

Course Title: Agriscience Exploration

Unit 1:	Career Opportunities
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe career opportunities in the agricultural industry. <ul style="list-style-type: none"> • Evaluate factors for selecting an agriscience career Examples: personal interest, abilities, preparation, salary • Describe desirable work habits for the agricultural industry Examples: reporting to work on time, wearing appropriate clothing, following directions, cooperating with coworkers
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Define agriculture career. 2. Identify and explain factors for selecting a career. 3. Name and describe the major areas of agriculture based on the nature of work. 4. Explain entrepreneurship. 5. Name and describe the major areas of agriculture based on the level of employment.
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Essential Question(s):	What factors are to be considered in choosing a career?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Career Opportunities <ol style="list-style-type: none"> A. Work <ol style="list-style-type: none"> 1. attitudes 2. employment 3. benefits B. Why people choose a career <ol style="list-style-type: none"> 1. personal interest 2. abilities 3. preparation 4. salary C. Work Habits <ol style="list-style-type: none"> 1. reporting to work on time 2. wearing appropriate clothing 3. following directions 	<p>5+1 Discussion PowerPoint Share Out Inquiry Worksheets Discussion Worksheets Group Investigation and Report</p>	<p>Lead Questions PowerPoint Computer Projector Lead questions Textbook Computer Projector Guidelines for Group Investigation</p>

<ul style="list-style-type: none"> 4. cooperating with coworkers D. Entrepreneurship <ul style="list-style-type: none"> 1. risk vs. benefits E. Nature of Work <ul style="list-style-type: none"> 1. production agriculture 2. supplies and services 3. product marketing 4. forestry 5. natural resources 6. agriculture mechanics 7. technology 		
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Unit Assessment:	Participation in Discussion, Group Investigation Report, Test
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Unit/Course CTSO Activity:	Public Speaking
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Unit/Course Culminating Product:	Students will utilize information gained from discussion and group investigation and choose a career that interests them.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 2:	Safety
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 2. Describe safety rules and regulations that apply to the agricultural industry. <ul style="list-style-type: none"> • Demonstrating safe use of hand tools • Demonstrating safe use of power tools • Demonstrating safe techniques for small engine maintenance
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain the meaning of safety. 2. Explain hazards in the agriscience laboratory. 3. Identify and properly use personal protection equipment. 4. Identify safety practices with hand and power tools. 5. Explain safety practices used in small engines.
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Essential Question(s):	Why is the practice of safety important in the agricultural laboratory?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
I. Safety <ol style="list-style-type: none"> A. Definition of safety B. Laboratory Safety Precautions <ol style="list-style-type: none"> 1. Physical safety 2. Clothing safety 3. Tool safety 4. Material safety C. Use of personal protection equipment <ol style="list-style-type: none"> 1. Eyes 2. Hearing 3. Skin and body 4. Respiratory D. Safe use of hand and power tools <ol style="list-style-type: none"> 1. Hand tools 2. Portable power tools 3. Stationary power tools 	10 +2 Discussion 5+1 Discussion Safety Video Demonstration Safety Video/Demonstration	Lead Question Lab Safety Book Television VCR/DVD Examples of tools Television VCR/DVD Examples of tools and hazards

4 Electricity E. Explain safety in small engine repair.		
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Unit Assessment:	Test, performance tasks, demonstrations, projects
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Unit/Course CTSO Activity:	SAE
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Unit/Course Culminating Product:	Students will demonstrate safe use of hand and power tools in the agricultural laboratory by completing a woodworking project.
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Course/Program Credential(s): Credential Certificate Postsecondary Degree University Degree
 Other:

Course Title: Agriscience Exploration

Unit 3:	Impact of Agriculture
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>3. Explain the impact of agriculture on a county’s economy, utilizing National Agricultural Statistics Service (NASS) information.</p> <ul style="list-style-type: none"> • Describing the impact of an abundant, inexpensive, and safe food supply <ul style="list-style-type: none"> Examples: abundant—independence from foreign food imports inexpensive—less income spent on food safe—better overall health of populations • Comparing United States and world agricultural practices
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain how agriculture contributes to the wealth of the nation. 2. Explain why agriculture is a broad and diverse industry. 3. Discuss the advantages of abundant food supply for our nation. 4. Explain why inexpensive food is an advantage of our nation. 5. List the reasons for a safe food supply. 6. Discuss the farm practices that make farmers in the United States successful.
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Essential Question(s):	What impact does our agricultural industry have on our nation’s economy?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
I. Impact of agriculture <ul style="list-style-type: none"> A. Economic Impact <ol style="list-style-type: none"> 1. Production 2. Processing 3. Distribution 4. Retailing B. Imports/Exports <ol style="list-style-type: none"> 1. Economic impact 2. Effects of growing season 3. Examples 	Alabama Ag. Facts http://www.alfafarmers.org/ag_facts/brochure.phtml 5+ 1 Discussion	Computer Projector Internet Textbook

<p>4. Distribution</p> <p>II. Food Safety</p> <p>A. Advantages</p> <p>B. Inspection</p> <p>1. USDA</p> <p>2. Meat industry</p> <p>3. Vegetable industry</p> <p>4. Poultry products</p> <p>5. Dairy products</p> <p>III. Agricultural Practices</p> <p>A. Use of technology</p> <p>B. Land Grant universities</p>	<p>PowerPoint</p> <p>Brainstorming /Discussion</p>	<p>Computer</p> <p>Projector</p> <p>Lead questions</p> <p>Computer</p> <p>Projector</p>
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<p>Unit Assessment:</p>	<p>Test, participation in discussion, research results</p>
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<p>Unit/Course CTSO Activity:</p>	<p>Public Speaking</p>
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<p>Unit/Course Culminating Product:</p>	<p>Students will gain an understanding of the impact of agriculture on our economy.</p>
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<p>Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree</p> <p><input type="checkbox"/> Other:</p>
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Course Title: Agriscience Exploration

Unit 4:	Supervised Agricultural Experience
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 4. Identify types of Supervised Agricultural Experiences, including exploratory, research, placement, and entrepreneurship. <ul style="list-style-type: none"> • Describing the criteria for selecting an appropriate SAE <p>Examples: years in program, career interests, career advantages</p>
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Identify types of SAEs. 2. Explain types of SAEs. 3. Examine criteria for selecting appropriate SAEs.
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Essential Question(s):	What SAE program would best fit the individual student?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Types of SAE <ol style="list-style-type: none"> A. Exploratory B. Research C. Placement D. Entrepreneurship II. Criteria for selecting <ol style="list-style-type: none"> A. Years in program B. Career interest C. Career advantages D. Resources available 	Power Point Presentation/ Discussion Discussion of successful SAE projects	Computer Projector SAE Examples

Unit Assessment:	Participate in discussion and create a portfolio of SAE.
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**Unit/Course
CTSO Activity:**

Students participate in SAE.

**Unit/Course
Culminating
Product:**

Students will develop a plan for a SAE based on criteria and requirements.

Course/Program Credential(s): Credential Certificate Postsecondary Degree University Degree
 Other:

Course Title: Agriscience Exploration

Unit 5:	Leadership Development
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>5. Demonstrate communication skills utilized within an agribusiness.</p> <p style="padding-left: 20px;">Examples: public speaking, letter writing</p> <ul style="list-style-type: none"> • Demonstrating qualities of leadership, cooperation, and good citizenship within an agricultural organization • Demonstrating parliamentary procedures used to conduct agribusiness meetings
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Define a leader and leadership. 2. Examine leadership skills used in agribusiness. 3. Discuss qualities of a good leader. 4. Discuss leadership opportunities in the FFA.
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Essential Question(s):	How are leadership skills important to agribusiness?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Leadership Development</p> <p>A. Leader/Leadership</p> <ol style="list-style-type: none"> 1. Definition 2. Example <p>B. Communication skills</p> <ol style="list-style-type: none"> 1. Public speaking 2. Letter writing <p>C. Define</p> <ol style="list-style-type: none"> 1. Leadership 2. Cooperation 3. Citizenship <p>D. Parliamentary Procedures</p> <ol style="list-style-type: none"> 1. Define 2. Purpose 3. Uses in the FFA 4. Parliamentary procedures 	<p>Internet Research</p> <p>Have students find examples of famous leaders.</p> <p>5+1 Discussion</p> <p>Lecture /PowerPoint</p> <p>Class Demonstration of Parliamentary Procedure</p> <p>Mock Meeting</p>	<p>Computer</p> <p>Internet</p> <p>Text book</p> <p>Computer</p> <p>Projector</p> <p>FFA student handbook</p> <p>FFA manual</p>

