

Options EHS Introduction to Agriculture 2020		Scope and Sequence
Unit	Lesson	Objectives
<b>NATURE AND SCOPE OF AFNR AND THEIR ROLE IN SOCIETY AND ECONOMY</b>		
	People and Agriculture	<p>Describe people in relation to the trades of living for survival.</p> <p>Identify the common impact that agriculture had on major historical wars.</p> <p>Identify the impact war has had on the agricultural industry.</p> <p>Describe the history and development of farming.</p>
	Project: People, Agriculture, and Society	
	Advances in Agriculture	<p>Describe tool making and the role it played in early societies.</p> <p>Examine technological advances and determine their importance to agriculture.</p> <p>Examine scientific advancements and determine their importance to agriculture.</p>
	Today's Agricultural Consumer	<p>Compare and contrast the population trends of the average family of 1913 to 2013.</p> <p>Examine consumer-spending habits for agricultural and related products.</p> <p>Propose potential reasons for changes in consumer spending habits on agricultural and related products.</p> <p>Relate advances and changes in the agricultural industry and beyond to the cost of agricultural products.</p> <p>Discuss agricultural career clusters and provide examples of related careers for each cluster.</p>
	Project: Percent Spent	
	Sustainable Agriculture	<p>Define sustainable living.</p> <p>Explain sustainable farming.</p>

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		Describe methods of sustainable farming.
		Discuss sustainable forest management.
		Discuss some alternative sources of energy that can be used in farming.
	Project: Research and Learn: The Power of Poo!	
	Agriculture and the Economy	<p>Discuss the impact of agriculture on the economy.</p> <p>Identify agricultural commodities.</p> <p>Discuss tariffs and trade.</p> <p>Develop a timeline of developments in the agricultural industry during the 20th century.</p>
	Food Distribution and Safety	<p>Discuss the channels of food distribution used in the United States.</p> <p>Discuss the variety of food sources available in the United States.</p> <p>Identify key agriculture organizations in the United States.</p> <p>Analyze employment opportunities in AFNR.</p>
	Test	
<b>AGRICULTURE, FOOD AND NATURAL RESOURCES AND THE ENVIRONMENT</b>		
	Environment and Ecosystems	<p>Describe a food chain in the context of ecosystems and the environment.</p> <p>Discuss ecosystems, the environment, and human interaction.</p>
	Project: Ecosystems in Your Area	
	Soil and Water Quality	Assess some issues with water quality and attribute them to specific causes.

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	AFNR and Population Impact on the Environment	<p>Identify and evaluate the seriousness of some issues with soil degradation and attribute them to specific causes.</p> <p>Prioritize some threats to water quality and propose two reasonable interventions for each.</p>
		<p>Plot trends in population concentrations and movements influenced by agriculture, natural resource management, and the environment.</p>
		<p>Assess some issues with soil degradation and attribute them to specific causes.</p>
		<p>Assess the dangers to the environment of unsustainable practices in agriculture and natural resource management.</p>
		<p>Discuss ways to mitigate environmental damage arising from practices involving agriculture and natural resources.</p>
		<p>Discuss some potential careers in the agricultural and natural resource industry.</p>
Project: Current Event: Sustainable practice in agriculture and natural resources		
Agriculture Personnel Support Systems		<p>Identify some important events that made an impact on the agricultural industry.</p>
		<p>Compare and contrast agriculture and the environmental research available from our land-grant universities.</p>
		<p>Describe some careers in the agricultural industry that relate to environmental quality.</p>
		<p>Predict the impact that unsustainable agricultural practices will have on environmental quality.</p>
Green Technologies and Sustainable Agriculture		<p>Propose some ways to farm in a sustainable way.</p>
		<p>Provide examples of innovative agricultural techniques that are in use today or might be in use in the future.</p>
		<p>Assess sources of alternative energy and describe how they can be used in agriculture.</p>
		<p>Describe some agricultural careers that relate to research and development.</p>

