

These activity suggestions are meant to be a guideline that helps generate creative thinking. They are not complete lesson plans. Remember to incorporate inquiry-based learning strategies into these topics, encouraging your students to wonder, to ask questions, and to develop skills rather than only master content. Students should explore and make observations, ask questions, investigate and answer questions, and reflect on and discuss their process. See additional resources for more information on Inquiry Learning. This guide was developed by the Winneshiek County Conservation Board with support from REAP-CEP of the Iowa DNR.

KEY	N/A = Recreational activity not appropriate for age level	Math A = Algebra GM = Geometry & Measurement DA = Data Analysis/Prob & Stats NO = Number & Operations (K-8th Only) QL = Quantitative Literacy (9th-12th Only)	Sciences LS = Life Sciences PhyS = Physical Sciences ES = Earth and Space SI = Science as Inquiry	Literacy R = Reading W = Writing L = Listening V = Viewing S = Speaking	Social Studies BS = Behavioral Sciences G = Geography E = Economics H = History PoIS = Political Science	21st Century Skills CL = Civic Literacy ES = Employability Skills FL = Financial Literacy HL = Health Literacy TL = Technology Literacy
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Outdoor Rec. Activity	Crosscurricular Activity Suggestions	Iowa Common Core - Essential Concepts and Skills																					
		Math				Science				Literacy				Social Studies				21st Century Skills					
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12		
Archery	Use as illustration and examination of trajectory, force, motion, energy, and momentum.	N/A				N/A	SI	SI	SI	N/A					N/A					HL	HL	HL	HL
	Read, discuss, and write on a survival-themed book.									R	R	R	R							HL	HL	HL	HL
										W	W	W	W										
										L	L	L	L										
										S	S	S	S										

		Math				Science				Literacy				Social Studies				21st Century Skills					
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12		
		Bicycling	Discuss climate change and fossil fuel use. Calculate carbon dioxide emissions saved from riding bikes versus driving cars.	NO - Estimate/Count	NO - Mult & Div/Estimate/Fract.	NO - Ratio/Rate/Estimate	QL - Decision Making	SI	SI	SI	SI						BS - Current Social Issues	BS - Current Social Issues	BS - Current Social Issues	CL - Gov't/ U.S. & World Affairs	CL - Citizen's Role/ U.S. & World Affairs	CL - Citizen's Role/ Pol. Action/ Laws	CL - Citizen's Role/ Gov't/ Pol. Action/ Laws
GM - Measuring	GM - Measuring					LS - Care for Env.	ES - Earth Process/ Weather	ES - Earth Process/ Weather/ Climate/	ES - Geochem /Earth Systems							G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts	HL	HL	HL	HL
DA - Prob. Solving/ Graphs	DA - Data Analysis/ Prob./ Graphs		DA - Graphs/ Prob./ Data Analysis	DA - Prob./ Stats.		LS - Env. Stew.	LS - Env. Issues	LS - Human Impacts							E - Govt	E - Govt/ Tech	E - Govt/ Tech	E - Govt/ Tech	TL - Digital Tools	TL - Digital Tools	TL - Digital Tools	TL - Critical Thinking/ Social Issues	
	Use bicycling as illustration and examination of speed, motion, and mechanics.					SI	SI	SI	SI											HL	HL	HL	HL
	Bike math and graphs: distances traveled, speed, calories burned, area circled, etc.	GM - Shapes/ Space/ Movemt/ Measure	GM - Graphs/ Shapes/ Area/ Measure	GM - Polygons/ Areas/ 2D Space/ 3D Shapes	GM - Coords./ Geo Figures/ Trig															HL	HL	HL	HL

		Math				Science				Literacy				Social Studies				21st Century Skills			
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12
Camping	Create a nature journal to record thoughts, observations, and drawings.									R	R	R	R					HL	HL	HL	HL
										W	W	W	W					ES - Initiative	ES - Creativity/ Initiative	ES - Creativity/ Initiative	ES - Self-direction
										L	L	L	L								
										S	S	S	S								
	Study the features (biological community, hydrological cycle, astronomy, geology, topography, etc.) of a local, state, or national park.					SI	SI	SI	SI									HL	HL	HL	HL
						LS - Plants/ Animals/ Care for Env.	LS - Organisms /Habitat/ Ecosystem /Env. Stew.	LS - Ecosystem /Env. Issues/ Survival	LS - Evolution/ Organisms /Systems									CL - Gov't/ World Affairs	CL - Gov't/ Political Action/ World Affairs	CL - Gov't/ Political Action/ Laws	CL - Gov't/ Political Action/ Laws
					ES - Earth Materials/ Weather	ES - Earth Materials, Process/ Weather/ Universe	ES - Earth History/ Water/ Weather/ Universe	ES - Geochem /Earth Systems/ Universe									ES - Initiative/ Roles/ Leader.	ES - Creativity/ Initiative/ Work with Others	ES - Creativity/ Initiative/ Work with Others/ Roles	ES - Self-direction/ Work with Others/ Roles	
Measure and compare ground and canopy cover or biodiversity in campsites versus untouched areas.	NO - Estimate/ Count	NO - Mult & Div/ Estimate/ Fract.	NO - Ratio/ Rate/ Estimate	GM - Trig/ Coords	SI	SI	SI	SI									HL	HL	HL	HL	
	DA - Prob. Solving/ Graphs	DA - Data Analysis/ Prob./ Graphs	DA - Graphs/ Prob./ Data Analysis	DA - Data Analysis/ Prob.	LS - Plants/ Animals/ Care for Env.	LS - Organisms /Habitat/ Ecosystem /Env. Stew.	LS - Ecosystem /Env. Issues/ Survival	LS - Evolution/ Organisms /Systems									ES - Initiative/ Roles/ Leader.	ES - Creativity/ Initiative/ Work with Others	ES - Creativity/ Initiative/ Work with Others/ Roles	ES - Self-direction/ Work with Others/ Roles	

