Wolf Ridge ELC Minnesota Academic Standards Matrix

Grade 6 Science Standards			**Daytime Classes**	Animal Signs	Beavers	Birds	Small Mammals	Snowshoe Hare	White-tailed Deer	Wildlife Mgmt	Forest Ecology	Plant Study	Trees and Keys	Wetlands Ecology	Lake Study	Stream Study	Fisheries Mgmt	Frozen Lake Study	Acid Rain	Climate & Phenology	Energy & CO2	Geology	Weather	Living Lightly	Natures Timing	Ojibwe Heritage	Ojibwe Snowshoe	Seeds of Change	Voyageur Life	Adventure Ropes Course	Rock Climbing	Basic Survival	F.I.R.S.T Games	Beginning Orienteering	Competitive Orienteering	Canoeing	Cross Country Skiing	Superior Snowshoe	Superior View Hike	**Evening Activities**	Astronomy	Block Printing	Creative Expressions	Creature from Wolf Lake	Dream Catchers	Lake Superior Game	Night Hike	OI Pellets	Paper Making Star Lab	Woodland Art	Volleyball	**Naturalist Programs**	Bats	Fur Trade	History of the North Shore	Logging Camp Life	Raptors	Frozen Beans
Strand I. History and Nature of Science																																																									
Substrand	**Standard**	**Benchmarks**																																																						
A. Scientific World View	The student will understand that science is a way of knowing about the world that is characterized by empirical criteria, logical argument and skeptical review.	1. The student will: Distinguish between scientific evidence and personal opinion.		1							1				1	1	1		1	1	1																																						
		2. Explain why scientists often repeat investigations to be sure of the results.																	2	2	2																																						
		3. Recognize that scientists assume that the laws of nature are the same everywhere and that they are understandable and predictable.															3		3	3	3		3																																				
		4. Define scientific facts, laws and theories.																		4	4																																						
B. Scientific Inquiry	The student will understand that scientific inquiry is used in systematic ways to investigate the natural world.	1. The student will: Identify questions that can be answered through scientific investigation and those that cannot.																	1	1	1																																						
		2. Distinguish among observation, prediction and inference.																	2				2																																				
		3. Use appropriate tools and Systéme International (SI) units for measuring length, time, mass, volume and temperature with suitable precision and accuracy.					3								3	3		3	3				3																																				
		4. Present and explain data and findings from controlled experiments using multiple representations including tables, graphs, physical models and demonstrations																																																									

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C. Scientific Enterprise	The student will know that science and technology are human efforts that both influence and are influenced by society.	1. The student will: Describe the types of questions asked, the products, and the methods of investigation used to distinguish science from technology.																		1	1																		
		2. Explain why scientists may work in teams or work alone, can collaborate and, at times, compete.							2	2	2						2		2	2	2							2				2							
Strand II. Physical Science																																							
Substrand	**Standard**	**Benchmarks**																																					
A. Structure of Matter	The student will know that science and technology are human efforts that both influence and are influenced by society.	1. The student will: Know that there are more than 100 different elements with unique properties.																																					
		2. Use evidence to explain that matter is made of small particles called atoms or molecules which are too small to see.																				2																	
		3. Know that the mass of a substance remains constant whether it is together, in parts or in a different state.																																					
		4. Describe the states of matter in terms of the space between particles.																																					
		5. Distinguish between volume, mass and density.																																					
B. Chemical Reactions	The student will differentiate between chemical and physical changes.	1. The student will: Define chemical and physical changes.																																					
		2. Observe that substances react chemically with other substances to form new substances with different characteristic properties.												2				2																					
		3. Give examples and classify substances as mixtures or pure substances.																																					

Grade 6 Science Standards			**Evening Activities**	Astronomy	Block Printing	Creative Expressions	Creature from Wolf Lake	Dream Catchers	Lake Superior Game	Night Hike	OI Pellets	Paper Making Star Lab	Woodland Art	Volleyball	**Naturalist Programs**	Bats	Fur Trade	History of the North Shore	Logging Camp Life	Raptors	Frozen Beans
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C. Energy Transformations	The student will underst-and that energy exists in many forms and can be transferr-ed in many ways.	1. The student will: Compare and contrast heat, chemical, mechanical and electrical energy and identify transformations of energy from one form to another in everyday situations.																																																							
		2. Recognize that heat is transferred by convection, conduction and radiation from warmer objects to cooler ones until both reach the same temperature.					2																																																		
		4. Recognize the relationship between light and heat.																		4	4																																					
		5. Describe waves in terms of speed, frequency and wave length.																																																							
		6. Recognize that vibrations such as sound and earthquakes move in waves and that waves move at different speeds in different materials.																																																							
D. Motion	The student will describe the motion of objects.	1. The student will: Use a frame of reference to describe the position, speed and acceleration of an object.													1																																										
E. Forces of Nature:	The student will understand that a variety of forces govern the structure and motion of objects in the universe.	1. The student will: Know that electric currents and magnets can exert a force on certain objects and each other.																															1																									
		2. Know that there are positive and negative charges and that like charges repel one another and opposite charges attract.																																2																								