

AGRICULTURAL SCIENCE

Curriculum Content Framework

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Curriculum Content Framework

AGRICULTURAL SCIENCE

Grade Levels: 9, 10, 11, 12

Course Code: 491140

Prerequisite: None

Course Description: A foundation course for all agriculture programs of study. Topics covered include general agriculture, FFA, leadership, record keeping, supervised agricultural experience, agricultural safety, forestry and natural resources, plant and soil science, and animal science.

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Unit 1: Introduction to Agricultural Science

10 Hours

Terminology: agribusiness, agriculture, agricultural industry, agricultural mechanics, agriscience, aquaculture, biotechnology, EPA, FEMA, horticulture, issue, USDA

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	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
1.2 Explain the importance of agriculture in meeting human needs	1.2.1 Create a collage showing how agriculture is a part of your life and meets your needs	Foundation	Speaking	Asks questions to clarify information [1.5.3]
	1.2.2 Keep a record of the agricultural products you use in one week and sort them by plant or animal origin	Thinking	Creative Thinking	Asks questions to obtain information [1.5.4] Applies personal style to a drawing [4.1.11]
1.3 List and describe major areas of the agricultural industry: supplies and services, production agriculture, and marketing and processing	1.3.1 Identify local agricultural industry enterprises in each of the major areas	Foundation	Reading	Comprehends written information and applies it to a task [1.3.8]
		Thinking	Reasoning	Applies rules and principles to a new situation [4.5.1]
1.4 Discuss changes that have come about in agriculture due to technology	1.4.1 Compare farming techniques in use today with those used 100 years ago	Foundation	Reading	Determines what information is needed [1.3.10]
	1.4.2 Interview a grandparent or other older individual about changes they have seen in agriculture	Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]

1.5	Determine the impact of agriculture on the United States' economy	1.5.1	Identify the major agricultural products in the United States and in Arkansas	Foundation	Arithmetic/ Mathematics	Calculates percentages, ratios, proportions, decimals, and common fractions [1.1.10]
		1.5.2	Prepare a short report on the importance of agriculture in Arkansas	Personal Management	Responsibility	Sets high standards for self in completion of a task [3.4.9]
		1.5.3	Conduct a scavenger hunt for prices of common agricultural products and compare them with foreign markets			
1.6	Identify careers related to agriculture and discuss the general nature of the work in the careers	1.6.1	Research a career in agriculture to determine educational requirements, working conditions, and salary	Foundation	Reading	Applies information to job performance [1.3.4]
		1.6.2	Give an oral report on an agricultural career	Personal Management	Career Awareness, Development, & Mobility	Uses standard occupational resource materials [1.3.22] Develops skills to locate, evaluate, and interpret career information [3.1.4] Explores career opportunities [3.1.6]
1.7	List and explain employer expectations and personal traits for success in agricultural careers	1.7.1	Prepare and give an oral report on the personal traits needed for success in agricultural careers	Foundation	Speaking	Organizes ideas and communicates oral messages to listeners [1.5.7]
		1.7.2	Interview an employer to determine the traits for gaining employment as well as keeping and advancing in employment	Personal Management	Career Awareness, Development, and Mobility	Comprehends ideas and concepts related to agricultural science [3.1.3]
		1.7.3	Develop a personal plan to improve important career success skills			
1.8	Identify and discuss past and present issues in agriculture	1.8.1	Discuss the effect of these on society	Foundation	Reading	Distinguishes between fact and opinion [1.3.11]
		1.8.2	Discuss the pros and cons of these issues	Interpersonal	Negotiation Teamwork	Identifies inaccurate information/entries on written documents [1.3.15] Works to resolve conflict between two or more individuals [2.5.3] Contributes to group with ideas, suggestions, and effort [2.6.2]

