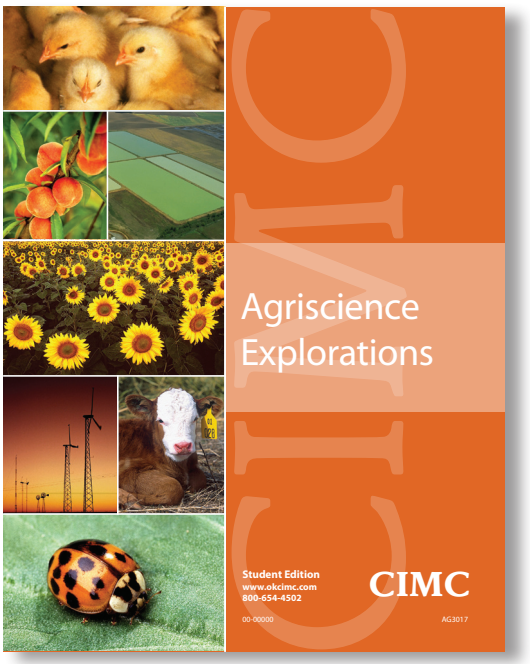
Agriscience Explorations

Curriculum Crosswalk

- National Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards
- Oklahoma Academic Standards



careertech

Oklahoma Department of Career and Technology Education
Curriculum and Instructional Materials Center
1500 West Seventh Avenue, Stillwater, OK 74074-4364
www.okcimc.com 800-654-4502

Unit Objectives	Activity Number(s)	Oklahoma Academic Standard(s)	National AFNR Career Cluster Standard(s)
Unit 1 – Agricultural Education			
Discuss the components of an agricultural education program.	1.2, 1.4	Ag Ed Program specific	CS.04
Explain origin and purpose of the FFA.	1.4	Ag Ed Program specific	CS.04
Discuss the benefits of FFA membership.	1.4	Ag Ed Program specific	CS.04
Discuss the activities and awards available through the FFA.	1.3, 1.4	Ag Ed Program specific	CS.04
Discuss the FFA motto.	1.4	Ag Ed Program specific	CS.04
Discuss official dress and the beginning of the FFA jacket.	1.4	Ag Ed Program specific	CS.04
Determine the meaning of the parts of the FFA emblem.	1.4	Ag Ed Program specific	CS.04
Discuss the purpose of the FFA opening ceremonies.	1.4	Ag Ed Program specific	CS.04
Unit 2 – The World of Agriculture			
Discuss the term agriculture and what it involves.	2.2, 2.6	Life Science/Earth Science general	Pathway Content Standards
Explain why agriculture is a science.	2.6	Life Science/Earth Science general	Pathway Content Standards
Discuss the role of the agricultural industry in meeting human needs.	2.3, 2.4, 2.6	Life Science/Earth Science general	Pathway Content Standards
Identify agricultural events in history and its impact on America.	2.6	Life Science/Earth Science general	Pathway Content Standards
Discuss the impact of Native Americans and the Chisholm Trail on agriculture.	2.6	Life Science/Earth Science general	Pathway Content Standards
Explore the Dust Bowl and its effects on agriculture.	2.6	Life Science/Earth Science general	Pathway Content Standards
Discuss how machines used in agriculture have evolved.	2.6	Life Science/Earth Science general	Pathway Content Standards
Compare and contrast American with world agriculture.	2.5, 2.6	Life Science/Earth Science general	Pathway Content Standards
Discuss scientific research and agriculture in the 21st century.	2.6	Life Science/Earth Science general	Pathway Content Standards

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Unit 3 – Food Science			
Distinguish among the stages of production.	3.2, 3.7	Language Arts Reading Literature 3.1.b	FPP.01.01.01.a
Describe how agricultural products are processed and preserved.	3.2, 3.7	Language Arts Reading Literature 3.4.c	FPP.01.01.01.a FPP.04.03.03.a FPP.01.01.02.a FPP.04.03.06.a FPP.03.01.05.a
Discuss the role of product transportation.	3.5, 3.7	-----	FPP.01.01.01.a
Discuss the importance of food safety.	3.7	-----	FPP.01.01.02.a FPP.02.03.03.a FPP.03.01.06.a
Describe methods used to keep food safe.	3.7	Science Process Standard 1.1 Science - Earth/Space Science 5.1; Language Arts 1.1	FPP.01.02.01.a FPP.02.03.01.a
Unit 4 – Soil Science			
Explain the importance of soil in agriculture.	4.7	Science Process Standard 2.1, 2.2 Science Earth/Space Science 4.1, 4.2	ESS.03.02
Determine how soil is formed.	4.7	Science Process Standard 2.1, 2.2 Science - Earth/Space Science 4.1, 4.2	ESS.03.02.01.a NRS.01.02.05.a NRS.01.02.05.b
Discuss the soil profile.	4.3, 4.7	Science Process Standard 2.1, 2.2 Science - Earth/Space Science 4.1, 4.2	ESS.03.02.01.b
Compare and contrast organic and inorganic soil.	4.7	Science Process Standard 2.1, 2.2 Science - Earth/Space Science 4.1, 4.2	ESS.03.02.01.b
Discuss soil types and texture.	4.4, 4.7	Science Process Standard 2.1, 2.2 Science - Earth/Space Science 4.1, 4.2	ESS.03.02.03.a
Discuss how pH affects soil.	4.7	Science - Physical Science 1.1	ESS.03.02.03.b
Explain how the soil uses water and nutrients.	4.7	Science - Physical Science 1.1	ESS.03.02.03.b
Determine how erosion affects soil.	4.2, 4.6, 4.7	Science - Earth/Space Science 4.1	NRS.02.06.08.a NRS.02.06.08.b
State the benefits of soil ecosystems.	4.7	Science- Earth/Space Science 4.2	ESS.03.02.02.a

