space Science
Earth systems: structure and properties	Earth Systems: Structure and Properties	
Earth's history	Earth's History	
Objects in the universe	Objects in the Universe	

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General Science Goal Structure Grade 10 Biology	General Science DesCartes Grade 10 Biology	General Science Grade 10 Biology Report Names
Molecules and Cells	Molecules and Cells	Molecules and Cells
Students shall demonstrate an understanding of the role of chemistry in life processes	Role of Chemistry in Life Processes	
Students shall demonstrate an understanding of the structure and function of cells.	Structure and Function of Cells	
Students shall demonstrate an understanding of how cells obtain and use energy [energetics]	How Cells Obtain and Use Energy [Energetics]	
Heredity and Evolution	Heredity and Evolution	Heredity and Evolution
Students shall demonstrate an understanding of heredity.	Heredity	
Students shall investigate the molecular basis of genetics.	Molecular Basis of Genetics	
Students shall examine the development of the theory of biological evolution.	Development of Theory of Biological Evolution	
Classification and Diversity of Life	Classification and Diversity of Life	Classification Diversity of Life
Students shall demonstrate an understanding that organisms are diverse: diversity and classification	Diversity and Classification	

Students shall demonstrate an understanding that organisms are diverse: plant structure and function	Plant Structure and Function	
Students shall demonstrate an understanding that organisms are diverse: vertebrate and invertebrate characteristics	Vertebrate and Invertebrate Characteristics	
Students shall demonstrate an understanding that organisms are diverse: life cycles	Life Cycles	
Ecology and Behavioral Relationships	Ecology and Behavioral Relationships	Ecology and Relationships
Students shall demonstrate an understanding of ecological and behavioral relationships among organisms	Ecological and Behavioral Relationships	
Students shall demonstrate an understanding of the ecological impact of global issues	Ecological Impact of Global Issues	