



Classes & Evening Programs

Standards Charts

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The Audubon Center of the North Woods has aligned our classes and evening programs with the Minnesota Department of Education's Academic Standards. Because a majority of our participants are in grades K-8, we are currently focusing on these grades. Specifically, we have aligned our classes and evening programs with Social Studies, Science (2009), and Language Arts standards. Our classes and evening programs can also be used to meet other academic standards and we will continue working on this. Further, many of our classes are also appropriate and can easily be adapted for high school students. We are working on adapting our classes for to align them with 9-12 Academic Standards. Several charts listed below have been created to show how our classes and evening program align with and help meet Minnesota's K-8 Academic Standards for Social Studies, Science (2009), and Language Arts:

- Classes and Evening Program Science Standards grades K-3
- Classes Science Standards grades K-8
- Evening Program Science Standards grades 4-8
- Language Arts Standards grades K-8
- Social Studies Standards grades 4-8

Classes are listed on the top of each chart, and the standards that classes meet are listed on the left side, with labels to denote if the class includes a particular standard. If every aspect of the standard is discussed thoroughly in class, it is labeled with an M, for meets. If a standard is mentioned in class and it does not go into too much detail or does not include all aspects of it, it is marked with a C, for covers. If a class does not meet any standards for that particular grade, the class is labeled with a *.

Science Standards for Classes and Evening Programs Grades K-3

Key: C: Covers the standard
M: Meets the standard

Grade	Strand	Substrand	Standard Understand that...	Code	Benchmark	Animal Habitat	To Be a Tree	Raptors: Through Stories	Raptors: Hunting from on High	Creepy Crawly Creatures	A Bug's Life
K	4. Life Science	1. Structure and Function in Living Systems	1. Living things are diverse with many different observable characteristics.	0.4.1.1.1	Observe and compare plants and animals			M	M	M	M
				0.4.1.1.2	Identify the external parts of a variety of plants and animals including humans.			M	M	C	M
1	1. Life Science	1. Structure and Function in Living Systems.	1. Living things are diverse with many different observable characteristics.	1.4.1.1.1	Describe and sort animals into groups in many ways, according to their physical characteristics and behaviors.	C		M	M	C	C
		2. Interdependence Among Living Systems	1. Natural systems have many components that interact to maintain the living system.	1.4.2.1.1	Recognize that animals need space, water, food, shelter and air.	M				C	C

				1.4.2.1.2	Describe ways in which an animal's habitat provides for its basic needs.	M					C	C
		3. Evolution in Living Systems	1. Plants and animals undergo a series of orderly changes during their life cycles.	1.4.3.1.1	Demonstrate an understanding that animals pass through life cycles that include a beginning, development into adults, reproduction and eventually death.	C						M
				1.4.3.1.2	Recognize that animals pass through the same life cycle stages as their parents.	C						M
2	4. Life Science	1. Structure and Function in Living Systems	1. Living things are diverse with many different observable characteristics.	2.4.1.1.1	Describe and sort plants into groups in many ways, according to their physical characteristics and behaviors.		C					
2		2. Interdependence Among Living Systems	1. Natural systems have many components that interact to maintain the system	2.4.2.1.1	Recognize that plants need space, water, nutrients and air, and that they fulfill these needs in different ways.	M	C					

2		3. Evolution in Living Systems	1. Plants and animals undergo a series of orderly changes during their life cycles.	2.4.3.1.1	Describe the characteristics of plants at different stages of their life cycles.		C				
3	4. Life Science	1. Structure and Function in Living Systems	1. Living things are diverse with many different characteristics that enable them to grow, reproduce and survive.	3.4.1.1.1	Compare how the different structures of plants and animals serve various functions of growth, survival and reproduction.	M	M		M	M	M
				3.4.1.1.2	Identify common groups of plants and animals using observable physical characteristics, structures and behaviors.		M		M	M	M