Unit 2: The FFA 15 Hours

Terminology: CDE, FFA, leadership

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		Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
2.2 Explain the purpose and benefits of FFA membership	2.2.1 Participate in FFA activities		Foundation	Listening	Receives and interprets verbal messages [1.2.8]
	2.2.2 Gain membership in the FFA		Personal Management	Self-esteem	Presents positive image of personal attitudes and abilities [3.5.7]
2.3 Explain the relationship of the FFA to agricultural education	2.3.1 Analyze the FFA mission statement to reinforce knowledge		Foundation	Reading	Draws conclusions from what is read [1.3.12]
			Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]
2.4 Identify and explain the meaning of the official FFA emblem and colors	2.4.1 Label the parts of the FFA emblem		Foundation	Reading	Locates pertinent information in documents, such as manuals, graphs, and schedules, to perform tasks [1.3.18]
	2.4.2 Discuss the significance of national blue and corn gold		Personal Management	Listening Organizational Effectiveness	Listens for content [1.2.3] Adapts to the organization's goals, values, culture, and traditional modes of operation [3.3.1]
2.5 Outline the history of the FFA	2.5.1 Refer to the FFA chronological timeline in the Official FFA Manual		Foundation	Writing	Communicates thoughts, ideas, or facts in written form in a clear, concise manner [1.6.6]
			Thinking	Knowing How to Learn	Develops personal learning strategies—note taking, clustering related items, flash cards, etc. [4.3.2]
2.6 Discuss official FFA dress and proper use of the FFA jacket	2.6.1 Demonstrate official FFA dress and proper use of the FFA jacket as described in the Official FFA Manual		Foundation	Reading	Comprehends written information for main ideas [1.3.7]
	2.6.2 Identify the source of the FFA jacket and other official items			Arithmetic/ Mathematics	Calculates dollar amounts [1.1.7]

	2.6.3	Determine sizes and ordering costs of an FFA jacket and official items	Personal Management	Self-esteem	Creates self-confidence and positive self-image through proper grooming [3.5.3]	
2.7	Explain the significance of the FFA Creed	2.7.1	Recite the FFA Creed from memory	Foundation Personal Management	Speaking Integrity/ Honesty/ Work Ethic	Speaks in a clear, concise manner [1.5.12] Describes/Explains significance of integrity, honesty, and work ethics [3.2.4]
2.8	Identify Career Development Events in which FFA members may participate	2.8.1	List all CDE areas offered at the state and national levels	Foundation Personal Management	Reading Career Awareness, Development, & Mobility	Locates pertinent information in documents, such as manuals, graphs, and schedules, to perform tasks [1.3.18] Sets well-defined and realistic personal/career goals (short-term and long-term) [3.1.11]
2.9	Discuss the duties of FFA Chapter officers	2.9.1	Refer to the duties outlined in the National FFA Manual	Foundation Personal Management	Speaking Responsibility	Interprets nonverbal cues, such as eye contact, posture, and gestures, for meaning [1.5.6] Is punctual to class, school meetings, and work [3.4.6]
2.10	List the degrees an FFA member may earn	2.10.1	Discuss and describe the criteria for each degree that members may earn	Foundation Personal Management	Writing Career Awareness, Development, & Mobility	Writes/Prints legibly [1.6.24] Establishes and implements a plan of action [3.1.5]

Unit 3: Agricultural Leadership 15 Hours

Terminology: extemporaneous speech, minutes, motion, opening/closing ceremony, parliamentary procedure, prepared speech, vote

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	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
3.2 Discuss the importance of leadership and describe the attributes of leaders	3.2.1 Identify local citizens who are community leaders and explain why they are leaders	Foundation	Listening	Comprehends ideas and concepts related to leadership [1.2.1]
	3.2.2 Prepare a personal plan to develop leadership skills	Interpersonal	Leadership	Accepts responsibility for others [2.4.1]
	3.2.3 Identify examples of famous national and international leaders			Directs individuals in the performance of a specific task [2.4.5]
3.3 Describe the three major parts of a speech	3.3.1 Prepare a three- to five-minute speech that incorporates the three major parts	Foundation	Speaking	Uses verbal language and other cues, such as body language, appropriate in style, tone, and level of complexity to the audience and the occasion [1.5.14]
	3.3.2 Present the speech to the class		Writing	Produces neat, legible document from typewriter or computer [1.6.15]
3.4 Explain the purpose of parliamentary procedure	3.4.1 Refer to Official FFA manual and discuss the order of business	Foundation	Speaking	Applies/Uses technical terms as appropriate to audience [1.5.2]
	3.4.2 Provide a class demonstration	Personal Management	Organizational Effectiveness	Comprehends the organization's modes of operation [3.3.5]
3.5 Explain the purpose of the opening/closing ceremony	3.5.1 Refer to the Official FFA Manual for the opening and closing ceremony	Foundation	Speaking	Organizes ideas and communicates oral messages to listeners [1.5.7]
	3.5.2 Provide a class demonstration of the opening and closing ceremony			Speaks effectively, using appropriate eye contact, gestures, and posture [1.5.11]

