ENVIRONMENTAL RESOURCES: SOIL AND WATER

Curriculum Content Framework

Please Note: All assessment questions will be taken from the knowledge portion of these frameworks.

Curriculum Advisory Committee
Warren Carter — Arkansas Farm Bureau
Clint Hale — Prairie Grove High School
Neal Mays — Marshall High School
Evan Teague — Arkansas Farm Bureau
Michael Vines — Sheridan High School

Facilitated By
Agricultural Education Staff
Arkansas Department of Workforce Education —
Marion Fletcher, Bruce Lazarus, Dr. Ann Horne, and Bart Draper

Project Consultants
Dr. Jasper S. Lee, Ronald J. Biondo, and Daniel J. Pentony
Center for Agricultural and Environmental Research & Training (CAERT), Inc.
Danville, IL 61832

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Curriculum Content Framework
ENVIRONMENTAL RESOURCES: SOIL AND WATER

Grade Levels: 10, 11, 12
Course Code: 491230
Prerequisite: None

Course Description: This course focuses on environmental concerns related to soil, air, and water. Emphasis is placed on soil and water in relation to agricultural processes. Students also will investigate ways to prevent contamination and conserve soil and water.

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Unit 1: Environmental Concerns
5 Hours

Terminology: Biome, Career Development Event (CDE), Conservation, Ecosystem, Environment, Food chain, Habitat, Natural resource, Nonrenewable natural resource, Preservation, Proficiency, Renewable natural resource, Supervised Agriculture Experience (SAE)

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				**ACADEMIC AND WORKPLACE SKILLS** What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
1.1	Define terms	1.1.1	Match terms with definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
1.2	Identify areas of environmental concern	1.2.1	Research each area of environmental concern (soil, water, wildlife, air, climate, wetlands, and waste management)	Foundation	Reading	Uses written resources (books, dictionaries, directories) to obtain factual information [1.3.23]
1.3	Discuss career opportunities relating to environmental science	1.3.1	Research a career in environmental resource management to determine educational requirements, working conditions, and salary	Foundation Personal Management	Listening Writing Career Awareness, Development, and Mobility	Listens for conversation [1.2.4] Listens to follow directions [1.2.6] Uses language, style, organization, and format appropriate to subject matter, purpose, and audience [1.6.19] Develops skills to locate, evaluate, and interpret career information [3.3.4]
1.4	Identify FFA activities that support an interest in soil and water management	1.4.1	Participate in FFA activities related to environmental resources.	Foundation Personal Management	Reading Organizational Effectiveness	Draws conclusions from what is read [1.3.12] Identifies relevant details, facts, and specifications [1.3.16] Identifies characteristics desired by organization [3.3.6]

Unit 2: Safety in Environmental Resources
3 Hours

Terminology: Accident, Hazard, Material safety data sheet (MSDS), Risk, Safety

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
2.1	Define terms	2.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
2.2	Discuss the meaning and importance of safety and safe work with environmental resources	2.2.1	Relate examples of safety hazards associated with environmental resources.	Foundation	Reading	Distinguishes between fact and opinion [1.3.11]
		2.2.2	Have students name examples of accidents that have occurred locally in environmental resources work		Speaking	Asks questions to obtain information [1.5.4]
						Communicates a thought, idea, or fact in spoken form [1.5.5]
				Personal Management Skills	Integrity/Honesty/ Work Ethic	Complies with safety and health rules in a given work environment [3.2.2]
2.3	Identify hazards in environmental resources	2.3.1	Survey hazardous situations in local environmental resources facilities and prescribe the appropriate safety measures to be taken and propose ways of eliminating or reducing the risk of these hazards	Foundation	Reading	Analyzes and applies what has been read to specific task [1.3.2]
		2.3.2	Develop a list of practices to reduce risk when working with environmental resources	Personal Management Skills	Integrity/Honesty/ Work Ethic	Complies with safety and health rules in a given work environment [3.2.2]
2.4	Describe the importance of personal safety in environmental resources	2.4.1	Identify and properly use appropriate personal protective equipment (PPE) with environmental resources	Thinking	Problem Solving	Demonstrates logical reasoning in reaching a conclusion [4.4.2]
		2.4.2	Calculate the cost of personal protective equipment (PPE) for an individual involved with environmental resources			Recognizes/Defines problem [4.4.8]
		2.4.3	Work together with others to promote safety in environmental resources	Foundation	Arithmetic/ Mathematics	Calculates dollar amounts [1.1.7]
		2.4.4	Take a test on environmental resources safety before beginning work	Interpersonal	Negotiation	Works to resolve conflict between two or more individuals [2.5.3]

