

WILDLIFE CURRICULUM

Course 18088

Wildlife will introduce students to the major animals common to Pennsylvania. Students will also learn to identify animals by their tracks and by skulls. The course also covers human impact on the environment and principles of wildlife management. Topics to be covered are: sustainable use of natural resources, animal identification, bird identification and nesting, and wildlife management.

WILDLIFE OUTLINE:

Goals	Skills	Summative Assessments	Time Frame	Main Resources
<ul style="list-style-type: none">• Understand how humans can effect ecosystems.• Know the various resources (renewable and nonrenewable) available in Pennsylvania.• Explain how new technologies affect the use and management of our natural resources.• Explain the importance of habitat management for species survival.	<ul style="list-style-type: none">• Identify various animal tracks common to PA.• Identify PA animals by their skulls.• Identify majority of Pa. wildlife.	Tests	1/2-year	

WILDLIFE MAP:

TIME FRAME	BIG IDEAS	CONCEPTS	ESSENTIAL QUESTIONS	STANDARDS	OBJECTIVES	DIFFERENTIATION	ASSESSMENT
Unit 1 (Weeks 1-4)	<ul style="list-style-type: none"> Sustainable use of natural resources is essential to provide for the needs and wants of all living things now and in the future 	<ol style="list-style-type: none"> Humans can cause changes directly and indirectly to ecosystems over time. Pennsylvanians use different food and fibers as renewable resources 	<ul style="list-style-type: none"> How are the needs and wants of all living things (including humans) directly connected to successful management of natural resources? 	<p>4.1.12.A Analyze the significance of biological diversity in an ecosystem.</p> <p>Explain how species adapt to limiting factors in an ecosystem.</p> <p>Analyze the differences between natural causes and human causes of extinction.</p> <p>Research wildlife management laws and their effects on biodiversity.</p> <p>4.2.12.B Analyze the effects of policies and regulations at various governmental levels on wetlands and their surrounding environments.</p> <p>Examine various public policies relating to wetlands.</p> <p>Investigate the intended and unintended effects of public policies and regulations relating to wetlands.</p> <p>4.3.12.A Evaluate the advantages and disadvantages of using renewable and nonrenewable resources.</p> <p>Explain how consumption rate affects the sustainability of resource use. Evaluate the advantages and disadvantages of using renewable resources such as solar power, wind power, and biofuels.</p> <p>4.3.12.B</p>	<ul style="list-style-type: none"> Identify the animal by the track it makes. Know how to make track impressions. Explain the usefulness of knowing the particular animal that made the track. 	<p>Animal guide books</p> <p>Track imprints</p> <p>Track making materials</p>	<p>Tests</p> <p>Quizzes</p> <p>Projects</p>

				<p>Analyze factors that influence the local, regional, national, and global availability of natural resources.</p> <p>Compare the use of natural resources in different countries.</p> <p>Analyze the social, economic, and political factors that affect the distribution of natural resources (e.g., wars, political systems, classism, racism).</p> <p>BIO.B.4.2.3 Describe how matter recycles through an ecosystem (i.e., water cycle, carbon cycle, oxygen cycle, nitrogen cycle).</p> <p>BIO.B.4.2.4 Describe how ecosystems change in response to natural and human disturbances (e.g., climate changes, introduction of nonnative species, pollution, fires).</p> <p>BIO.B.4.2.5 Describe the effects of limiting factors on population dynamics and potential species extinction.</p>			
Unit 2 (Weeks 5-8)	<ul style="list-style-type: none"> Sustainable use of natural resources is essential to provide for the needs and wants of all living things now and in the future. 	<ol style="list-style-type: none"> Pennsylvanians use different food and fibers as renewable resources. New technologies affect the use and management of our natural resources. Humans can cause changes directly and indirectly to ecosystems over time. 	<ul style="list-style-type: none"> How are the needs and wants of all living things (including humans) directly connected to successful management of natural resources? 	<p>4.1.12.A Analyze the significance of biological diversity in an ecosystem.</p> <p>Explain how species adapt to limiting factors in an ecosystem.</p> <p>Analyze the differences between natural causes and human causes of extinction.</p> <p>Research wildlife management laws and their effects on biodiversity.</p> <p>4.2.12.B Analyze the effects of policies and regulations at various governmental levels on wetlands</p>	<ul style="list-style-type: none"> Identify the animal by the skull. Know how to clean skulls properly. Explain the usefulness of knowing the particular animal by identifying the skull. 	Wildlife guides skull cleaning materials and utensils	Tests Quizzes Projects

				<p>and their surrounding environments.</p> <p>Examine various public policies relating to wetlands.</p> <p>Investigate the intended and unintended effects of public polices and regulations relating to wetlands.</p> <p>4.5.12.C Analyze the costs and benefits of means to control pollution.</p> <p>Analyze the role of technology in the reduction of pollution.</p> <p>Research and analyze the local, state, and national laws that deal with point and non-point source pollution.</p> <p>Explain mitigation and its role in maintaining environmental health.</p> <p>BIO.B.4.2.4 Describe how ecosystems change in response to natural and human disturbances (e.g., climate changes, introduction of nonnative species, pollution, fires).</p> <p>BIO.B.4.2.5 Describe the effects of limiting factors on population dynamics and potential species extinction.</p>			
Unit 3 (Weeks 9-12)	<ul style="list-style-type: none"> Sustainable use of natural resources is essential to provide for the needs and wants of all living things now and in the future. 	<ol style="list-style-type: none"> Pennsylvanians use different food and fibers as renewable resources. New technologies affect the use and management of our natural resources. 	<ul style="list-style-type: none"> How are the needs and wants of all living things (including humans) directly connected to successful management of natural resources? 	<p>4.1.12.A Analyze the significance of biological diversity in an ecosystem.</p> <p>Explain how species adapt to limiting factors in an ecosystem. Analyze the differences between natural causes and human causes of extinction. Research wildlife management laws and their effects on biodiversity.</p>	<ul style="list-style-type: none"> Identify nest making materials for different species of birds. Explain the importance of nest and egg identification. Explain the importance of habitat 	<p>Bird Identification charts</p> <p>Wildlife books</p> <p>Nest building instructions.</p>	<p>Tests</p> <p>Quizzes</p> <p>Projects</p>

