Kansas CTE

Agricultural Science (2018)

Concepts of Agriculture	1	Describe basic needs of humans. 1
	2	Research agricultural commodities in the United States. 2
	3	Investigate agricultural career opportunities. 3
	4	Identify opportunities in FFA to meet career interests. 4
Communicating in Agriscience	1	Demonstrate verbal and nonverbal forms of communication. 1
	2	Identify and demonstrate characteristics of effective public speaking. 2
	3	Create an informative agricultural speech. 3
	4	Identify and demonstrate principles of parliamentary procedure. 4
	5	Identify important skills for teamwork 5
Principles of Science in Agriculture	1	Explain and demonstrate common uses of laboratory equipment. 1
	2	Demonstrate safety rules in a laboratory setting. 2
	3	Collect and analyze data in an experiment. 3
	4	Conduct laboratory experiments to determine distance, volume, mass, temperature, and density. 4
	5	Explain the characteristics of physical objects. 5
Natural Resources and Environmental Systems	1	Identify characteristics of soil including particle size, porosity, texture, permeability and color 1
	2	Explain soil formation and soil horizons. 2
	3	Perform water quality test. 3
	4	Identify and explain pollution from point and nonpoint sources. 4
	5	Explain the water cycle. 5
	6	Describe the flow of energy in an ecosystem 6

	7 Apply identification techniques to determine the species of wildlife or insect. Explain the interactions of all natural resources in an ecosystem. 7
Plant and Animal Systems	1 Demonstrate the correct use of a microscope. 1
	2 Identify the parts and functions of plant and animal cells. 2
	3 Identify and describe the basic functions of plant and flower parts. 3
	4 Define and calculate germination rates. Collect data of respiration and photosynthesis of plant leaves. 4
	5 Describe plant macronutrients and deficiency symptoms. 5
	6 Categorize animals by gender and species. 6
	7. Identify basic internal and external anatomical parts of animals 7
	8 Explain priority decisions when selecting animals. 8
Food Science	1 Explain the process of food items from production to processing. 1
	2 Conduct an experiment to determine bacteria levels in food products. 2
	3 Identify food safety procedures. 3
	4 Research food borne illnesses. 4
	5 Analyze factors that affect quality and yield grades of food products. 5
Biotechnology in Agriculture	1 Investigate and explain emerging applications of biotechnology in agriculture. 1
	2 Explore ethical, legal, and social issues associated with biotechnology.
	3 Compare and contrast natural organisms and genetically engineered organisms 3
Agriculture Technology	1 Identify and explain the impact of agriculture on energy sources. 1
	2 Measure electrical power. 2
	3 Compare characteristics of common fuels. 3
	4 Use GPS to find longitude and latitude coordinates. 4
	5 Explain processes used to survey land. 5
	6 Use English and metric systems to measure objects. 6

Your future in Agriculture

1 **Create personal SMART goals.** 1

2 **Develop a personal vision statement.** 2

3 **Describe issues with world population.**

4 **Explain how agriculture can address future challenges to feed the world.** 4