		Math				Science				Literacy				Social Studies				21st Century Skills			
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12
Canoeing & Kayaking	Conduct a water quality, fish, or biological indicator survey.	NO - Estimate/ Count	NO - Mult & Div/ Estimate/ Fract.	NO - Ratio/ Rate/ Estimate	DA - Data Analysis/ Algebra/ Prob.	SI	SI	SI	SI					G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts	ES - Initiative/ Roles/ Leader.	ES - Creativity/ Initiative/ Work with Others	ES - Creativity/ Initiative/ Work with Others/ Roles	ES - Self-direction/ Work with Others/ Roles
		DA - Prob. Solving/ Graphs	DA - Data Analysis/ Prob./ Graphs	DA - Graphs/ Prob./ Data Analysis		LS - Plants/ Animals/ Care for Env.	LS - Organisms /Habitat/ Ecosystem /Env. Stew.	LS - Ecosystem /Env. Issues/ Survival	LS - Evolution/ Organisms /Systems					E - Govt	E - Govt/ Tech	E - Govt/ Tech	E - Govt/ Tech	HL	HL	HL	HL
	Examine the hydrological cycle and watersheds.					SI	SI	SI	SI									TL - Digital Tools/ Using Tech.	TL - Digital Tools/ Using Tech./ Real World	TL - Digital Tools/ Using Tech./ Research	TL - Critical Thinking/ Social Issues/ Digital Tools
						LS - Ecosystem /Care for Env.	LS - Habitat/ Ecosystem /Env. Stew.	LS - Ecosystem /Env. Issues	LS - Systems					G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts				
							ES - Earth Processes	ES - Water Cycle						E - Govt	E - Govt/ Tech	E - Govt/ Tech	E - Govt/ Tech	HL	HL	HL	HL

		Math				Science				Literacy				Social Studies				21st Century Skills				
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	
Cross-country Skiing	Snow/winter science: drifting, snowflake formation and design, winter ecology, temperature, snow cover, snowmelt and the hydrological cycle, hibernation, tracking , etc.					SI	SI	SI	SI										TL - Digital Tools/ Using Tech.	TL - Digital Tools/ Using Tech./ Real World Issues	TL - Digital Tools/ Using Tech./ Research	TL - Critical Thinking/ Social Issues/ Digital Tools
						PhyS - Liquids & Solids	PhyS - Matter/ Sound/ Heat															
						ES - Weather	ES - Earth Process/ Weather	ES - Earth Process/ Water/ Weather	ES - Earth Systems										HL	HL	HL	HL
	Study the mechanics and mathematics of cross-country skiing.	GM - Shapes/ Space/ Movemt. /Measure	GM - Graphs/ Shapes/ Area/ Measure	GM - Polygons/ Areas/ 2D Space/ 3D Shapes	GM - Coords./ Geo Figures/ Trig	PhyS - Position/ Motion	PhyS - Force/ Motion	PhyS - Force/ Motion/ Energy	PhyS - Force/ Motion/ Energy										HL	HL	HL	HL

		Math				Science				Literacy				Social Studies				21st Century Skills				
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	
Fishing	Read, discuss, and write on a fishing- or water-themed book.									R	R	R	R						HL	HL	HL	HL
										W	W	W	W									
										L	L	L	L									
										S	S	S	S									
	Conduct a water quality, fish, or biological indicator survey.	NO - Estimate/ Count	NO - Mult & Div/ Estimate/ Fract.	NO - Ratio/ Rate/ Estimate	DA - Data Analysis/ Algebra/ Prob.	SI	SI	SI	SI					G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts	ES - Initiative/ Roles/ Leader.	ES - Creativity/ Initiative/ Work with Others	ES - Creativity/ Initiative/ Work with Others/ Roles	ES - Self-direction/ Work with Others/ Roles	
		DA - Problem Solving/ Graphs	DA - Data Analysis/ Prob./ Graphs	DA - Graphs/ Prob./ Data Analysis		LS - Plants/ Animals/ Care for Env.	LS - Organisms /Habitat/ Ecosystem /Env. Stew.	LS - Ecosystem /Env. Issues/ Survival	LS - Evolution/ Organisms /Systems					E - Govt	E - Govt/ Tech	E - Govt/ Tech	E - Govt/ Tech	HL	HL	HL	HL	
															BS - Current Social	BS - Current Social	BS - Current Social	HL	HL	HL	HL	
														E - Scarcity/ Resources / Gov't/ Tech	E - Scarcity/ Resources / Gov't/ Tech	E - Scarcity/ Resources / Gov't/ Tech	E - Scarcity/ Resources / Gov't/ Tech	CL - Gov't/ U.S, & World Affairs	CL - Citizen's Role/ U.S. & World Affairs/ Gov't Levels	CL - Citizen's Role/ Pol. Action/ Laws/ World Affairs	CL - Citizen's Role/ Pol. Action/ Laws/ World Affairs	
	Discuss: Fishing as a commercial, subsistence, and recreational activity. Overfishing and the decline of global fisheries. Variation in the cultural role of fishing.													G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts					