	2. Interdependence Within the Earth System	3. Water circulates through the Earth's crust, oceans and atmosphere in what is known as the water cycle.	4.3.2.3.1	Identify where water collects on Earth, including atmosphere, ground and surface water, and describe how water moves through the Earth system using the processes of evaporation, condensation and precipitation.																																	C					
3. Earth and Space Science	4. Human Interactions with Earth Systems	1. In order to improve their existence, humans interact with and influence Earth systems.	4.3.4.1.1	Describe how the methods people utilize to obtain and use water in their homes and communities can affect water supply and quality.																																	C	C				

Grade 6 Science Standards

Key: C: Covers the standard
 M: Meets the standard
 *: does not meet grade 6 science standards

Strand	Substrand	Standard Understand that...	Code	Benchmark																															
1. The Nature of Science and Engineering	2. The Practice of Engineering	1. Engineers create, develop and manufacture machines, structures, processes and systems that impact society and may make humans more productive.	6.1.2.1.1	Identify a common engineered system and evaluate its impact on the daily life of humans																															
			6.1.2.1.2	Recognize that there is no perfect design and that new technologies have consequences that may increase some risks and decrease others.																															
			6.1.2.1.3	Describe the trade-offs in using manufactured products in terms of features, performance, durability and cost.																															
			6.1.2.1.4	Explain the importance of learning from past failures, in order to inform future designs of similar products or systems.																															

	3. Interactions Among Science, Technology, Engineering Mathematics and Society	4. Current and emerging technologies have enabled humans to develop and use models to understand and communicate how natural and designed systems work and interact.	7.1.3.4.2	Determine and use appropriate safety procedures, tools, measurements, graphs and mathematical analyses to describe and investigate natural and designed systems in a life science context.	M														M			C						
4. Life Science	1. Structure and Function in Living Systems	1. Tissues, organs and organ systems are composed of cells and function to serve the needs of all cells for food, air and waste removal.	7.4.1.1.2	Describe how the organs in the respiratory, circulatory, digestive, nervous, skin and urinary systems interact to serve the needs of vertebrate organisms.					C										M	C	C							
		2. All living organisms are composed of one or more cells which carry on the many functions needed to sustain life.	7.4.1.2.1	Recognize that cells carry out life functions, and that these functions are carried out in a similar way in all organisms, including animals, plants, fungi, bacteria and protists.					C																			
	2. Interdependence Among Living Systems	1. Natural systems include a variety of organisms that interact with one another in several ways.	7.4.2.1.1	Identify a variety of populations and communities in an ecosystem and describe the relationships among the populations and communities in a stable ecosystem.	M	M	M		M				M	M	M	C	M	C		M	M			M	M	M	M	M
			7.4.2.1.2	Compare and contrast predator/prey, parasite/host and producer/consumer/decomposer relationships.									M	M	M					M				M		C	M	

3. Evolution in Living Systems	1. Reproduction is a characteristic of all organisms and is essential for the continuation of a species. Hereditary information is contained in genes which are inherited through asexual or sexual reproduction.	7.4.3.1.3	Distinguish between characteristics of organisms that are inherited and those acquired through environmental influences.	M	C			M	C										C	C					M						C
	2. Individual organisms with certain traits in particular environments are more likely than others to survive and have offspring.	7.4.3.2.3	Recognize that variation exists in every population and describe how a variation can help or hinder an organism's ability to survive.	C	C			M	C			C	M	M	M				C	M					M						
		7.4.3.2.4	Recognize that extinction is a common event and it can occur when the environment changes and a population's ability to adapt is insufficient to allow its survival.		C			C												C									C		
4. Human Interactions with Living Systems	1. Human activity can change living organisms and ecosystems.	7.4.4.1.1	Describe examples where selective breeding has resulted in new varieties of cultivated plants and particular traits in domesticated animals.									C															C				C
		7.4.4.1.2	Describe ways that human activities can change the populations and communities in an ecosystem.								C		M	M	M							M	C			C					M