Unit 4: Supervised Experience 9 Hours

Terminology: entrepreneurship, placement, production, record book, supervised agricultural 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
4.1 Define terms	4.1.1		Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
4.2 Explain the difference between the types of SAEs: exploratory, entrepreneurship, research/experimentation, and placement	4.2.1	List examples of appropriate SAEs by type and match with FFA activities	Foundation	Speaking	Asks questions to clarify information [1.5.3]
	4.2.2	Discuss possible examples available in the local community	Thinking	Problem Solving	Asks questions to obtain information [1.5.4] Draws conclusions from observations, evaluates conditions, and gives possible solutions [4.4.5]
4.3 Explain the benefits of SAE participation	4.3.1	Identify upper-level students or alumni who have carried out SAEs and describe their SAEs as related to educational and career pursuits	Foundation	Writing	Summarizes written information [1.6.17]
			Personal Management	Career Awareness, Development, and Mobility	Analyzes impact of work on individual and family life [3.1.1]
4.4 Describe how to plan and manage SAE	4.4.1	Develops initial and long-range SAE plans	Foundation	Writing	Completes form accurately [1.6.7]
	4.4.2	Tell how to evaluate SAE and make adjustments to programs	Personal Management	Responsibility	Exerts a high level of effort and perseverance towards goal attainment [3.4.4]
4.5 Explain the purpose of the SAE record book	4.5.1	Complete the preliminary pages of the record book	Foundation	Arithmetic/Mathematics	Enters figures/calculations from one form of chart to another [1.1.21]
			Thinking	Seeing Things in the Mind's Eye	Imagines the flow of work activities from narrative descriptions [4.6.1]
4.6 Explain the relationship between SAEs and the FFA Proficiency Award program	4.6.1	Analyze a Proficiency Award application to determine the information it should contain	Foundation	Arithmetic/Mathematics	Applies addition, subtraction, multiplication, and division to real-world situations [1.1.1]
			Personal Management	Career Awareness, Development, & Mobility	Monitors progress toward goal attainment [3.1.10]

Unit 5: Safety 6 Hours

Terminology: hazard, OSHA, PPE, 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
5.1 Define terms	5.1.1	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]
5.2 Discuss the meaning and importance of safety and safe work environment in agriculture	5.2.1 Relate examples of safety hazards in agriculture	Foundation	Reading	Distinguishes between fact and opinion [1.3.11]
	5.2.2 Have students name examples of accidents that have occurred in the local agricultural industry		Speaking	Asks questions to obtain information [1.5.4]
5.3 Identify mechanical, chemical, and other hazards in agriculture	5.3.1 Survey hazardous situations in laboratories, work sites, homes, and other locations 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]
	5.3.2 List emergency contact numbers and other information for use in case of an accident			
5.4 Describe the importance of personal safety	5.4.1 Identify and properly use appropriate PPE	Foundation	Arithmetic/ Mathematics	Calculates dollar amounts [1.1.7]
	5.4.2 Calculate the cost of PPE for an individual involved in an area of agriculture	Interpersonal	Negotiation	Works to resolve conflict between two or more individuals [2.5.3]

Unit 6: Forestry and Natural Resources

8 Hours

Terminology: conservation, forestry, natural resources, non-renewable resource, renewable resource, water, wildlife