Unit 3: Soils
12 Hours

Terminology: Cover crop, Crop rotation, Infiltration, Land capability classes, Macronutrient, Micronutrient, Mottling, Organic matter, Parent material, Permeability, Rill erosion, Sheet erosion, Silt fence, Soil conservation, Soil erosion, Soil fertility, Soil pH, Soil profile, Soil structure, Soil texture, Soil triangle, Strip cropping, Terrace

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do		**ACADEMIC AND WORKPLACE SKILLS** What the Instruction Should Reinforce		
Knowledge	**Application**	**Skill Group**	**Skill**	**Description**
3.1 Define terms	3.1.1 Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
3.2 Explain how soils are formed	3.2.1 Use a soil survey to explain the origin of local soils	Foundation	Speaking	Pronounces words correctly [1.5.9] Uses proper voice inflection [1.5.13]
3.3 List the components of soil (e.g., mineral, organic, water, air, life)	3.3.1 Give an oral report on the components of soil 3.3.2 Examine soil under a microscope	Foundation	Science	Describes/Explains scientific principles related to soil [1.4.14]
3.4 Discuss how soil texture is determined	3.4.1 Conduct a soil sedimentation test for different types of soil samples 3.4.2 Conduct a ribbon test to determine soil texture	Foundation	Science	Chooses appropriately from a variety of scientific methods and techniques to complete a task [1.4.9]
3.5 Describe soil structure.	3.5.1 Determine the soil structure of several soil samples.	Foundation	Science	Describes/Explains scientific principles related to soil [1.4.14]
3.6 Label the layers found in the soil horizon (O, A, E, B, C, R)	3.6.1 Observe exposed soil to determine presence of layers	Foundation Personal Management	Science Writing Responsibility	Reads measurements from common measuring devices [1.4.21] Records data related to the soil horizon [1.4.22] Evaluates written information for appropriateness/clarity/content [1.6.9] Sets high standards for self in completion of a task [3.4.9]

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do			ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	**Application**		**Skill Group**	**Skill**	**Description**
3.7 List the factors that contribute to soil erosion (e.g., wind, water)	3.7.1	Set up a erosion model	Foundation	Listening	Listens for content [1.2.3]
	3.7.2	Take a field trip to eroded areas			Listens for long-term context [1.2.7]
				Reading	Applies/Understands technical words that pertain to subject [1.3.6]
			Thinking	Creative Thinking	Combines ideas or information in a new way [4.1.2]
					Makes connections between seemingly unrelated ideas [4.1.6]
3.8 Define the purpose and characteristics of land capability classes	3.8.1	Classify land areas around the school according to their capabilities	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]
	3.8.2	Use a soil survey to help determine land capability classes		Writing	Adapts notes to proper form [1.6.1]
			Thinking	Decision Making	Evaluates information/data to make best decision [4.2.5]
3.9 List major soil conservation practices	3.9.1	Take a field trip to see different soil conservation practices	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]
				Writing	Adapts notes to proper form [1.6.1]
			Thinking	Decision Making	Evaluates information/data to make best decision [4.2.5]
3.10 Explain how to interpret a soil test analysis	3.10.1	Interpret soil test analysis reports	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]
				Writing	Adapts notes to proper form [1.6.1]
			Thinking	Decision Making	Evaluates information/data to make best decision [4.2.5]
3.11 Explain the movement of water into and through the soil profile	3.11.1	Dig a pit or visit a road cut to see mottling of poorly drained soil	Foundation	Science	Describes/Explains scientific principles related to soil [1.4.14]

Unit 4: Water
10 Hours

Terminology: Aquifer, Groundwater, Hydrologic cycle, Irrigation, Runoff, Surface water, Watershed, Water table

