

Identifier	Poplar - Grade 7 - Science		Introduced	Completed
7 S 1	PHYSICAL SCIENCE			
7 S 1.1.01	Forces and Motion	Investigate and describe the effect of retarding forces such as friction on the motion of objects.		
7 S 1.1.02	Forces and Motion	Investigate and describe the gravitational relationship that exists between the masses of objects and how far apart they are.		
7 S 1.1.03	Forces and Motion	Investigate and describe the density of solids, liquids, and gases.		
7 S 1.1.04	Forces and Motion	Explain the characteristics of various electrical forces		
7 S 1.1.05	Forces and Motion	Explain observations of gravitational force and magnetic properties		
7 S 1.1.06	Forces and Motion	Explain, predict and organize a set of observations regarding balanced and unbalanced forces		
7 S 1.1.07	Forces and Motion	Define and label different object movement patterns and possibilities		
7 S 1.2.01	Structure and Properties of Matter	Investigate and describe the differences between homogeneous and heterogeneous mixtures.		
7 S 1.2.02	Structure and Properties of Matter	Describe atomic structure by using various historic models of the atom.		
7 S 1.3.01	Energy and Matter - Interactions and Forms	Investigate and describe that forms of energy can travel in waves (e.g., seismic, light, radio, TV).		
7 S 1.3.02	Energy and Matter - Interactions and Forms	Define different arrangements of particles within substances		
7 S 1.3.03	Energy and Matter - Interactions and Forms	Explain how the periodic table is constructed		
7 S 1.3.04	Energy and Matter - Interactions and Forms	Identify and explain various properties of mixtures		
7 S 1.3.05	Energy and Matter - Interactions and Forms	Define the properties and observations of scientists explaining chemical and atomic bonding		
7 S 1.3.06	Energy and Matter - Interactions and Forms	Define and outline the basic ideas of atomic theory		
7 S 1.3.07	Energy and Matter - Interactions and Forms	Observe and define various forms of matter, sorting items by their similarities and differences		
7 S 1.3.08	Energy and Matter - Interactions and Forms	Define the properties of electrons, protons and neutrons		
7 S 1.3.09	Energy and Matter - Interactions and Forms	Define and sort differences and characteristics of various elements		
7 S 1.3.10	Energy and Matter - Interactions and Forms	Explain, sort and characterize various seasonal differences across the Earth's surface		
7 S 1.3.11	Energy and Matter - Interactions and Forms	Define the electromagnetic spectrum		
7 S 1.3.12	Energy and Matter - Interactions and Forms	Observe and define vibration energy		
7 S 1.3.13	Energy and Matter - Interactions and Forms	Define different reactions and observe the transfer of energy that occurs through them		
7 S 1.3.14	Energy and Matter - Interactions and Forms	Define the properties of energy and reactions; define the elements of transformation		
7 S 1.3.15	Energy and Matter - Interactions and Forms	Define and observe the properties that separate kinetic and potential energy		
7 S 1.3.16	Energy and Matter - Interactions and Forms	Explain the ideas of heat flow; define conduction, convection and radiation		
7 S 1.3.17	Energy and Matter - Interactions and Forms	Explain the theory of the flow of electricity through various circuits		