Unit Assessment:	Test and participation in demonstration of parliamentary procedures.
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Unit/Course CTSO Activity:	FFA Opening Ceremony, FFA Parliamentary Procedure CDE
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Unit/Course Culminating Product:	Students will develop leadership skills needed to become a quality FFA member.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 6:	Animal Science
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>6. Identify major body parts of cattle, swine, sheep, equine, and poultry.</p> <ul style="list-style-type: none"> • Describing the impact of selective breeding and cloning on livestock breeds • Evaluating selected groups of animals according to confirmation, frame size, muscling, grade, and breed characteristics
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain and identify the important parts of beef cattle. 2. Explain and identify the important parts of swine. 3. Explain and identify the important parts of sheep. 4. Explain and identify the important parts of horses. 5. Explain and identify the important parts of poultry. 6. Explain and identify the important parts of the dairy cow. 7. Explain impact of selective breeding and cloning. 8. Describe livestock evaluation.
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Essential Question(s):	What characteristics are important in selecting a superior animal?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Identify important parts</p> <ol style="list-style-type: none"> A. Beef Cattle B. Swine C. Sheep D. Equine E. Poultry F. Dairy Cattle <p>II. Define Selective Breeding</p> <p>III. Define Cloning</p> <p>IV. Livestock Evaluation</p> <ol style="list-style-type: none"> A. Confirmation B. Frame size C. Muscling 	<p>PowerPoint</p> <p>Video</p> <p>Group investigation</p> <p>Video</p> <p>Group investigation</p> <p>Oral presentation</p>	<p>Computer</p> <p>Projector</p> <p>VCR/DVD</p> <p>Internet</p> <p>Ag. Related magazines</p> <p>Internet</p> <p>Text book</p> <p>Livestock Judging manual</p>

D. Quality Grading E. Yield Grading F. Breed Characteristics		
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Unit Assessment:	Test and Oral Presentation
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Unit/Course CTSO Activity:	Livestock CDE
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Unit/Course Culminating Product:	The student will understand the importance of evaluation and livestock selection.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 7:	Aquaculture
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> Describe methods and facilities used in the production of various aquatic species.
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> Discuss why aquaculture is a growing industry. Examine the types of aquaculture production. Explain methods of producing aquaculture. Explain why fish are efficient agricultural animals. Discuss the production of crustaceans for human consumption. Describe the nonfood segments of aquaculture.
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Essential Question(s):	What major species can be produced in our area?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Species Produced <ol style="list-style-type: none"> A. Tilapia B. Shrimp C. Lobster D. Catfish E. Bluegill F. Alligators G. Bate fish II. Methods of production <ol style="list-style-type: none"> A. Pond B. Raceways C. Tanks D. Pens and cages III. Harvesting <ol style="list-style-type: none"> A. Methods 	<p>Lecture Research Lecture with PowerPoint Design a S.A.E.P Lecture with PowerPoint Field Trip</p>	<p>Computers and Printers Internet Textbook Reference books PowerPoint Presentation Computer/Printer/Internet internet Computer Projector Field Trip Site Permission Forms</p>

B. Available markets		
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Unit Assessment:	Participation in Discussion, Research Report, Test
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Unit/Course CTSO Activity:	Public Speaking, Specialty animal proficiency
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Unit/Course Culminating Product:	Students will design a production project involving aquaculture.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 8:	Plant Science
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>8. Describe structures and functions of the major parts of a plant.</p> <ul style="list-style-type: none"> • Comparing photosynthesis and respiration • Identifying sexual methods of plant reproduction • Illustrating important techniques of asexual plant propagation <p>Examples: cuttings, division, grafting, layering, tissue culture</p>
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe functions of major parts of the plant. 2. Explain the process of photosynthesis. 3. Explain the process of respiration. 4. Describe the function of the seed. 5. Explain the asexual methods of plant propagation.
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Essential Question(s):	Why are plants so essential to us?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Major parts of the plant and function</p> <ol style="list-style-type: none"> A. Stems B. Leaves C. Flower D. Roots <p>II. Propagation</p> <ol style="list-style-type: none"> A. Seed (sexual) B. Asexual <ol style="list-style-type: none"> 1. Cuttings 2. Division 3. Grafting 4. Layering 5. Tissue culture 	<p>5+1 Discussion</p> <p>Seed Germination Project</p> <p>Collaborative Learning (Bring in examples of each method of propagation).</p>	<p>Lead Question</p> <p>Text book</p> <p>Live plant</p> <p>Lead question</p> <p>Textbook</p> <p>Plant material</p>

