

**Course Outline: Natural
Resource Management**

CD: Environmental Resources				
Lesson Number and Title		Agricultural Standard(s)	Academic Standard(s)	Time
UNIT A. NATURAL RESOURCES				
Problem Area 1. Introduction to Natural Resources				3 weeks
LC: A1-1	Exploring Natural Resources	AE:E12-2	Sci:E12-4	
LC: A1-2	Understanding Ecology and Ecosystems	AE:E12-2	Sci:A12-2	
LC: A1-3	Understanding Human Demands on Natural Resources	AE:E12-2	Sci:E12-4	
LC: A1-4	Comprehending Natural Resource Conservation	AE:E12-2	Sci:E12-4	
LC: A1-5	Exploring Careers in Natural Resources	AE:B12-5	SS:D12-3	
LC: A1-6	Understanding Recycling and its Relationship to the Environment	AE:E12-1	Sci:E12-4	
Problem Area 2. Soil				4 weeks
LC: A2-1	Understanding the Importance of Soil	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-2	Determining Land Use	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-3	Determining the Nature of Soil	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-4	Understanding Soil Formation	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-5	Understanding Soil Color	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-6	Understanding Soil Texture and Structure	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-7	Explaining a Soil Profile	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-8	Understanding Moisture-Holding Capacity	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-9	Understanding Soil Degradation	AE:E12-1, AE:E12-2	Sci:E12-2	
LC: A2-10	Understanding Soil Erosion and Management Practices	AE:E12-1, AE:E12-2	Sci:E12-2	
Problem Area 3. Water				3 weeks
LC: A3-1	Understanding the Water Cycle and Its Importance to the Environment	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-2	
LC: A3-2	Determining Uses of Water	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
LC: A3-3	Identifying Water Sources and Quality Standards	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-2	
LC: A3-4	Identifying and Reducing Water Pollution	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
LC: A3-5	Maintaining Watersheds	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
LC: A3-6	Conducting Water Quality Tests	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
LC: A3-7	Tracking Groundwater Contamination	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	

Problem Area 4. Air				1 week
LC: A4-1	Defining Air Pollution and its Effect on Humans	AE:E12-1	Sci:E12-4	
LC: A4-2	Examining Industrial Air Pollution	AE:E12-1	Sci:E12-4	
LC: A4-3	Monitoring Air Quality	AE:E12-1	Sci:E12-4	
Problem Area 5. Outdoor Recreation				1 week
LC: A5-1	Understanding Outdoor Recreational Enterprises	AE:E12-2	Sci:E12-4	
LC: A5-2	Managing Outdoor Recreational Facilities	AE:E12-2	SS:E12-16	
LC: A5-4	Understanding the National Park System	AE:E12-2	Sci:H12-2	
UNIT B. PLANT WILDLIFE MANAGEMENT				
Problem Area 6. Prairie Ecosystems				1 week
LC: B6-1	Defining Prairies	AE:E12-1, AE:E12-2, AE:E12-4	Sci:F12-7	
LC: B6-2	Understanding the Importance of Prairies	AE:E12-1, AE:E12-2, AE:E12-4	Sci:H12-1, Sci:H12-5	
LC: B6-3	Exploring Prairie Ecology	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
Problem Area 7. Wetlands				2 weeks
LC: B7-1	Exploring Wetlands	AE:E12-1, AE:E12-2, AE:E12-4	Sci:A12-2, SS:C12-4	
LC: B7-2	Determining the Importance of Wetlands	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
LC: B7-3	Understanding Wetland Ecology	AE:E12-1, AE:E12-2, AE:E12-4	Sci:E12-4	
LC: B7-4	Establishing Wetlands	AE:E12-1, AE:E12-2, AE:E12-4	Sci:H12-5	
LC: B7-5	Maintaining Wetlands	AE:E12-1, AE:E12-2, AE:E12-4	Sci:H12-5	
UNIT F. SUPERVISED EXPERIENCE IN AGRICULTURE				2 days
Problem Area 2. Planning and Developing SAE Programs				
LC: F2-1	Researching Possible SAE Programs	AE:C12-4	ELA:F12-1	
LC: F2-2	Planning Your SAE Program	AE:C12-4	ELA:F12-1	
LC: F2-3	Implementing SAE Programs	AE:C12-4	ELA:F12-1	
CD: Physical Science Applications in Agriculture				
Lesson Number and Title		Agricultural Standard(s)	Academic Standard(s)	
UNIT B. PHYSICAL SCIENCE SYSTEMS				
Problem Area 4. Energy and Power Systems				2 weeks
LC: B4-9	Alternative Energy Sources	AE:B12-1	MA:E12-1, MA:E12-5, Sci:D12-9	

