

Measures of Academic Progress (MAP) West Virginia 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.

Concepts and Processes Goal Structure	Concepts and Processes DesCartes	Concepts and Processes Report Names
Nature of Science	Nature of Science	Nature of Science
Interpret science as search for understanding and recognize scientific explanations may lead to new discoveries and changes in scientific knowledge	Interpret Science; Changes in Science	
Ask questions, incorporate skills, attitudes and values of scientific inquiry, use scientific instruments and everyday materials to investigate the natural world, measure and collect data, apply mathematical skill, use metrics	Skills, Attitudes, Values of Scientific Inquiry	
Create hypotheses, make observations, predictions and inferences, draw and support conclusions with facts	Create Hypotheses and Make Observations	
Design and conduct investigations and experiments, construct and use charts, graphs, and tables to organize, display, interpret, analyze, and explain data	Design and Conduct Experiments	

Applications of Science	Applications of Science	Applications of Science
Explore relationship between parts of a systems, use and construct models as representations of real things, and compare and contrast the influence of variation in scale on the way objects or systems work	Systems, Models and Scale	
Compare and contrast changes in an object or system, formulate patterns of constancy or regularity	Patterns and Change	
Identify uses of tools, distinguish between natural and man-made objects, research applications of interactions of science and technology and give examples of positive and negative consequences and impacts, investigate and design scientific and technological solutions	Science and Technology; Influences on Daily Lives	

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General Science Goal Structure	General Science DesCartes	General Science Report Names
Biology	Biology	Biology
Identify and classify living organisms according to their structure and functions; explain how skeletal, muscular, integumentary, circulatory, respiratory and reproductive systems work together in the human body; compare the level of organization of cells, tissues and organs in living things; examine and describe the structures and functions of cell organelles; identify and describe disease causing organisms and the diseases they cause	Organisms: Structure, Function and Organization	
Compare, contrast, describe, evaluate the different characteristics and different adaptations and life cycles of plants and animals, which help them to survive in different niches and environments; use pictures to show cyclical processes in nature (e.g., nitrogen cycle, carbon cycle, or water cycle); trace and describe the pathways of the sun's energy through producers, consumers and decomposers using food webs and pyramids; analyze the ecological consequences of human interactions with the environment	Environment, Adaptations, Cycles, Interactions	
Observe, describe, compare, sequence the changes in the life cycle of plants and animals; analyze how behaviors of organisms lead to species continuity; compare variations of plant growth and reproduction; demonstrate the basic principles of genetics	Life Cycles, Continuity, Reproduction, Genetics	
Physics and Chemistry	Physics and Chemistry	Physics and Chemistry

Identify and describe physical and chemical composition and properties of matter; examine differences in types of solutions; describe, conduct, and classify chemical reactions and factors that affect chemical reaction rates	Properties of Matter and Chemical Reactions	
Relate changes in states of matter; identify materials as a solid, a liquid or a gas; verify conservation of matter during phase changes; use the periodic table to locate and classify elements	States of Matter and Periodic Table	
Investigate the reflection and refraction of light by objects; explore that sounds are produced by vibrating objects; identify the characteristics of sound waves; quantitatively represent wavelength, frequency and velocity	Light, Sound and Wavelength	
Diagram simple parallel and series circuits; investigate static electricity and conductors/nonconductors of electricity; classify objects as magnetic or non-magnetic; investigate the properties of an electromagnet; identify different forms of energy and describe energy transformations that occur between them (e.g., electrical to heat, or radiant to chemical)	Circuits, Electricity, Magnets, Forms of Energy	
Describe, compare, examine, explain, and relate motion of an object to its frame of reference; describe Newton's Laws of Motion; correlate the relationship of mass to gravitational force; examine simple machines; illustrate and calculate the mechanical advantage; quantitatively represent work, power, pressure	Force and Motion	
Earth and Space Science	Earth and Space Science	Earth and Space Science
Describe daily and seasonal weather changes; examine the effects of the sun's energy on oceans and weather; determine the impact of oceans on weather and climate	Weather and Climate	

<p>Identify and describe natural landforms and explain how they change and impact weather and climate; changes in the earth's surface; compare and explain the different rates of weathering, erosion and deposition on various materials; identify and explain the principle forces of plate tectonics and related geological events</p>	<p>Landforms, Earth's Surface and Plate Tectonics</p>	
<p>Explain rotation of the Earth on its axis and the effects of alignment of earth, moon and sun; explain phenomena associated with motions in sun-earth-moon system (e.g., eclipses, tides, or seasons); compare the earth's tilt and revolution to the seasonal changes; trace the life cycle of a star; describe and explain the similarities and differences among the planets and their orbital paths; describe the origin and orbits of comets, asteroids, and meteoroids</p>	<p>Earth, Moon, Sun, Stars and Planets</p>	
<p>Observe and compare differences in earth materials; describe the layers of the earth and their various features; investigate soil types and soil composition; differentiate between types of rock and describe the rock cycle; explore and explain how fossils and geologic features can be used to determine the relative age of rocks and rock layers</p>	<p>Earth: Composition, Layers, Rock Cycle, Fossils</p>	