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
4.1	Define terms	4.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
4.2	Explain the importance of surface water and its major uses	4.2.1	Map out the hydrologic cycle	Foundation Personal Management	Reading Responsibility	Uses graphs/charts/tables to obtain factual information [1.3.21] Comprehends ideas and concepts related to responsible water use [3.4.2]
4.3	Discuss groundwater and the water table	4.3.1	Using a groundwater model, trace the pathways of water to the water table	Foundation Thinking	Writing Seeing Things in the Mind's Eye	Presents answers/conclusions in a clear and understandable form [1.6.13] Uses words appropriately [1.6.21] Imagines flow of work activities from narrative descriptions [4.6.1] Uses senses to perceive the process of replenishing ground water [4.6.5]
4.4	Describe the process for testing ground water quality	4.4.1 4.4.2	Test water samples from the community Identify problem areas in the community, using water samples	Foundation	Reading Writing	Determines what information is needed [1.3.10] Follows written directions [1.3.13] Applies/Uses technical words and concepts [1.6.4] Checks, edits, and revises document for correct information, appropriate emphasis, form, grammar, spelling, and punctuation [1.6.5]

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
4.5	Describe the process for testing surface water quality	4.5.1	Test the quality of surface water using a test kit	Foundation	Reading Writing	Determines what information is needed [1.3.10] Follows written directions [1.3.13] Applies/Uses technical words and concepts [1.6.4] Checks, edits, and revises document for correct information, appropriate emphasis, form, grammar, spelling, and punctuation [1.6.5]
4.6	Describe water conservation methods as related to irrigation, animal production, and human use	4.6.1	Develop a plan to conserve water used for irrigation, animal production, and human use	Foundation	Reading Science Writing	Locates pertinent information in documents – such as manuals, graphs, and schedules – to perform tasks [1.3.18] Analyzes environmental issues (ecology, pollution, waste management) [1.4.2] Takes notes from various sources [1.6.18]
4.7	Discuss the purposes of dams and their effects on the environment	4.7.1	Research the various dam areas in the United States, and present your findings in a speech	Foundation	Science Speaking	Describes/Explains scientific principles related to water storage [1.4.14] Responds to listener feedback [1.5.10] Speaks effectively, using appropriate eye contact, gestures, and posture [1.5.11]

Unit 5: Air
8 Hours

Terminology: Acid rain, Air pollutant, Air pollution, Air quality, Air quality standard, Emission, Nonpoint source pollution, Particulate, Point source pollution

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
5.1	Define terms	5.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
5.2	Describe the kinds and sources of air pollution	5.2.1	Identify the sources of air pollution in your community	Foundation	Speaking	Communicates a thought, idea, or fact in spoken form [1.5.5]
		5.2.2	Choose one source of air pollution in the community, and present a paper on solving the problem	Thinking	Creative Thinking	Develops visual aids to increase audience interest [4.1.4] Prepares presentation based on subject research, interviews, surveys [4.1.10]
5.3	Discuss the influence of air pollution on the environment	5.3.1	Survey the area for sources of air pollution	Foundation	Speaking	Participates in conversation, discussion, and group presentations [1.5.8]
		5.3.2	Research the affects of air pollution on the environment, and present your findings in a speech			Speaks effectively, using appropriate eye contact, gestures, and posture [1.5.11]
				Interpersonal	Teamwork	Contributes to group with ideas, suggestions, and effort [2.6.2]

Unit 6: Wetlands
9 Hours

Terminology: Biological wetland damage, Bog, Chemical wetland damage, Estuary, Freshwater wetland, Marsh, Physical wetland damage, Saltwater marsh, Saltwater wetland, Swamp, Wetland, Wetland restoration, Wet meadow