Unit Assessment:	Test and report on experiment with propagation
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Unit/Course CTSO Activity:	Discuss how Supervised Agricultural Experience (SAE) can lead to FFA proficiency awards.
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Unit/Course Culminating Product:	Students will create a poster demonstrating their knowledge of plant propagation methods.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 9:	Soil Science
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>9. Identify the major components of soil.</p> <ul style="list-style-type: none"> • Comparing soil horizons • Relating soil characteristics to uses <p style="padding-left: 40px;">Examples: texture, drainage, permeability, organic compression, class capabilities</p> <ul style="list-style-type: none"> • Explaining the importance of soil to agriculture
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain why agriculture and all of life is dependant on the soil. 2. Explain the difference in organic soil and inorganic soils. 3. Discuss the carbon cycle. 4. Discuss the ways soils are formed. 5. Contrast soil characteristics.
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Essential Question(s):	Why is all plant life dependant on soil?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. Define soils II. Carbon cycle <ol style="list-style-type: none"> A. Food chain III. Four ingredients <ol style="list-style-type: none"> A. Minerals B. Air C. Water D. Humus IV. How soils are formed <ol style="list-style-type: none"> A. Organic B. Inorganic C. Water –Deposited Soil <ol style="list-style-type: none"> 1. erosion 2. Deltas 	PowerPoint Share out 5+1 Discussion Video	Computer LCD projector Lead questions Television DVD player

<p>D. Soils deposited by wind</p> <p>V. Soil Characteristics</p> <p>A. Texture</p> <p>B. Drainage</p> <p>C. Permeability</p> <p>D. Organic compression</p> <p>E. Class capabilities</p>		
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<p>Unit Assessment:</p>	<p>Test and story board</p>
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<p>Unit/Course CTSO Activity:</p>	<p>FFA Land Career Development Event</p>
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<p>Unit/Course Culminating Product:</p>	<p>Students will create a story board demonstrating their knowledge of soil formation.</p>
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<p>Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:</p>
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Course Title: Agriscience Exploration

Unit 10:	Ecology and Conservation
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>10. Relate populations within a habitat to communities, ecosystems, and biomes.</p> <ul style="list-style-type: none"> • Comparing biotic and abiotic components of an ecosystem • Identifying limiting factors that affect plant and animal populations in an ecosystem <p style="padding-left: 40px;">Examples: food, shelter, water, climate, nutrients, physical space, disease, pollution, natural disasters</p> <p>11. Evaluate agricultural and nonagricultural sources of pollution.</p> <ul style="list-style-type: none"> • Describing the potential impact of climate change on plants, animals and land • Explaining effective methods of reducing pollution
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain why everyone should be concerned with the environment. 2. Compare biotic and abiotic components of an ecosystem. 3. Discuss limiting factors and the effect on plant and animal populations 4. Tell how pesticides have the potential to cause harm to the environment. 5. Explain how the threat of harm from pesticides is minimized. 6. Discuss the difference between point and non-point pollution.
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Essential Question(s):	How can pollution from agriculture and non-agriculture impact our environment?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
I. Components of ecosystem <ul style="list-style-type: none"> A. biotic B. abiotic II. Factors that effect plant and animals <ul style="list-style-type: none"> A. Food B. Shelter C. Water D. Climate E. Nutrients F. Physical space G. Disease H. Pollution 	5+1 Discussion PowerPoint presentation Group investigation and report 10+1 Discussion	Lead Question Computer Projector Internet Ag. Related magazines NRCS Lead Questions