Grade 8 Science Standards

Key: C: Covers the standard

M: Meets the standard

*: does not meet grade 8 science standards

Strand	Substrand	Standard	Code	Benchmark	Winter Tree ID
		Understand that...			Wolves of the North Woods
					*Wolves of the North Woods
					Twines From Plants
					The Forest in the Fall
					*Team Challenge/Total Team
					*Survivor: Northwoods
					Stream Superheroes
					*Snowshoeing
					*Skywalk High Ropes
					Recycled Art
					*Reading the Landscape
					*Predator/Prey
					Porcupine Quill Embroidery
					Orienteering
					Ojibwe Hike
					*Nature Journaling
					*Minnesota Mammals
					Maple Syruping
					*Leave It to Beaver
					*Lake Ecology
					Freezin' Our Feathers Off
					Forest Ecology
					Energy for Life
					Dirt Rocks and Worms
					*Cross Country Skiing
					*Creepy Crawly Creatures
					*Climbing Wall
					*Canoeing
					*Birds and Bird Banding
					*Animal Signs
					A Bug's Life
1. The Nature of Science and Engineering	3. Interactions Among Science, Technology, Engineering, Mathematics and Society	2. Men and women throughout the history of all cultures, including Minnesota American Indian tribes and communities, have been involved in engineering design and scientific inquiry	8.1.3.2.1	Describe examples of important contributions to the advancement of science, engineering and technology made by individuals representing different groups and cultures at different times in history.	M
1. The Nature of Science and Engineering		3. Science and engineering operate in the context of society and both influence and are influenced by this context.	8.1.3.3.3	Provide examples of how advances in technology have impacted the ways in which people live, work and interact.	M

2. Physical Science	1. Matter	1. Pure substances can be identified by properties which are independent of the sample of the substance and the properties can be explained by a model of matter that is composed of small particles.	8.2.1.1.1	Distinguish between a mixture and a pure substance and use physical properties including color, solubility, density, melting point and boiling point to separate mixtures and identify pure substances.																											
		2. Substances can undergo physical and/or chemical changes which may change the properties of the substance but do not change the total mass in a closed system.	8.2.1.2.1	Identify evidence of chemical changes, including color change, generation of a gas, solid formation and temperature change.										C		M											C				
			8.2.1.2.2	Distinguish between chemical and physical changes in matter.												M								C							
			8.2.1.2.3	Use the particle model of matter to explain how mass is conserved during physical and chemical changes in a closed system.												C															

3. Earth and Space Science	1. Earth Structure and Processes	1. The movement of tectonic plates results from interactions among the lithosphere, mantle and core.	8.3.1.1.1	Recognize that the Earth is composed of layers, and describe the properties of the layers, including the lithosphere, mantle and core.										M																						
			8.3.1.1.3	Recognize that major geological events, such as earthquakes, volcanic eruptions and mountain building, result from the slow movement of tectonic plates.									M	C																						
3. Earth and Space Science	1. Earth Structure and Processes	2. Landforms are the result of the combination of constructive and destructive processes.	8.3.1.2.1	Explain how landforms result from the processes of crustal deformation, volcanic eruptions, weathering, erosion and deposition of sediment.									M	C																						
			8.3.1.2.2	Explain the role of weathering, erosion and glacial activity in shaping Minnesota's current landscape.									C	C	M																					

	2. Interdependence Within the Earth System	1. The sun is the principal external energy source for the Earth.	8.3.2.1.1	Explain how the combination of the Earth's tilted axis and revolution around the sun causes the progression of seasons.														C																							
3. Earth and Space Science	2. Interdependence Within the Earth System	1. The sun is the principal external energy source for the Earth.	8.3.2.1.3	Explain how heating of the Earth's surface and atmosphere by the sun drives convection within the atmosphere and hydrosphere producing winds, ocean currents and the water cycle, as well as influencing global climate.						C																															
		2. Patterns of atmospheric movement influence global climate and local weather.	8.3.2.2.1	Describe how the composition and structure of the Earth's atmosphere affects energy absorption, climate, and the distribution of particulates and gases.						C																															