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
6.1	Define terms	6.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
6.2	Discuss the types of wetlands	6.2.1	Invite a wetlands expert to address the class on the value of wetlands	Foundation	Science	Chooses appropriately from a variety of scientific methods and techniques to complete a task [1.4.9]
		6.2.2	Identify wetland areas in your community		Speaking	Pronounces words correctly [1.5.9]
				Interpersonal	Teamwork	Contributes to group with ideas, suggestions, and effort [2.6.2]
6.3	Explain the importance of wetlands	6.3.1	Research the importance of wetlands and give a brief report	Foundation	Writing	Presents answers/conclusions in a clear and understandable form [1.6.13] Uses words appropriately [1.6.21]
				Thinking	Seeing Things in the Mind's Eye	Imagines flow of work activities from narrative descriptions [4.6.1] Uses senses to perceive the process of replenishing ground water [4.6.5]
6.4	Discuss the destruction of wetlands	6.4.1	Outline a method of wetland destruction and its ramifications to the environment	Foundation	Science	Describes/Explains scientific principles related to water storage [1.4.14]
					Speaking	Responds to listener feedback [1.5.10] Speaks effectively, using appropriate eye contact, gestures, and posture [1.5.11]

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do			ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge	**Application**		**Skill Group**	**Skill**	**Description**
6.5 Discuss wetland conservation	6.5.1	Visit the Soil Conservation Service to discuss the various wetland conservation programs available to landowners	Foundation	Speaking	Participates in conversation, discussion, and group presentations [1.5.8]
			Interpersonal	Teamwork	Contributes to group with ideas, suggestions, and effort [2.6.2] Works effectively with others to reach a common goal [2.6.6]
6.6 Discuss the construction of wetlands	6.6.1	Conduct Internet research on wetlands construction in Arkansas	Foundation	Reading	Locates pertinent information in documents – such as manuals, graphs, and schedules – to perform tasks [1.3.18]
				Science	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]
				Writing	Takes notes from various sources [1.6.18]

Unit 7: Waste Management
8 Hours

Terminology: Biodegradable wastes, Detoxification, Domestic wastewater, Effluent, Eutrophication, Hazardous waste, Health hazard, Landfill, Radioactive waste, Recycling, Solid waste, Spill, Toxicity, Wastewater

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				**ACADEMIC AND WORKPLACE SKILLS** What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
7.1	Define terms	7.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
7.2	Explain the kinds and sources of wastewater	7.2.1	Tour a wastewater treatment facility	Foundation	Writing	Presents answers/conclusions in a clear and understandable form [1.6.13]
		7.2.2	Take a tour of an animal production facility where wastewater is treated on site			Uses words appropriately [1.6.21]
		7.2.3	Research Arkansas regulations pertaining the wastewater treatment	Thinking	Seeing Things in the Mind's Eye	Imagines flow of work activities from narrative descriptions [4.6.1] Uses senses to perceive the process of replenishing ground water [4.6.5]
7.3	Discuss the kinds and sources of solid waste	7.3.1	Report on approved methods to dispose of poultry litter	Foundation	Reading	Applies information and concepts derived from printed materials [1.3.3]
		7.3.2	Report on approved methods for the disposal of animal carcasses		Science	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]
7.4	Discuss the kinds and sources of hazardous waste	7.4.1	Identify potential sources of hazardous waste in the community	Foundation	Listening	Listens for conversation [1.2.4]
		7.4.2	Research the laws of your community and state regarding hazardous waste		Speaking	Participates in conversation, discussion, and group presentations [1.5.8]

Unit 8: Biological Processes
5 Hours

Terminology: *Animalia* , Compost, Consumer, Decomposer, *Fungi* , Microbiology, Microscopic organisms, *Monera* , *Plantae* , Producer, *Protista*

CAREER AND TECHNICAL SKILLS What the Student Should be Able to Do				ACADEMIC AND WORKPLACE SKILLS What the Instruction Should Reinforce		
Knowledge		**Application**		**Skill Group**	**Skill**	**Description**
8.1	Define terms	8.1.1	Match terms to their definitions	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
8.2	Discuss the importance of the nutrient cycles	8.2.1	Diagram nutrient cycles	Foundation	Listening Speaking	Listens for conversation [1.2.4] Participates in conversation, discussion, and group presentations [1.5.8]
8.3	Explain the composting process and its value	8.3.1	Construct a compost bin or other system for composting organic matter	Foundation	Reading Science	Applies information and concepts derived from printed materials [1.3.3] Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]

Glossary
Unit 1: Environmental Concerns

1. Biome ─ a large ecological community, such as a wetland, temperate forest, tundra, or prairie

2. Career Development Event (CDE) ─ competitive activities in the FFA that measure individuals and teams in the application of classroom-acquired knowledge; activities specifically designed to promote career skill acquisition in agriculture education