		3. Humans can cause changes directly and indirectly to ecosystems over time		<p>4.2.12.B Analyze the effects of policies and regulations at various governmental levels on wetlands and their surrounding environments.</p> <p>Examine various public policies relating to wetlands.</p> <p>Investigate the intended and unintended effects of public policies and regulations relating to wetlands.</p> <p>BIO.B.4.2.4 Describe how ecosystems change in response to natural and human disturbances (e.g., climate changes, introduction of nonnative species, pollution, fires).</p> <p>BIO.B.4.2.5 Describe the effects of limiting factors on population dynamics and potential species extinction.</p>	management for species survival.		
Unit 4 (Weeks 13-18)	<ul style="list-style-type: none"> Sustainable use of natural resources is essential to provide for the needs and wants of all living things now and in the future. 	<ul style="list-style-type: none"> Pennsylvanians use different food and fibers as renewable resources. New technologies affect the use and management of our natural resources. Humans can cause changes directly and indirectly to ecosystems over time 	<ul style="list-style-type: none"> How are the needs and wants of all living things (including humans) directly connected to successful management of natural resources? 	<p>4.1.10.A Examine the effects of limiting factors on population dynamics.</p> <p>Analyze possible causes of population fluctuations.</p> <p>Explain the concept of carrying capacity in an ecosystem.</p> <p>Describe how organisms become classified as threatened or endangered.</p> <p>Describe how limiting factors cause organisms to become extinct.</p> <p>4.1.10.B Explain the consequences of interrupting natural cycles.</p> <p>4.1.10.E</p>	<ul style="list-style-type: none"> Identify majority of Pa. wildlife Learn to manage habitat for Pa. wildlife Explain the importance of knowing Pa. wildlife. 	<p>Animal Study Guides</p> <p>Wildlife I.D. charts</p> <p>Power points on each animal studied.</p>	<p>Tests</p> <p>Quizzes</p> <p>Projects</p>

Analyze how humans influence the pattern of natural changes (e.g. primary / secondary succession and desertification) in ecosystems over time.

BIO.B.4.1.1
Describe the levels of ecological organization (i.e., organism, population, community, ecosystem, biome, biosphere).

BIO.B.4.2.2
Describe biotic interactions in an ecosystem (e.g., competition, predation, symbiosis).

BIO.B.4.2.4
Describe how ecosystems change in response to natural and human disturbances (e.g., climate changes, introduction of nonnative species, pollution, fires).

BIO.B.4.2.5
Describe the effects of limiting factors on population dynamics and potential species extinction.

S11.A.1.3.1
Use appropriate quantitative data to describe or interpret change in systems (e.g., biological indices, electrical circuit data, automobile diagnostic systems data).

S11.A.1.3.2
Describe or interpret dynamic changes to stable systems (e.g., chemical reactions, human body, food webs, tectonics, homeostasis).

S11.A.1.3.3
Describe how changes in physical and biological indicators (e.g., soil, plants, animals) of water systems reflect changes in these systems (e.g. changes in bloodworm populations reflect

changes in pollution levels in streams).

S11.A.1.3.4
Compare the rate of use of natural resources and their impact on sustainability.

S11.B.3.1.1
Explain the significance of diversity in ecosystems.

S11.B.3.1.2
Explain the biotic (i.e., plant, animal, and microbial communities) and abiotic (i.e., soil, air, temperature, and water) components of an ecosystem and their interaction.

S11.B.3.1.3
Describe how living organisms affect the survival of one another.

S11.B.3.1.4
Compare the similarities and differences in the major biomes (e.g., desert, tropical rain forest, temperate forest, coniferous forest, tundra) and the communities that inhabit them.

S11.B.3.1.5
Predict how limiting factors (e.g., physical, biological, chemical) can affect organisms.

S11.B.3.2.1
Use evidence to explain how cyclical patterns in population dynamics affect natural systems.

S11.B.3.2.2
Explain biological diversity as an indicator of a healthy environment.

S11.B.3.2.3
Explain how natural processes (e.g., seasonal change, catastrophic events, habitat alterations) impact the environment over time.

S11.B.3.3.1

			<p>Describe different human-made systems and how they use renewable and nonrenewable natural resources (i.e., energy, transportation, distribution, management, and processing). S11.B.3.3.2</p> <p>Compare the impact of management practices (e.g., production, processing, research, development, marketing, distribution, consumption, byproducts) in meeting the need for commodities locally and globally. S11.B.3.3.3</p> <p>Explain the environmental benefits and risks associated with human made systems (e.g., integrated pest management, genetically engineered organisms, organic food production).</p>			
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