Agricultural Standards Lookup Table:

Core Area	Content Standard	Performance Standard
AE - Agricultural Education	AE:B - Technology/Information	AE:B12-1 - Apply knowledge of technology to identify and solve problems
AE - Agricultural Education	AE:B - Technology/Information	AE:B12-5 - Explore various career opportunities in the food, fiber, and natural resources industries using available forms of technology
AE - Agricultural Education	AE:C - Leadership	AE:C12-4 - Identify the connections between career choices and leadership abilities
AE - Agricultural Education	AE:E - Ecology/Environment	AE:E12-1 - Understand the application of agricultural technologies that can sustain production while reducing environmental impact
AE - Agricultural Education	AE:E - Ecology/Environment	AE:E12-2 - Analyze benefits, costs, and consequences of land use
AE - Agricultural Education	AE:E - Ecology/Environment	AE:E12-4 - Analyze practices used by farmers to reduce erosion and runoff to maintain soil fertility and productivity

Academic Standards Lookup Table:

Core Area	Content Standard	Performance Standard
ELA - English Language Arts	ELA:F - Research and Inquiry	ELA:F12-1 - Conduct research and inquiry on self-selected or assigned topics, issues, or problems and use an appropriate form to communicate their findings.
MA - Mathematics	MA:E - Statistics and Probability	MA:E12-1 - Work with data in the context of real-world situations
MA - Mathematics	MA:E - Statistics and Probability	MA:E12-5 - Determine the likelihood of occurrence of complex events
Sci - Science	Sci:A - Science Connections	Sci:A12-2 - Show how conflicting assumptions about science themes lead to different opinions and decisions about evolution, health, population, longevity, education, and use of resources, and show how these opinions and decisions have diverse effects on an individual, a community, and a country, both now and in the future
Sci - Science	Sci:D - Physical Science	Sci:D12-9 - Describe* models* of light, heat, and sound and through investigations* describe* similarities and differences in the way these energy* forms behave
Sci - Science	Sci:E - Earth and Space Science	Sci:E12-2 - Analyze* the geochemical and physical cycles of the earth and use them to describe* movements of matter
Sci - Science	Sci:E - Earth and Space Science	Sci:E12-4 - Analyze* the benefits, costs, and limitations of past, present, and projected use of resources and technology and explain* the consequences to the environment
Sci - Science	Sci:F - Life and Environmental Science	Sci:F12-7 - Investigate how organisms both cooperate and compete in ecosystems

Academic Standards Lookup Table:

Core Area	Content Standard	Performance Standard
Sci - Science	Sci:H - Science in Personal and Social Perspectives	Sci:H12-1 - Using the science themes and knowledge of the earth and space, life and environmental, and physical sciences, analyze the costs, risks, benefits, and consequences of a proposal concerning resource management in the community and determine the potential impact of the proposal on life in the community and the region
Sci - Science	Sci:H - Science in Personal and Social Perspectives	Sci:H12-2 - Evaluate proposed policy recommendations (local, state, and/or national) in science and technology for validity, evidence, reasoning, and implications, both short and long-term
Sci - Science	Sci:H - Science in Personal and Social Perspectives	Sci:H12-5 - Investigate how current plans or proposals concerning resource management, scientific knowledge, or technological development will have an impact on the environment, ecology, and quality of life in a community or region
SS - Social Studies	SS:C - Political Science and Citizenship	SS:C12-4 - Explain the multiple purposes of democratic government, analyze historical and contemporary examples of the tensions between those purposes, and illustrate how governmental powers can be acquired, used, abused, or legitimized
SS - Social Studies	SS:D - Economics	SS:D12-3 - Analyze and evaluate the role of Wisconsin and the United States in the world economy
SS - Social Studies	SS:E - Behavioral Sciences	SS:E12-16 - Identify and analyze factors that influence a person's mental health