3. Conservation ─ the wise use of natural resources

4. Ecosystem ─ all the parts of a particular environment

5. Environment ─ all the factors that affect a living thing

6. Food chain ─ the ranking of species into successive levels in which each feeds on the one below

7. Habitat ─ the physical area where a plant or animal lives under natural conditions

8. Natural resource ─ a naturally occurring material or organism that supports life, provides fuel, or is used in other ways by humans

9. Nonrenewable natural resource ─ a resource, such as gold, that cannot be replaced when it is used up

10. Preservation ─ an attempt to prevent the use of some natural resources or the modification of an environment simply for the sake of keeping it intact

11. Proficiency ─ FFA awards based largely on students' leadership and innovation in developing successful SAEs

12. Renewable natural resource ─ a resource – such as air, soil, and wildlife – that can be replaced when it is used

13. Supervised Agriculture Experience (SAE) ─ the planned application of skills learned in agriculture classes

Unit 2: Safety in Environmental Resources

1. Accident ─ an event that happens unexpectedly or unintentionally
2. Hazard ─ exposure to danger or harm
3. Material safety data sheet (MSDS) ─ a sheet containing information about the safe use and a chemical and the steps to take in case of an accident
4. Risk ─ the chance that an accident might occur during a research project
5. Safety ─ a state of being free of danger and injury

Unit 3: Soil

1. Cover crop ─ a crop planted to protect the soil and increase fertility; a crop planted after the harvest of another crop or between the rows of other crops
2. Crop rotation ─ the alternation of one crop with one or more other crops to promote soil conservation, to improve soil structure, and for numerous other benefits
3. Infiltration ─ the movement of surface water into the soil, soaking-in
4. Land capability classes ─ a system of classifying land based on its highest potential use
5. Macronutrient ─ essential elements for plant growth that are needed in large quantities
6. Micronutrient ─ essential elements for plant growth that are needed in small quantities
7. Mottles ─ spotting or color differences seen in soils, common to poorly drained soil
8. Organic matter ─ decaying plant and animal remains
9. Parent material ─ the mass of mineral and organic matter from which soil is formed
10. Permeability ─ the downward movement of water within the soil, internal drainage or percolation
11. Rill erosion ─ the formation of small channels on sloping land where running water from precipitation washes soil away
12. Sheet erosion ─ the wearing away of thin layers or sheets of soil
13. Silt fence ─ a barrier of bales of hay, plastic strips, or other materials placed at the bottom of slopes to allow water to flow through but hold the soil
14. Soil conservation ─ the use of practices to minimize the damage or loss of soil
15. Soil erosion ─ the process by which soil is moved
16. Soil fertility ─ the capacity of a soil to supply essential elements for plant growth
17. Soil pH ─ the acidity or alkalinity of soil
18. Soil profile ─ a vertical section of soil at a specific site
19. Soil Structure ─ the way in which aggregates or clusters of soil particles are arranged
20. Soil texture ─ the proportion of sand, silt, and clay in soil
21. Soil triangle ─ a graphic explanation of the proportions of sand, silt, and clay in soil
22. Strip cropping ─ planting alternating strips of crops on sloping land
23. Terrace ─ a ridge or row of earth mounds placed across a slope to prevent movement

Unit 4: Water

1. Aquifer ─ an underground stream or pool in sand or gravel layers

2. Groundwater ─ water found in pores, cracks, and openings of soil and rock

3. Hydrologic cycle ─ the circulation of water from one part of the hydrosphere to another

4. Irrigation ─ the artificial application of water to land

5. Runoff ─ the flow of water from rain, snowmelt, and other sources over the land surface

6. Surface water ─ water from lakes, streams, reservoirs, and oceans

7. Watershed ─ an area of land from which all the water that does not infiltrate the soil runs to a downhill location

8. Water table ─ the depth of the natural level of free water below the surface of the earth; point in the earth where all the spaces are filled and no more water can be held; natural level of free water below the surface of the earth