Language Arts Standards for Classes and Evening Programs Grades K-8

Key: C: Covers the standard
M: Meets the standard

Grade	Strand	Sub-Strand	Standards	Benchmarks	Nature Journaling	Raptors Through Stories	Land Use Hearing	Night Hike	Of Raptors and Men	Astronomy
K		C. Comprehension	The student will listen to and understand the meaning of text.	<ol style="list-style-type: none"> 1. Demonstrate literal comprehension by asking and answering questions about narrative and informational text. 2. Make predictions from illustrations and story content. 3. Write or draw a response that demonstrates comprehension. 4. Relate texts to prior knowledge and experiences. 		M				
K		D. Literature	The student will read or listen to a variety of texts.	<ol style="list-style-type: none"> 1. Listen to and understand the meaning of texts representing a variety of genres (such as poetry, folk tales, drama, fantasy, realistic fiction, informational and biographical texts) from America, as well as from other countries. 2. Identify main characters and story events and actions. 3. Retell familiar stories using beginning, middle and end. 4. Respond to literature using details from the story to make personal connections. 5. Listen to and look at literature for personal enjoyment. 		M				
K	III. Speaking, Listening and Viewing	A. Speaking and Listening	The student will communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions. 2. Follow two-step directions. 3. Attend to and understand the meaning of messages. 4. Communicate needs, feelings and ideas to peers and adults. 5. Recite and respond to poems, rhymes and songs. 6. Respond orally to language patterns in stories and poems. 7. Use voice level appropriate for language situation. 8. Ask and respond to questions. 		M				
1	I. Reading and Literature	C. Comprehension	The student will actively engage in the reading process and use a variety of	<ol style="list-style-type: none"> 1. Demonstrate literal and inferential comprehension by asking and answering questions about narrative and informational text. 2. Recall and use prior learning and preview text to prepare for reading. 3. Monitor comprehension and reread as needed at points of 		M				

			comprehension strategies to understand the meaning of texts that have been read or listened to.	<p>difficulty, using strategies to self-correct when needed.</p> <ol style="list-style-type: none"> 4. Make predictions of outcomes and verify from texts. 5. Identify or infer topic. 6. Make simple inferences and draw and support conclusions. 7. Use story illustrations to enhance comprehension. 8. Write or draw a response that shows comprehension of a story that has been read. 9. Relate texts to prior knowledge and experiences. 						
1		D. Literature	The student will actively engage in the reading process and read, understand, respond to and appreciate a wide variety of fiction, poetic and non-fiction texts.	<ol style="list-style-type: none"> 1. Read from and listen to texts representing a variety of genres (such as poetry, folk tales, drama, fantasy, realistic fiction, informational and biographical texts) from America, as well as from other countries. 2. Identify and describe main characters setting and sequences of story events. 3. Respond to text and use details from stories to support interpretation and make personal connections. 4. Retell familiar stories using a beginning, middle and end. 5. Read and listen to selections for personal enjoyment. 6. Understand the role of illustrations in conveying meaning in picture books. 		M				
1 2	III. Speaking, listening and viewing	A. Speaking and Listening	The student will communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions. 2. Follow two- or three-step oral directions. 3. Attend to and understand the meaning of messages. 4. Communicate needs, feelings and ideas to peers and adults in complete sentences. 5. Recite and respond to stories, poems, rhymes and songs with expression. 6. Use voice level appropriate for language situation. 7. Ask and respond to questions. 		M				
2	I. Reading and Literature	C. Comprehension	The student will actively engage in the reading process and use a variety of comprehension strategies to understand the meaning of texts that have been read.	<ol style="list-style-type: none"> 1. Read aloud grade-appropriate texts (that have not been previewed) with accuracy and comprehension. 2. Recall and use prior learning and preview text to prepare for reading. 3. Analyze text by using pictures, diagrams, titles and headings. 4. Monitor comprehension, reread and use strategies to self-correct when necessary. 5. Restate the sequence of events or ideas in a text, and summarize. 6. Identify the topic, facts and supporting details in non-fiction texts. 7. Demonstrate literal and inferential comprehension by asking and answering questions about narrative and informational texts. 8. Make predictions about text and verify outcomes. 9. Summarize text. 		M				