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	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]	
6.2 List natural resources and describe their importance	6.2.1 Prepare an inventory of natural resources in the local community or county and threats to their long-term use	Foundation	Science	Analyzes environmental issues [1.4.2]	
		Thinking	Decision making	Comprehends ideas and concepts related to forestry and natural resources [4.2.2]	
6.3 Explain the importance of soil and water conservation	6.3.1 Discuss the role of conservation laws and the agencies that regulate them	Foundation	Science	Analyzes environmental issues (ecology, pollution, waste management) [1.4.2]	
	6.3.2 Identify examples of erosion in the local community and actions that could be taken to reduce the soil loss	Personal Management	Integrity/ Honesty/ Work Ethic	Chooses ethical course of action [3.2.1]	
6.4 Discuss the importance of forestry	6.4.1 Identify major species of trees in the local area	Foundation	Speaking	Organizes ideas, and communicates oral messages to listeners [1.5.7]	
	6.4.2 List major forestry products	Thinking	Knowing how to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]	
6.5 List the major species of wildlife in Arkansas	6.5.1 Identify important species of wildlife in the local area	Foundation	Writing	Writes/Prints legibly [1.6.24]	
	6.5.2 Install a bird feeder near the school or other location where students can observe the activities of birds	Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]	
	6.5.3 Identify laws related to hunting and fishing in Arkansas				
6.6 Discuss recreational uses of natural resources	6.6.1 Highlight natural resources in Arkansas and the roles of these resources in the economy	Foundation	Listening	Listens for content [1.2.3]	
	6.6.2 Use a map of Arkansas to identify parks, refuges, and other locations where natural resources are protected yet made available for recreational use	Personal Management	Responsibility	Listens for long-term contexts [1.2.7] Exhibits enthusiasm in approaching and completing tasks [3.4.3]	

Unit 7: Plant Science 12 Hours

Terminology: annual, biennial, dicot, fertilizer, monocot, perennial, photosynthesis, plant science, respiration, soil, transpiration

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	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]	
7.2 List the products obtained from plants and name the species that produce them	7.2.1 Identify important agricultural plants in the local community or county	Foundation	Science	Acquires and processes scientific data [1.4.1]	
	7.2.2 Tour a greenhouse or nursery and identify important ornamental plants	Thinking	Decision making	Comprehends ideas and concepts related to plant science [4.2.2]	
7.3 Identify the four major parts of a plant and their functions	7.3.1 On a drawing, label the root, stem, leaf, and flower	Foundation	Science	Describes/Explains scientific principles related to plant functions [1.4.14]	
	7.3.2 Using plant specimens, discuss differences in plant growth and development, including root structure, leaf arrangement, and reproduction	Thinking	Knowing how to Learn	Locates appropriate learning resources to acquire or improve knowledge and skills [4.3.3]	
7.4 Distinguish between photosynthesis and respiration	7.4.1 Explain the chemical processes that are involved and how they sustain the plant	Foundation	Science	Describes/Explains scientific principles related to photosynthesis [1.4.14]	
	7.4.2 Write the chemical equation for photosynthesis	Thinking	Seeing Things in the Mind's Eye	Visualizes a system's operation from schematics [4.6.3]	
7.5 Compare monocot and dicot plants	7.5.1 Conduct a germination experiment to compare the seed leaves of monocots and dicots	Foundation	Science	Acquires and processes scientific data [1.4.1]	
	7.5.2 Dissect monocot and dicot seed to observe structural differences	Thinking	Knowing How to Learn	Uses available resources to acquire new skills or improve skills [4.3.4]	
7.6 Identify requirements for plant growth	7.6.1 Discuss the 18 essential nutrients	Foundation	Reading	Follows written directions [1.3.13]	
	7.6.2 Identify nutrient deficiencies by observing evidence in plant growth	Interpersonal	Teamwork	Works effectively with others to reach a common goal [2.6.6]	
7.7 Describe the importance and nature of soil	7.7.1 Identify properties of soil in the local community or county	Foundation	Science	Chooses appropriately from a variety of scientific methods and techniques to complete a task [1.4.8]	
	7.7.2 Have students use the ribbon test to "feel" the difference in soil based on texture	Personal Management	Responsibility	Maintains a high level of concentration in completion of a task [3.4.7]	
7.8 Explain the role of fertilizers and their importance	7.8.1 Conduct a soil sample analysis and interpret results	Foundation	Science	Solves practical problems using scientific methods and techniques [1.4.22]	
	7.8.2 Observe labels on fertilizer containers to determine its nutrient analysis				

Unit 8: Animal Science 15 Hours

Terminology: animal science, artificial insemination, breed, gestation, lactation, nonruminant, polled, ruminant, vaccination