Unit 5: Air

1. Acid rain ─ any precipitation that is more acidic than normal; rain containing acid
2. Air pollutant ─ any material that causes air pollution
3. Air pollution ─ the presence of materials in the air that damage air quality
4. Air quality ─ the suitability of the air for use by living organisms
5. Air quality standard ─ the maximum level of atmospheric pollution allowed at one time in a geographical area
6. Emission ─ a gas-borne pollutant that is released into the air
7. Nonpoint source pollution ─ pollution from sources that cannot be directly traced to any single point of discharge
8. Particulates ─ small solid particles of air pollution
9. Point source pollution ─ a specific place where air pollution originates

Unit 6: Wetlands

1. Biological wetland damage ─ the damage that occurs when life forms are introduced into or removed from a wetland
2. Bog ─ a wetland area that contains large amounts of rich organic matter known as peat
3. Chemical wetland damage ─ damage that results when the water in a wetland is contaminated with chemical substances
4. Estuary ─ an area where freshwater streams flow into saltwater oceans or lakes
5. Freshwater wetland ─ wetland with fresh water that can be divided into marshes, bogs, and swamps
6. Marsh ─ a wetland where the presence of water fluctuates from season to season in accordance with local rainfall
7. Physical wetland damage ─ damage that results from trying to change a wetland area into another use
8. Saltwater marsh ─ a wetland area near the ocean that is covered with sea grasses
9. Saltwater wetland ─ a wetland found along coastlines throughout the world
10. Swamp ─ a wetland that contains woody plants, such as shrubs and trees; saturated with water in the rainy season and may dry up during the dry season
11. Wetland ─ an area that, at least periodically, has water covering the ground
12. Wetland restoration ─ the act of converting former wetlands back into wetlands; the wetland is restored and allowed to return to its natural state; includes re-establishing the hydrology and native vegetation to original condition and protecting the functions and values of wetlands
13. Wet meadow ─ wetland that floods annually

Unit 7: Waste Management

1. Biodegradable wastes ─ wastes that can be decomposed by bacteria and other organisms
2. Detoxification ─ the removal of toxins from a material
3. Domestic wastewater ─ the wastewater produced by humans in their daily lives from homes, hotels, dormitories, schools, and other non-manufacturing sources
4. Effluent ─ the water that flows from a treatment facility or factory into a stream, lake, or ocean; wastewater that usually has been treated to prepare it for release
5. Eutrophication ─ a deficiency in oxygen that occurs when the water has a nutrient level that is too high
6. Hazardous waste ─ a solid, liquid, or vapor waste that is potentially dangerous to human health or the environment
7. Health hazard ─ a condition that endangers human health
8. Landfill ─ an area of excavated land where wastes are placed for permanent disposal
9. Radioactive waste ─ a waste that emits radiation of some type
10. Recycling ─ the reuse of a product or waste material in making something new
11. Solid waste ─ garbage, refuse, sludge, and other discarded material; nonliquid waste materials that do not dissolve in water or other solvents
12. Spill ─ an uncontrolled discharge of material
13. Toxicity ─ the degree to which a waste is poisonous
14. Wastewater ─ used water that contains dissolved or suspended matter

Unit 8: Biological Processes

1. *Animalia* ─ the kingdom that consists of about a million species, ranging from tiny spiders and wasps to large whales and elephants; these species differ from plants in that cells do not have walls, food is obtained by eating plants and other animals, and they can move about

2. Compost ─ a mixture of decaying organic matter used to fertilize soil

3. Consumer ─ an organism that feeds on producers

4. Decomposer ─ an organism, such as a mushroom or bacterium, that breaks down the bodies of dead plants and animals

5. *Fungi* ─ organisms in the kingdom that includes yeasts, mildews, and mushrooms

6. Microbiology ─ the study of microscopic organisms

7. Microscopic organism ─ an organism that can be seen only with magnification

8. *Monera* ─ the kingdom consisting of tiny, one- celled organisms that lack complex cells

9. *Plantae* ─ the kingdom in which there are about 350,000 species; plants contain many cells and make their food by photosynthesis

10. Producer ─ an organism that takes nutrients and energy from nonliving sources and makes them into food

11. *Protista* ─ the kingdom of one-celled organisms that may exist singly or in groups