		Math				Science				Literacy				Social Studies				21st Century Skills				
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	
GPS, Geocaching, Orienteering, & Navigating	Create and find geocaches focused on local cultural, geological, or ecological features.	N/A	GM - Numbers/ Graphs/ Maps	GM - Numbers/ Graphs/ Maps	GM - Trig/ Graphs/ Coords.	N/A	ES - Earth Materials & Process	ES - Earth Materials, Process, & History	ES - Geochem					N/A	H - Local History/ Culture	H - Local History/ Culture	H - Local History/ Culture	N/A	TL - Digital Tools/ Real World Issues	TL - Digital Tools/ Critical Thinking	TL - Digital Media/ Tools/ Problem Solving	
							SI	SI	SI						G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	N/A	ES - Initiative	ES - Initiative	ES - Initiative	
															N/A	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	N/A	HL	HL	HL
															N/A	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	N/A	See Above	See Above	See Above
	Track the movements of a hiker/soccer game/ day's errands/cat/etc.	N/A	GM - Maps /Numbers /Graphs	GM - Maps /Numbers /Graphs	GM - Trig/ Graphs/ Coords.									N/A	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	N/A	See Above	See Above	See Above	
	Map the locations and abundance of invasive or native plant species.	N/A	GM - Maps /Numbers /Graphs	GM - Maps /Numbers /Graphs	GM - Trig/ Graphs/ Coords.	N/A	LS - Plants/ Habitats	LS - Ecosystem /Adapt.	LS - Evolution/ Ecosystem					N/A	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	N/A	See Above	See Above	See Above	
	Research & map local cultural landmarks, like pioneer cemeteries, Century Farms, or historical structures.	N/A	GM - Numbers/ Graphs/ Maps	GM - Numbers/ Graphs/ Maps	GM - Trig/ Graphs/ Coords.					N/A	R	R	R	N/A	H - Local History/ Culture	H - Local History/ Culture	H - Local History/ Culture	N/A	See Above	See Above	See Above	
											W	W	W	N/A	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	G - 21st Cen. Tools/ Regions	N/A	See Above	See Above	See Above	

		Math				Science				Literacy				Social Studies				21st Century Skills				
		Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	Gr. K-2	Gr. 3-5	Gr. 6-8	Gr. 9-12	
Hiking & Backpacking	Read, discuss, and write on <i>A Sand County Almanac</i> , <i>Walden</i> , <i>Silent Spring</i> , or another age-appropriate book.									R	R	R	R	G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts					
										W	W	W	W		BS - Current Social Issues	BS - Current Social Issues	BS - Current Social Issues	HL	HL	HL	HL	
											L	L	L	L								
											S	S	S	S								
	Gather or photograph natural materials like leaves, flowers, rocks, nuts, scat, or tracks to identify or study.					SI	SI	SI	SI										HL	HL	HL	HL
						LS - Plants/ Animals	LS - Organism/ Ecosystem	LS - Heredity/ Survival/ Cycles	LS - Evolution/ Taxonomy /Adapt.											ES - Initiative	ES - Initiative	ES - Initiative
Observe, record, and chart or graph topographical variation, species populations, weather conditions, or seasonal changes.	NO - Add/ Subtract	NO - Numbers/ Decimals/ Fractions	NO - Numbers/ Ratio/ Rate	GM - Trig/ Graphs/ Coords.	SI	SI	SI	SI										HL	HL	HL	HL	
	GM - Maps/ Graphs	GM - Maps/ Graphs	GM - Maps/ Graphs	DA -Data Analysis/ Prob.	LS - Plants/ Animals	LS - Ecosystem	LS - Cycles	LS - Systems	W	W	W	W	W	G - Human Impacts	G - Human Impacts	G - Human Impacts	G - Human Impacts	TL - Digital Tools	TL - Digital Tools	TL - Digital Tools	TL - Digital Media	
					ES - Patterns/ Weather	ES - Earth Processes/ Weather	ES - Earth History/ Climate	ES - Earth Systems/ Geochem										ES - Initiative	ES - Initiative	ES - Initiative	ES - Initiative	