				10. Follow two-step written directions.						
3	I. Reading and Literature	C. Comprehension	The student will understand the meaning of texts using a variety of comprehension strategies and will demonstrate literal, interpretive and evaluative comprehension.	<ol style="list-style-type: none"> 1. Read aloud grade-appropriate text (that has not been previewed) with accuracy and comprehension. 2. Recall and use prior learning and preview text, using title, headings and illustrations, to prepare for reading. 3. Generate and answer literal, inferential, interpretive and evaluative questions to demonstrate understanding about what is read. 4. Retell, restate or summarize information orally, in writing, and through graphic organizers. 5. Infer and identify main idea and determine relevant details in non-fiction text. 6. Monitor comprehension and use strategies to self-correct when needed. 7. Follow three-step written directions. 		M				
4	III. Speaking, Listening and Viewing	A. Speaking and Listening	The student will demonstrate understanding and communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. 2. Demonstrate active listening and comprehension. 3. Give oral presentations to different audiences for different purposes. 4. Organize and summarize ideas, using evidence to support opinions or main ideas. 			M	C	C	C
5		C. Spelling, Grammar, and Usage	The student will apply standard English conventions when writing.	<ol style="list-style-type: none"> 1. Compose complete sentences when writing. 2. Identify and correct spelling of frequently used words and common homophones. 3. Spell roots, suffixes, prefixes, and syllable constructions correctly. 4. Apply grammar conventions correctly in writing, including: <ol style="list-style-type: none"> a. verb tense b. adverbs c. prepositions d. subject and verb agreement e. possessive pronouns. 5. Apply punctuation conventions correctly in writing, including: <ol style="list-style-type: none"> a. apostrophes b. capitalization of proper nouns c. abbreviations d. sentence beginnings e. commas in a series f. quotation marks. 		M				

5	III. Speaking, Listening and Viewing	A. Speaking and Listening	The student will demonstrate understanding and communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. 2. Demonstrate active listening and comprehension. 3. Distinguish between speaker's opinion and verifiable facts. 4. Give oral presentations to various audiences for different purposes. 5. Restate or summarize and organize ideas sequentially using evidence to support opinions and main ideas. 	M		M		C	C
6 7 8	II. Writing	A. Types of Writing	The student will create informative, expressive and persuasive writing.	<ol style="list-style-type: none"> 1. Write frequently in a variety of forms, including but not limited to the following: poems, stories, plays, essays, journals, letters, directions, editorials, business communications and reports. 	M					
6	III. Speaking, listening and viewing	A. Speaking and Listening	Students will demonstrate understanding and communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. 2. Know and apply listening rules and expectations for formal settings and demonstrate comprehension. 3. Actively listen and comprehend messages. 4. Apply assessment criteria to self-evaluate oral presentations. 5. Distinguish between a speaker's opinion and verifiable facts. 6. Orally communicate information, opinions and ideas effectively to different audiences for a variety of purposes. 			M	C	C	C
7	III. Speaking, listening and viewing	A. Speaking and Listening	Students will demonstrate understanding and communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. 2. Know and apply listening rules for formal settings. 3. Apply assessment criteria to self-evaluate oral presentations. 4. Distinguish between speaker's opinion and verifiable facts and analyze the credibility of the presentation. 5. Follow a speaker's presentation and represent it in notes. 6. Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes. 7. Adjust delivery and language in oral presentations for the intended audiences and purposes. 8. Perform expressive oral readings of prose, poetry or drama. 			M	C	C	C

8	III. Speaking, listening and viewing	A. Speaking and Listening	The student will demonstrate understanding and communicate effectively through listening and speaking.	<ol style="list-style-type: none"> 1. Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups. 2. Actively listen and comprehend messages. 3. Apply self-assessment criteria to prepare and give oral presentations. 4. Distinguish between speaker's opinion and verifiable facts and analyze the credibility of the presentation. 5. Follow a speaker's presentation and represent it in notes. 6. Orally communicate information, opinions and ideas effectively to different audiences, adjusting delivery and language for intended audience and purpose. 7. Participate effectively in group meetings. 			M	C	C	C
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Social Studies Standards for Classes and Evening Programs Grades 4-8