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Unit 5 – Plant Science			
Determine the importance of plants in our lives.	5.5	Science - Life Science 3.2	PS.01
Explore the parts of a plant.	5.5	Science -Life Science 3.2	PS.01.02.02.a PS.01.02.05.a PS.01.02.03.a PS.01.02.06.a PS.01.02.04.a PS.01.02.07.a
Determine what makes a plant grow.	5.2, 5.5	Science -Life Science 3.2	PS.01.03.01.a PS.01.03.02.a
Discuss the major fruit, nut and vegetable crops in the United States.	5.3, 5.4, 5.5	Science Process 2.1 Science - Life Science 3.1, 3.2	PS.01.01.02.b
Explain other uses for plants in addition to food and fiber.	5.5	Science - Life Science 3.1, 3.2	PS.01.01.02.a
Discuss genetically modified organisms.	5.5	Science - Life Science 3.1, 3.2	PS.03.01.05.b
Unit 6 - Agronomy			
Determine types of field crops grown in the United States.	6.2, 6.7	Science - Life Science 3.1, 3.2	PS.01.01.02.b
Discuss the history of various field crops.	6.3, 6.4, 6.7	Language Arts 3.4.a, 3.4.c	PS.01
Discuss what is needed to produce field crops.	6.7	Life Science 3.1, 3.2	PS.02.01.02.a
Explain the uses of grain, oil and fiber crops in the United States.	6.5, 6.6, 6.7	Science - Life Science 3.1, 3.2	PS.01.01.02.a
Discuss how crops are harvested.	6.7	Science - Physical Science 1.1, 1.2	PS.03.05.01.a

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Unit 7 – Forestry			
Discuss how the forestry industry impacts agriculture.	7.5	Science – Life Science 3.2	PS.01
Identify the parts of a tree.	7.5	Science – Life Science 3.2	NRS.01.02.01.a
Describe how a forest is an ecosystem.	7.5	Science – Life Science 3.2	NRS.02.04.02.a
Determine how forests benefit humans.	7.5	Science – Life Science 3.2	NRS.03.01.08.a
Discuss how succession affects forests.	7.2, 7.3	Science – Life Science 3.2 Math 4.1	NRS.02.04.02.b
Determine the steps of tree production.	7.3	Science Process 1.2 Science – Life Science 3.2	NRS.03.01.01.a
Identify products made from trees.	7.4	Science Process 2.2 Science – Life Science 3.2	NRS.03.01.02.a
Unit 8 – Ornamental Horticulture			
Describe the four branches of ornamental horticulture.	8.7	Science – Life Science 3.1, 3.2	PS.01.01.02.a
Identify the types of plants florists sell.	8.2	Science – Life Science 3.2 Math 4.1	PS.04.01.02.a
Explain the steps for growing a flower crop.	8.3	Science Process 1.1 Science – Life Science 3.2	PS.03.02.05.a PS.03.05.01.a PS.03.05.04.a
Discuss nursery plant production.	8.4	Science – Life Science 3.2	PS.01.01.02.a
Describe methods of propagation.	8.5	Science – Life Science 3.2	PS.03.01.03.a
Discuss different types of landscaping plants and materials.	8.6	Science – Life Science 3.2 Math 4.1	PS.04.01.02.a
Explain the concept of interiorscaping.	8.7	Science – Life Science 3.2	PS.04.01.02.a
Determine where turf grass is typically used.	8.7	Science – Life Science 3.2	PS.01.01.02.a