7 S 2	LIFE SCIENCE			
7 S 2.1.01	Heredity and Diversity	Explain how the experiences an organism has during its lifetime can affect it.		
7 S 2.1.02	Heredity and Diversity	Identify and explain genetic coding		
7 S 2.1.03	Heredity and Diversity	Identify and sort the different roles of genes and their combination		
7 S 2.1.04	Heredity and Diversity	Explain and document characteristics that can be shared in a species; explain and document characteristics that separate within a species		
7 S 2.1.05	Heredity and Diversity	Define characteristics that delineate environment and genetic information		
7 S 2.2.01	Structure of Life	Identify various infections; separate intrusive from symbiotic		
7 S 2.2.02	Structure of Life	Observe and define different types of cells		
7 S 2.2.03	Structure of Life	Describe and identify different types of cells in higher order life forms		
7 S 2.2.04	Structure of Life	Explain how various cells specialize in function and their role in a higher level life form		
7 S 2.3.01	Organisms and Their Environment	Document and explain the roles of matter and energy in an ecosystem		
7 S 2.3.02	Organisms and Their Environment	Explain how an ecosystem is sustained by the functions of the organisms involved		

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7 S 2.3.03	Organisms and Their Environment	Speculate and draw conclusions regarding the effects of altering various environments		
7 S 2.3.04	Organisms and Their Environment	Explain and observe the uses and roles of technological advances in altering environmental conditions		
7 S 2.3.05	Organisms and Their Environment	Demonstrate a symbiotic inter-dependent ecosystem; test out elements of the system; explain flaws and potential hazards of the design		
7 S 2.4.01	Diversity of Life	Identify those characteristics that are shared by a species		
7 S 2.4.02	Diversity of Life	Describe genetic passage		
7 S 2.4.03	Diversity of Life	Label and sort possible genetic alterations and their connection to inherited characteristics		
7 S 2.4.04	Diversity of Life	Show how fossil evidence illuminates environmental conditions through Earth's geological cycles		
7 S 2.4.05	Diversity of Life	Define and describe how an organism's behavior is connected to its species history		
7 S 3	EARTH AND SPACE SCIENCES			
7 S 3.1.01	Atmospheric Processes and the Water Cycle	Illustrate the causal relationship between sun and the Earth		
7 S 3.1.02	Atmospheric Processes and the Water Cycle	Observe and record the role of water on the Earth		
7 S 3.1.03	Atmospheric Processes and the Water Cycle	Define the elements of atmospheric conditions; define various extreme weather conditions; map possible causes of these conditions		
7 S 3.2.01	Solar System and Universe	Define and sort the various components of the universe		
7 S 3.2.02	Solar System and Universe	Define the characteristics that make up a planet as contrasted with other objects		
7 S 3.2.03	Solar System and Universe	Define and sort the various objects in the universe and the placement of the earth and the solar system in relationship to them		
7 S 3.3.01	Earth's Composition and Structure	Define and observe the difference between rocks and fossils		
7 S 3.3.02	Earth's Composition and Structure	Define the elements that identify the age of rocks and fossils		
7 S 3.3.03	Earth's Composition and Structure	Define the differences between layers of rock		
7 S 3.3.04	Earth's Composition and Structure	Define the various forces that interact with the Earth's surface; sort and list the various landforms on the Earth's surface		
7 S 3.3.05	Earth's Composition and Structure	Define and observe the content of soil		
7 S 3.3.06	Earth's Composition and Structure	Define the properties of resources; sort them by their stability and life span		
7 S 3.3.07	Earth's Composition and Structure	Define the essential elements of a supporting environment		
7 S 3.3.08	Earth's Composition and Structure	Observe and list technological advances through the history of man		
7 S 3.3.09	Earth's Composition and Structure	List the elements that would influence cultures and progress; recount events in the Earth's environment that have changed a culture		
7 S 3.3.10	Earth's Composition and Structure	Define the different available energy resources available on Earth		
7 S 4	ENVIRONMENTAL SCIENCES			
7 S 4.1.01	Conservation	Investigate and explain that Montana has a variety of useful resources.		
7 S 5	THE NATURE AND HISTORY OF SCIENCE			
7 S 5.1.01	Scientific, Historical, and Technological Perspectives	Investigate and describe how people create models to explain the world as scientific knowledge has increased, and that these models are modified or discarded.		
7 S 5.1.02	Scientific, Historical, and Technological Perspectives	Define and identify the components of an interactive ecosystem		
7 S 5.1.03	Scientific, Historical, and Technological Perspectives	Explain how perceptions have changed with the inclusion of new information		
7 S 5.2.01	Reasoning and Critical Response Skills	Identify and describe how the parts of a system relate to one another and/or to other systems.		
7 S 5.3.01	Scientific Inquiry	List and construct charts and graphs by gathering data and statistics		
7 S 5.3.02	Scientific Inquiry	Compare and distinguish between various forms of fact and opinion examining the characteristics of data		
7 S 5.3.03	Scientific Inquiry	Organize and manipulate data to illustrate a pattern of relationship and connection		
7 S 5.3.04	Scientific Inquiry	Classify, distinguish and examine relationships through investigation methods		
7 S 6	SCIENTIFIC INQUIRY: PROCESSES AND SKILLS			
7 S 6.1.01	Laboratory Skills and Safety	Use safety equipment and attire.		