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	Foundation	Reading	Applies/Understands technical words that pertain to subject [1.3.6]	
8.2 List the products obtained from animals and identify the species that produce these products	8.2.1 Develop a chart that lists animal products by species	Foundation	Writing	Organizes information into an appropriate format [1.6.10]	
	8.2.2 Keep a weekly log of the products used of animal origin	Thinking	Problem Solving	Comprehends ideas and concepts related to animal science [4.4.1]	
8.3 Discuss digestive systems of common classes of agricultural animals	8.3.1 Compare the digestive tracts of ruminants, nonruminants (monogastrics), and poultry	Foundation	Reading	Draws conclusions from what is read [1.3.12]	
	8.3.2 Compare the kinds of feeds that can be consumed by an animal based on its digestive system	Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]	
8.4 List and discuss the importance of the major classes of nutrients	8.4.1 Discuss the role of nutrients in livestock health	Foundation	Writing	Uses technical words and symbols [1.6.20]	
	8.4.2 List the problems that occur when an animal does not receive adequate nutrition	Thinking	Problem Solving	Draws conclusions from what is read and gives possible solutions [4.4.4]	
	8.4.3 Identify feedstuffs that are good nutrient sources				
8.5 Discuss gender and sexual classification terminology of beef and dairy cattle, swine, sheep, goats, horses, and poultry	8.5.1 Identify gender and sexual classification of animals	Foundation	Reading	Draws conclusions from what is read [1.3.12]	
	8.5.2 Explain the advantages and disadvantages of altering the gender of animals	Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]	
8.6 Identify retail cuts of beef, pork, and poultry	8.6.1 Relate finish and gender of animal to quality of retail cuts	Foundation	Speaking	Organizes ideas, and communicates oral messages to listeners [1.5.7]	
	8.6.2 Prepare a chart that compares cuts of beef based on marbling and cost		Arithmetic/ Mathematics	Creates tables, graphs, diagrams, and charts to convey quantitative information [1.1.18]	

	8.6.3	Calculate cost comparisons between selected grades and cuts of meat products	Thinking	Creative Thinking	Makes connections between seemingly unrelated ideas [4.1.6]	
8.7	Describe gestation characteristics of cattle, swine, sheep, goats, and horses	8.7.1	Relate date of breeding (conception) to date of giving birth	Foundation	Reading	Draws conclusions from what is read [1.3.12]
		8.7.2	Calculate breeding dates for selected species to assure birth of young at a given time	Thinking	Arithmetic/ Mathematics Reasoning	Uses basic numerical concepts in practical situations [1.1.32] Sees relationship between two or more ideas, objects, or situations [4.5.5]
8.8	Identify common breeds of beef and dairy cattle, swine, sheep, goats, horses, and poultry	8.8.1	Select breeds that best meet needs and goals of a producer	Foundation	Reading	Draws conclusions from what is read [1.3.12]
		8.8.2	Prepare a one-page written report on a selected breed	Thinking	Writing Reasoning	Communicates thoughts, ideas, or facts in written form in a clear, concise manner Sees relationship between two or more ideas, objects, or situations [4.5.5]
8.9	Discuss management practices with beef and dairy cattle, swine, sheep, goats, horses, and poultry	8.9.1	Develop a production cycle management plan for a preferred species	Foundation	Reading	Draws conclusions from what is read [1.3.12]
		8.9.2	Identify needed production inputs for a large animal enterprise and calculate the annual cost of maintaining an animal	Thinking	Arithmetic/ Mathematics Reasoning	Applies computation skills to calculate animal production costs [1.1.8] Sees relationship between two or more ideas, objects, or situations [4.5.5]
8.10	Discuss the importance of animal health and well-being	8.10.1	Identify the economic impact of animal diseases	Foundation	Reading	Draws conclusions from what is read [1.3.12]
		8.10.2	List the signs of animal health and disease		Arithmetic/ Mathematics	Applies addition, subtraction, and division to real-world situations [1.1.1]
		8.10.3	Invite a veterinarian to speak to your class about diseases in the animal community		Science	Describes/explains scientific principles related to animal health and well-being [1.4.13]
		8.10.4	Evaluate a sick animal and diagnose the disease	Thinking	Reasoning	Sees relationship between two or more ideas, objects, or situations [4.5.5]