Key: C: Covers the standard
M: Meets the standard

Strand	Sub-Strand	Standards	Benchmarks	Ojibwe Hike	Porcupine Quill Embroidery	Voyageurs	Leave it to Beaver	Maple Syruping	Nature Journaling	Reading the Landscape	Snowshoeing	Twines from Plants	Raptors: Of Raptors and Men	Land Use Hearing
I. U.S. HISTORY	A. Pre-history through 1607	The student will understand that large and diverse American Indian nations were the original inhabitants of North America.	1. Students will compare ways of life of Indian Nations from different regions of North America.	M	M			C		C	C	M		
I. U.S. HISTORY	B. Pre-history through 1607	The student will demonstrate knowledge of European exploration of the North American continent and the resulting interaction with American Indian nations.	1. Students will identify key European explorers and how their voyages led to the establishment of colonies. 2. Students will know and explain that interactions between American Indian tribes and European explorers had positive and negative impacts.	M			C							
I. U.S. HISTORY	C. Colonization and Conflict, 1607-1780s	The student will demonstrate knowledge of the colonies and the factors that shaped colonial North America.	1. Students will explain and understand the political, religious, social, and economic events and conditions that led to the colonization of America. 2. Students will compare and contrast life within the colonies and their geographical areas, including New England, Mid-Atlantic, and Southern colonies, and analyze their impact. 3. Students will identify the differences and tensions between the English colonies and American Indian tribes. 4. Students will understand the significance of enslaved Africans and their descendants in the economic and social life of the colonies.	M										
I. U.S. HISTORY	F. Expansion, Innovation, and Reform, 1801-1861	The student will demonstrate knowledge of the early republic and how territorial expansion affected	1. Students will describe the causes and analyze the effects of the Louisiana Purchase, the War of 1812, and the Monroe Doctrine. 2. Students will analyze the						C					

		foreign relations.	impact of territorial expansion on American Indian nations and the evolution of federal and state Indian policies. 3. Students will analyze the causes and consequences of U.S. geographic expansion to the Pacific, including the concept of Manifest Destiny and the Mexican-American War.														
MINNESOTA HISTORY GRADES 4-8																	
Strand	Sub-Strand	Standards	Benchmarks														
II. MINNESOTA HISTORY	A. Pre-Contact to 1650	The student will demonstrate knowledge of Minnesota's indigenous peoples.	1. Students will describe the evidence of the indigenous cultures in Minnesota, and make reasoned inferences from that evidence. 2. Students will explain the major historical aspects of Dakota and Ojibwe culture, social organization and history, and compare and contrast them.	M	M							M	M				
II. MINNESOTA HISTORY	B. Contact and Fur Trade 1600-1810	The student will demonstrate knowledge of early explorers and fur traders in Minnesota and the impact of the fur trade on both European and Native societies.	1. Students will describe how early explorers and fur traders affected the development of Minnesota. 2. Students will describe the economic and cultural impact of the interaction between the Dakota and Ojibwe and the explorers and fur traders.	C		M	M							C			
II. MINNESOTA HISTORY	C. Early Settlement and Statehood 1810-1860	The student will know and understand the factors that led to rapid settlement of Minnesota in the 19 th century and the changes the new Minnesotans brought with them.	1. Students will explain why early settlers came to Minnesota and analyze their impact on political, cultural, and physical landscapes. 2. Students will describe the process of Minnesota's becoming a territory and then a state. 3. Students will understand why and how the Minnesota Indian Nations negotiated treaties with the United States, and the impact of these treaties for the Ojibwe, the Dakota, and the settlers.	C				C		M							
II. MINNESOTA HISTORY	E. Industrial Era 1865-1914	The student will know and understand Minnesota's major industries and the economic, social, political, and technological changes that accompanied industrialization.	1. Students will know and explain the roles of people, politics, natural resources, transportation, and technology in the development of Minnesota's early industries (lumbering, mining, and agriculture). 2. Students will describe the impact of industrialization on work, home, leisure life, politics, immigration, urbanization, and changes in the physical							C							

