Florida CTE

Agriculture, Food, and Natural Resources: Agriscience Foundations

Describe the history of agriculture and its influence on the global economy AF.1.00	**1.01** Evaluate and explain emerging trends and the opportunities they may create within the AFNR (agriculture, food, natural resources) systems AF.1.01
	1.02 Assess the economic impact of an AFNR system on a local, state, national, and global level AF.1.02
	1.03 Examine historical and current data to identify issues impacting AFNR systems AF.1.03
	1.04 Examine the role of the agriculture industry in the interaction of population, food, energy, and the environment AF.1.04
Practice agriscience safety skills and procedures AF.2.00	**2.01** Identify the common causes and prevention of accidents in agriscience operations AF.2.01
	2.02 Extract and utilize pertinent information from a container label and/or Safe Data Sheet (SDS) following Environmental Protection Agency (EPA), Worker Protection Standard, and Occupational Safety and Health Agency (OSHA) regulations AF.2.02
	2.03 Identify proper disposal of hazardous materials and biohazards AF.2.03
	2.04 Describe emergency procedures for: basic first aid, CPR, chemical spills, fire extinguisher use AF.2.04
Apply scientific and technological principles to agriscience issues AF.3.00	**3.01** Employ scientific measurement skills AF.3.01
	3.02 Demonstrate safe and effective use of common laboratory equipment AF.3.02
	3.03 Identify the parts and functions of plant and animal cells AF.3.03
	3.04 Describe the phases of cell reproduction AF.3.04
	3.05 Implement the scientific method and science process skills through the design and completion of an agriscience research project AF.3.05

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	3.06 Interpret, analyze, and report data AF.3.06
Apply environmental principles to the agricultural industry AF.4.00	**4.01** Research how different climatic and geological activity influences agriculture AF.4.01
	4.02 Describe various ecosystems as they relate to the agriculture industry AF.4.02
	4.03 Describe the environmental resources (soil, water, air) necessary for agriculture production AF.4.03
	4.04 Identify regulatory agencies that impact agricultural practices AF.4.04
	4.05 Apply Best Management Practices that enhance the natural environment AF.4.05
	4.06 Identify conservation practices related to natural resources AF.4.06
Investigate and utilize basic scientific skills and principles in plant science AF.5.00	**5.01** Identify and describe the specializations within the plant science industry AF 5.01
	5.02 Categorize plants based on specific characteristics according to industry and scientific standards AF.5.02
	5.03 Examine the processes of plant growth including photosynthesis, respiration, transpiration, absorption, transfer, storage, reproduction, etc. AF.5.03
	5.04 Identify the nutrients required for plant growth from the periodic table and explain their functions AF.5.04
	5.05 Analyze information from a fertilizer label AF.5.05
	5.06 Propagate and grow plants through sexual and/or asexual reproduction AF.5.06
	5.07 Investigate the impacts of various pests and propose solutions for their control AF.5.07
	5.08 Investigate the nature and properties of food, fiber, and by-products from plants AF.5.08
	5.09 Explore career opportunities in plant science AF.5.09
Investigate and utilize basic scientific skills and principles in animal science AF.6.00	**6.01** Explain the economic importance of animals and the products obtained from animals AF.6.01
	6.02 Analyze commercially important livestock breeds in Florida AF.6.02
	6.03 Illustrate correct terminologies for animal species and conditions (age, sex, etc.) within those species AF.6.03

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	6.04 Compare and contrast animal welfare issues AF.6.04
	6.05 Investigate the nature and properties of food, fiber, and by-products from animals AF.6.05
	6.06 Explore career opportunities in animal science AF.6.06
Demonstrate the use of agriscience tools, equipment, and instruments AF.7.00	7.01 Select and demonstrate proper use of hand tools in agriscience AF.7.01
	7.02 Operate, service, and maintain agriscience equipment and instruments AF.7.02
	7.03 Manage facilities and supplies AF.7.03
Demonstrate agribusiness, employability and human relation skills AF.8.00	8.01 Develop, implement, and maintain work based learning through Supervised Agricultural Experiences (SAE) AF.8.01
	8.02 Utilize a record keeping system to collect, interpret, and analyze data AF.8.02
	8.03 Enhance oral communications through telephone, interview, and presentation skills AF.8.03
	8.04 Enhance written communication by developing resumes and business letters AF.8.04
	8.05 Demonstrate interpersonal (nonverbal) communication skills AF.8.05
	8.06 Demonstrate good listening skills AF.8.06
Apply leadership and citizenship skills AF.9.00	9.01 Identify and describe leadership characteristics AF.9.01
	9.02 Identify opportunities to apply acquired leadership skills AF.9.02
	9.03 Identify and demonstrate ways to be an active citizen AF.9.03
	9.04 Participate in community based learning activities AF.9.04
	9.05 Demonstrate the ability to work cooperatively AF.9.05
	9.06 Conduct formal and informal meetings using correct parliamentary procedure skills AF.9.06
	9.07 Identify the opportunities for leadership development available through the National FFA Organization and/or professional organizations AF.9.07
	9.08 Develop both a leadership and a career development plan utilizing SMART goals that include 5, 10, and 20 year benchmarks AF.9.08

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Discuss components of food safety and handling practicies in agriculture AF.10.00

10.01 **Demonstrate proper safety precautions and use of personal protection equipment** AF.10.01

10.02 **Evaluate the food safety responsibilities that occur along the food supply chain** AF.10.02

10.03 **Explain techniques and procedures for the safe handling of food products** AF.10.03

10.04 **Discuss issues of safety and environmental concerns about foods and food processing (Genetically Modified Organisms, microorganisms, contamination, and irradiation)** AF.10.04

10.05 **Determine appropriate industry response to consumer concerns to assure a safe and wholesome food supply** AF.10.05