<p>I. Natural Disasters</p> <p>III. Impact of climate change</p> <p>A. Plants</p> <p>B. Animals</p> <p>C. Land</p> <p>IV. Methods of reducing pollution</p> <p>A. Point Source</p> <p>B. Non-Point Source</p> <p>C. Soil Erosion</p> <p>D. Nitrate Pollution</p> <p>E. Wet Lands</p>		
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<p>Unit Assessment:</p>	<p>Test, group investigation report and participation in discussion</p>
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<p>Unit/Course CTSO Activity:</p>	<p>FFA Extemporaneous and Prepared Public Speaking Career Development Events</p>
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<p>Unit/Course Culminating Product:</p>	<p>Students will gain knowledge from group investigation report and be able to make decisions on environmental concerns.</p>
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<p>Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:</p>

Course Title: Agriscience Exploration

Unit 11:	Woodworking
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>12. Develop a bill of materials and plan of procedure for a woodworking project.</p> <ul style="list-style-type: none"> • Selecting the hardware required for a woodworking project • Calculating the number of board feet required for a woodworking project <p>13. Construct a woodworking project.</p>
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Identify portable power tools. 2. Discuss safety procedures in woodworking. 3. Investigate types of hardware. 4. Determine how building material is sold. 5. Draw a project plan.
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Essential Question(s):	What skills are necessary for a student to successfully complete a woodworking project?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Woodworking</p> <p>A. Identify parts and safety precautions:</p> <ol style="list-style-type: none"> 1. Drill 2. Circular saw 3. Router 4. Saber saw 5. Bench saw 6. Band saw 7. Compound miter saw 8. Belt sanders 9. Power sanders <p>B. Types of Hardware/Sizes</p> <ol style="list-style-type: none"> 1. Nails 2. Screws 3. Bolts 4. Adhesives 	<p>Tool safety and parts ID worksheets</p> <p>Video</p> <p>Demonstration</p>	<p>Television</p> <p>VCR/DVD player</p> <p>Various types of hardware</p> <p>Various sizes of building material</p>

<p>C. How material is measured/sold</p> <ol style="list-style-type: none"> 1. Piece 2. Linear foot 3. Board foot <p>D. Calculating board feet</p>		
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<p>Unit Assessment:</p>	<p>Test, Demonstration by the student to the teacher of his abilities to use the tools.</p>
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<p>Unit/Course CTSO Activity:</p>	<p>Prepare for FFA Agricultural Construction and Maintenance Career Development Event.</p>
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<p>Unit/Course Culminating Product:</p>	<p>Students will demonstrate woodworking skills in the successful completion of a woodworking project.</p>
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<p>Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:</p>
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Course Title: Agriscience Exploration

Unit 12:	Electricity
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>14. Identify sources of electrical energy.</p> <ul style="list-style-type: none"> • Explaining the electron theory and its relevance to electrical circuitry • Explaining the relationship between electricity and magnetism • Describing electrical terms, units and symbols • Applying techniques for making electrical splices
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Explain the electron theory. 2. Explain circuits. 3. Describe the magnetic principal. 4. Examine basic electrical terms. 5. Explain various wire splices.
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Essential Question(s):	How is electricity produced?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Electricity</p> <ol style="list-style-type: none"> A. Electron Theory B. Magnetism C. Measurement terms <ol style="list-style-type: none"> 1. Voltage 2. Ohm’s Law 3. Amperage 4. Watt 5. Kilowatt D. Splices 	<p>PowerPoint Video Demonstration</p>	<p>Computer Projector TV VCR/DVD player Electrical wire, wire nuts, tape,</p>

Unit Assessment:	Test and students ability exhibited in demonstration.
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**Unit/Course
CTSO Activity:**

FFA Agricultural Mechanics Proficiency Awards and Agricultural Mechanics Career Development Event

**Unit/Course
Culminating
Product:**

Students will have an understanding of how electricity is produced.