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Unit 9 – The Livestock Industry			
Identify the major animal species and terms related to livestock.	9.6	Science Process 2.1 Science – Life Science 3.1	AS.01.01.01.a AS.01.01.02.a
Discuss the different animal industries in the United States.	9.6	Science Process 2.1, 2.2	AS.01.01.02.a
Discuss the major uses and importance of livestock in the United States.	9.6	Science – Life Science 3.2	AS.01.01.02.b
Identify the products and by-products of animals.	9.6	Science – Life Science 3.2	FPP.04.02.01.a
Determine why good nutrition is important for livestock.	9.3, 9,5, 9,6	Math Process 1.1, 1.2, 2.1 Math 1.1.d Science - Physical Science 1.2	AS.04.01.02.a
Discuss some of the major diseases and parasites of livestock.	9.2, 9.6	Science – Life Science 3.1, 3.2 Science – Physical Science 1.2	AS.03.01.02.a
Explore the processes of artificial insemination and cloning in livestock.	9.4, 9.6	Life Science 3.2	AS.05.03.02.a
Discuss the ethical issues of cloning.	9.6	Life Science 3.2	AS.06.01.02.a
Unit 10 – Dairy Science			
Identify the major uses of dairy cattle in the United States.	10.2, 10.7	Science – Life Science 3.2	AS.01.01.01.a AS.01.01.02.a
Discuss the debate of using hormones in dairy cattle.	10.3, 10.7	Science Process 1.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2	BS.03.02.01.a
Explain how milk is produced within the cow.	10.7	Science – Life Science 3.2	AS.02.02.06.a
Trace the steps milk undergoes when it leaves the dairy.	10.6, 10.7	Science Process 4.1, 4.2, 4.3	FPP.01.01.01.a
Discuss how milk and cheese are processed and graded.	10.4, 10.5, 10.7	Science Process 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 5.1 Science – Physical Science 1.1, 1.2	FPP.04.01.01.a

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Unit 11 – Poultry Science			
Discuss the segments of the poultry industry.	11.5	Science – Life Science 3.2	AS.01.01.02.a
Explain the stages of egg development.	11.2	Science Process 5.1	AS.02.02.06.a
Describe the parts of an egg.	11.3	Science – Life Science 3.2	AS.02.02.06.a
Identify diseases that affect the poultry industry.	11.5	Science – Life Science 3.2	AS.03.01.02.a
Unit 12 – Agricultural Mechanics			
Discuss the importance of practicing safety.	12.2	Science Process 3.6	CS.06.01.01.a CS.06.02.01.a
Identify common hand and power tools.	12.6	Science Process 1.2	PST.01.03.01.a
Apply mathematical formulas to estimate project costs.	12.3, 12.4	Math 1.1.d Science Process 1.2	PST.04.01.02.a
Explain the operation of two- and four-cycle engines.	-----	Science Process 2.2	PST.03.01.01.a
Discuss the need for engine maintenance.	12.5	Science Process 2.2	PST.03.01.02.a PST.03.01.02.b
Unit 13 - Agribusiness			
Discuss the benefits of keeping good records.	13.5	Math Process 5.1	ABS.03.01.01.a
Identify the parts of a check.	13.2	Math 4.1	ABS.03.01.01.a
Discuss types of agritourism enterprises.	13.3	-----	ABS.06.03.01.a
Describe the concept of value-added agriculture.	13.4	-----	ABS.06.03.01.a
Discuss the concept of precision agriculture.	13.5	-----	PST.05.03.03.a

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Unit 14 – Natural Resources and			
Identify various renewable and non-renewable natural resources.	14.2	Environmental Science 4.1.a, 4.1.b, 4.1.c	NRS.01.01.01.a NRS.01.01.01.b
Determine the effects of pollution on people, structures and agriculture.	14.3	Environmental Science Process Standard 1.2 Environmental Science 4.2	ESS.04.01.02.a
Explain the importance of alternative energy.	14.4	Environmental Science 4.3	ESS.05.01
Discuss the role of national parks.	14.5	Environmental Science 1.2	NRS.02.05.01.a
Explain the value of wildlife protection.	14.5	Environmental Science 3.1, 3.2, 3.3	NRS.02.06.06.a NRS.02.04.03.a
Discuss the value of hunting for environmental purposes.	14.5	Environmental Science 3.1, 3.2, 3.3	NRS.02.06.06.a NRS.03.01.03.a
Unit 15 - Entomology			
Identify various insect orders.	15.2	Science – Life Science 3.1	PS.03.03.01.a
Identify beneficial and harmful insects.	15.3	Science – Life Science 3.2	NRS.04.03.01.a
Identify the basic parts of an insect.	15.1	Science – Life Science 3.1	PS.03.03.02.a
Explain the life cycle of an insect.	15.1	Science – Life Science 3.1, 3.2	PS.03.03.02.a
Determine the best method for collecting insects.	15.1	Science – Life Science 3.2	PS.03.03.03.a
Unit 16 - Aquaculture			
Determine why aquaculture is a growing industry.	16.1	Science – Life Science 3.2	NRS.03.01.10.a
Discuss the various segments of the aquaculture industry.	16.2	Science – Life Science 3.2	NRS.03.01.09.a
Explain how fish are efficient animals.	16.3, 16.4	Science – Life Science 3.2	NRS.03.01.01.10.a NRS.03.01.01.10.b BS.03.01.04.a
Describe the steps in producing fish.	16.4	Science – Life Science 3.2	NRS.03.01.09.b