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	Environmental Impacts	<p>Compare and contrast the different types of pesticides and their uses.</p> <p>Describe the dangers of pesticide exposure.</p> <p>Explain how pesticides are regulated.</p> <p>Debate the benefits and costs associated with using powerful pesticides.</p>
	Test	
<b>SAFETY AND HEALTH IN AGRICULTURE, FOOD AND NATURAL RESOURCES SYSTEMS</b>		
	Risks in Agriculture, Food, and Natural Resources	<p>Explain OSHA and its role in the agricultural industry.</p> <p>Assess potential hazardous situations in the workplace.</p> <p>Determine actions that can be taken to minimize risk in the workplace.</p> <p>Construct a safety plan that addresses potential hazards.</p>
<b>INTRODUCTION TO PLANT SCIENCE</b>		
	What Is Soil?	<p>Explain how soil is formed.</p> <p>Discuss the process of erosion and how it contributes to soil formation.</p> <p>List the components of soil.</p> <p>Identify some nutrients in soils.</p> <p>Describe the three basic soil types.</p> <p>Discuss some careers in forestry.</p>
	Fertilizers and Amendments	<p>Describe the functions of soil.</p>

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		Explain the importance of fertilizer.
		Identify the components of fertilizer.
		Evaluate the quality of soil based on specific components.
		Discuss soil structure.
Project: Understanding Fertilizers		
Water and Soil		Explain thermal pollution.
		Cite examples of water pollution and soil degradation.
		Discuss some causes of soil degradation and water pollution.
		Explain desertification.
		Give examples of some careers in conservation.
What Is a Plant?		
		Diagram the parts of plants and explain their functions.
		Identify how plants take in and give off gases and water.
		Determine what plants need to survive.
		Cite examples of careers related to plant science.
Plant Physiology		
		Explain photosynthesis and its importance.
		Discuss food chains and the major roles in a food chain.
		Give examples of the roles plants play in society and the economy.
Plant Reproduction, Behavior, and Defenses		
		Describe some plant defenses.

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		Explain tropisms.
		Explain alternation of generations.
		Discuss the importance of plants in life, society, and the economy.
Project:	Research and Learn: Plant Reproduction	
Test		
<b>ANIMAL AGRICULTURE</b>		
Animals in Society		Determine the importance of animal systems in history.
		Evaluate animal systems and determine their role in agriculture and society.
		Compare the variety and scope of different managed animal systems.
Project:	Observe and Learn: Animals in Your Life	
Classification and the Breeding of Animals		Compare and contrast the classification of different animals.
		Discuss genetics and how it is important in animal systems.
		Describe cloning and artificial selection.
		Discuss some careers that relate to animals and animal breeding.
Animal Behavior and Health		Describe and give examples of different types of animal behaviors.
		Compare and contrast the quality of life for animals in industrial farms vs. animals on free-range farms.
		Give examples of diseases that can be passed from animals to humans.
Project:	Research and Learn: Zoonotic Disease	
Animals and the Environment		

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		Evaluate the environmental impacts of animals.
		Discuss and cite examples of the impact of invasive species.
		Assess a situation to determine the best livestock-management practice to use in order to minimize environmental damage.
		Explain carrying capacity.
Project: Problem Solving: Overgrazing		
Animal Welfare		Compare and contrast animal rights and animal welfare.
		Discuss the federal law that relates to animal welfare.
		Evaluate a situation and determine whether it is an example of abuse or neglect.
		Discuss some factors to consider when choosing an educational program.
Waste Management		Identify some problems with waste management systems.
		Discuss alternatives to traditional waste management systems.
		Compare traditional systems with methane recapture systems.
		Compare and contrast the waste management needs of traditional farms.
		Identify ways of preparing for college entry.
Test		
<b>COURSE PROJECT, REVIEW, AND EXAM</b>		
Review		
Exam		