Glossary

Unit 1: Introduction to Agricultural Science

1. agribusiness—non-farm work or processes in the agricultural industry
2. agricultural industry—all of the activities in producing and marketing food, fiber, and forestry products to consumers
3. agricultural mechanics—design, construction, repair, and maintenance of tractors, machinery, and other structures used in the agricultural industry
4. agriculture—the science of producing crops and raising livestock
5. agriscience—using new technologies in the production of food, fiber, and shelter
6. aquaculture—the science of producing aquatic plants and animals
7. biotechnology—the management of biological systems for the benefit of humans, including cloning, gene transfer, and other technologies
8. EPA—the Environmental Protection Agency; an agency of the Federal government focused on environmental quality
9. FEMA—the Federal Emergency Management Agency; an agency focused on responding to natural and other disasters
10. issue—a matter on which differences of opinion exist; a dispute
11. horticulture—the science of producing fruits, vegetables, and ornamental plants
12. USDA—the United States Department of Agriculture; the main agency of the Federal government that oversees agriculture

Unit 2: The FFA

1. Career Development Event (CDE)—a hands-on team competition designed for FFA members to develop career-related skills
2. FFA—a national organization for students enrolled in agriculture education that promotes leadership, growth, and career success
3. leadership—the ability to direct and guide others to accomplish a goal

Unit 3: Agricultural Leadership

1. extemporaneous speech—a type of speech in which the speaker prepares ideas but does not memorize exact words
2. minutes—the official written record of a business meeting
3. motion—a basic proposal that brings business before the assembly
4. opening/closing ceremony—a traditional contest designed to emphasize the purpose of meetings and duties of officers
5. parliamentary procedure—a method of conducting meetings in an orderly manner
6. prepared speech—a type of speech in which the speaker prepares the speech completely beforehand
7. vote—to give members the right to express approval of or opposition to a particular action

Unit 4: Supervised Experience

1. entrepreneurship—a student-owned business that serves as an SAE
2. placement—an SAE in which students are employed in an agriculture-related field
3. production—an SAE in which students learn to raise and manage crops and livestock
4. record book—the proper place to record all SAE inventory, deposits, and expenditures
5. supervised agriculture experience (SAE)—an opportunity for students designed to develop knowledge and skills in agriculture-related fields while in supervised settings

Unit 5: Safety

1. hazard—a danger or the potential of danger
2. OSHA—the Occupational Safety and Health Administration; an agency of the Federal government that oversees safety and health of workers in their jobs
3. PPE—personal protective equipment; equipment worn to protect from injury including goggles, ear plugs, face shields, boots, gloves, and respirators
4. risk—the possibility of being injured or losing something
5. safety—taking steps or actions to prevent loss or injury

Unit 6: Forestry and Natural Resources

1. conservation—the control and preservation of natural resources for present and future use
2. forestry—the production and management of trees for lumber and other related commodities
3. natural resources—resources found in nature that support life and produce fuel
4. nonrenewable resource—a resource provided by nature that cannot replace itself
5. renewable resource—a resource provided by nature that can replace itself
6. water—a colorless, odorless liquid essential for all forms of life
7. wildlife—nondomesticated animals that thrive in natural environments

Unit 7: Plant Science

1. annual—a plant that completes its life cycle in one year or less
2. biennial—a plant that needs two years to complete its life cycle
3. dicot—a plant with two seed leaves
4. fertilizer—a material that supplies nutrients to plants
5. monocot—a plant with one seed leaf
6. perennial—a plant that needs more than two years to complete its life cycle
7. photosynthesis—the food-making process of plants
8. plant science—the science of plant growth, care, and management
9. respiration—the process by which plants convert food to energy
10. soil—the outer layer of the earth's crust that supports plant growth
11. transpiration—the process by which a plant loses water vapor

Unit 8: Animal Science

1. animal science—the science of animal growth, care, and management
2. artificial insemination—reproduction by means other than natural mating
3. breed—a group of animals having similar physical characteristics that are passed on to their offspring
4. gestation—length of pregnancy
5. lactation—period of time when mammals are producing milk
6. nonruminant—a simple-stomached animal
7. polled—genetically without horns
8. ruminant—an animal that has a stomach with more than one compartment
9. vaccination—an agent administered to prevent disease