Course/Program Credential(s): Credential Certificate Postsecondary Degree University Degree
 Other:

Course Title: Agriscience Exploration

Unit 13:	Power Mechanics
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Content Standard(s) and Depth of Knowledge Level(s):	Students will: 15. Perform routine care and maintenance on small engines.
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Learning Objective(s) and Depth of Knowledge Level(s):	Students will: 1. Identify why small engines are widely used. 2. Describe how the small engine can be classified. 3. Identify common service jobs performed on the small engine.
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Essential Question(s):	What is the difference in a four-stroke cycle engine and a two-stroke cycle engine?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
I. Why popular A. Compact B. Light weight C. Easy to repair D. Affordable II. How classified A. Position of crankshaft 1. Vertical 2. Horizontal 3. Multi-position B. Number of power strokes 1. Four stroke cycle 2. Two stroke cycle III. Service A. Cleaning the engine B. Servicing carburetor	10+1 discussion PowerPoint presentation Group activity	Lead question Computer Projector Small engine Basic small engine tool kit

C. Lubrication schedule D. Despair Plug		
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Unit Assessment:	Test and participation in group activity
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Unit/Course CTSO Activity:	FFA Small Engines Career Development Event
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Unit/Course Culminating Product:	Students will gain a basic understanding of the maintenance and repair of small engines.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 14:	Technology
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>16. Describe computer skills used in the agricultural industry. Examples: researching electronic reference sources, managing data, analyzing data, and communicating information</p> <p>17. Explain uses of the Geographic Information System (GIS) and Global Positioning System (GPS) as they relate to agriculture.</p>
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Discuss how computers are observed in agricultural industry 2. Explain the computer skills needed in the agricultural industry. 3. Discuss the list of uses for GIS and GPS in agricultural industry
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Essential Question(s):	What types of technology do agriculturalists use in their jobs?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<ol style="list-style-type: none"> I. List uses for computers in Agricultural Industry II. Skills needed <ol style="list-style-type: none"> A. Researching electronic information systems B. Managing data C. Analyzing data D. Communication information III. Geographic Information System <ol style="list-style-type: none"> A. Define B. Current uses IV. Global Positioning System <ol style="list-style-type: none"> A. Define B. Current Uses 	<p>Brain Storming</p> <p>Poster</p> <p>Research project</p> <p>Demonstration (if available)</p>	<p>Lead Question</p> <p>Magazines</p> <p>Internet</p> <p>Computer</p> <p>Internet</p> <p>GPS system</p> <p>Local equipment dealer</p>

Unit Assessment:	Test, research project
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Unit/Course CTSO Activity:	Supervised Agricultural Experience
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Unit/Course Culminating Product:	Students will gain an understanding of technology advances in agriculture.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:

Course Title: Agriscience Exploration

Unit 15:	Agrimarketing
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Content Standard(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <p>18. Explain ways agricultural product and services are marketed.</p> <ul style="list-style-type: none"> • Describing the role of communication in agricultural marketing
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Learning Objective(s) and Depth of Knowledge Level(s):	<p>Students will:</p> <ol style="list-style-type: none"> 1. Describe selling. 2. Describe the customer buying process. 3. Explain the selling process. 4. Explain the importance of communication.
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Essential Question(s):	How is communication important to marketing?
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Content Knowledge	Suggested Instructional Activities Rigor & Relevance Framework (Quadrant)	Suggested Materials, Equipment and Technology Resources
<p>I. Selling</p> <p>II. Steps of buying</p> <ol style="list-style-type: none"> A. Figuring out needs B. Looking for facts to fulfill needs C. Finding a solution D. Reaffirming the choice <p>III. Steps of selling process</p> <ol style="list-style-type: none"> A. Preparation B. The opening C. The presentation D. The closing E. The follow-up <p>IV. Communication methods</p>	<p>10+1 Discussion</p> <p>Sales poster</p> <p>Presentation</p>	<p>Lead Question</p> <p>Magazines</p> <p>Newspapers</p> <p>Computer</p> <p>Internet</p> <p>Computer</p> <p>Internet</p>

Unit Assessment:	Test, Poster and group activity
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Unit/Course CTSO Activity:	FFA Chapter fundraising; FFA Chapter recruiting
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Unit/Course Culminating Product:	Students will have a greater understanding of communication.
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Course/Program Credential(s): <input type="checkbox"/> Credential <input type="checkbox"/> Certificate <input type="checkbox"/> Postsecondary Degree <input type="checkbox"/> University Degree <input type="checkbox"/> Other:
