

.21

COURSE
PROGRAM OF STUDY

Exploration in Agriculture (Grades 6-8)
0290

Course Description:

This course includes the appropriate skill sets to be taught to middle school students in grades 6-8 under the Agriculture,

SKILL SETS

- History of Agriculture
- Global Agricultural Industry
- Food Products and Processing
- Animal Systems
- Plant Systems
- Power, Structural and Technical
- Natural Resources
- Introduction to FFA and SAE

Exploration in Agriculture

WVEIS 0290

Skill Set		History of Agriculture	
<i>Knowledge Objectives</i>		<i>Students will demonstrate knowledge of</i>	
0290 .1	<ul style="list-style-type: none"> • the history of American agriculture and its impact on daily life. • the Land Grant concept in education and the process of obtaining and sharing agricultural knowledge to the community. 		
<i>Performance Objectives</i>		<i>Students will</i>	<i>Skill Set Met</i>
0290 .2	<ul style="list-style-type: none"> • trace the progression of American agriculture from 1700 to present. 		
0290 .3	<ul style="list-style-type: none"> • list inventions that impacted agriculture and our culture. 		
0290 .4	<ul style="list-style-type: none"> • explain the Land Grant concept and how these institutions have shaped our daily lives. 		
0290 .5	<ul style="list-style-type: none"> • discuss how agriculture was necessary to the development of civilizations. 		
Skill Set		Global Agriculture Industry	
<i>Knowledge Objectives</i>		<i>Students will demonstrate knowledge of</i>	
0290 .6	<ul style="list-style-type: none"> • the current scope of the food and fiber industry. • the impact of agriculture on daily life. • the uses of plants and animals. • agricultural exports, imports, commodities, and trade balance. 		
<i>Performance Objectives</i>		<i>Students will</i>	<i>Skill Set Met</i>
0290 .7	<ul style="list-style-type: none"> • compare and contrast agriculture industry in the U.S. to other countries. 		
0290 .8	<ul style="list-style-type: none"> • discuss the processing and distribution of agricultural products. 		
Skill Set		Food Products and Processing	
<i>Knowledge Objectives</i>		<i>Students will demonstrate knowledge of</i>	
0290 .9	<ul style="list-style-type: none"> • the history of the animal processing industry. • the importance of food labeling to the consumer. • quality and yield grades of food products. • foods derived from meat, egg, poultry, fish and dairy products. 		

0290 .9	<ul style="list-style-type: none"> • products derived from fruits and vegetables. • products derived from grains, legumes and oilseeds. • common weights and measures in the food products and processing industry. • methods of food preservation. 	
<i>Performance Objectives</i>	<i>Students will</i>	<i>Skill Set Met</i>
0290 .10	• demonstrate steps in the production of dairy products.	
0290 .11	• determine the characteristic differences between various food products.	
Skill Set	Animal Systems	
<i>Knowledge Objectives</i>	<i>Students will demonstrate knowledge of</i>	
0290 .12	<ul style="list-style-type: none"> • common and scientific names of major animal species. • leading industry breeds of livestock. • livestock terminology (steer, heifer, barrow, gilt, etc.). • facilities needed to house and produce animal species safely and efficiently. • the importance of poultry to humans. • the various segments of the poultry industry. • various species and breeds of livestock. • characteristics for identifying and selecting livestock. • preventing and treating animal health problems. 	
<i>Performance Objectives</i>	<i>Students will</i>	<i>Skill Set Met</i>
0290 .13	• discuss the phases of beef, swine and sheep industry in the United States.	
0290 .14	• identify uses of horses in the U.S.	
0290 .15	• describe the scope of the small animal industry.	
0290 .16	• explain the importance of the meat and dairy industries in the U.S.	
0290 .17	• list the different segments of the poultry industry.	
0290 .18	• compare and contrast the broiler and layer industry.	
0290 .19	• explain how eggs are produced and processed.	
0290 .20	• demonstrate candling, weighing and grading of eggs.	
0290 .21	• differentiate between porcine, bovine, ovine, caprine and equine species.	
0290 .22	• compare and contrast the five most common breeds of each species.	
0290 .23	• list steps in prevention and care of animal health issues.	
0290 .24	• identify proper techniques in the care and maintenance of animals.	
Skill Set	Plant Systems	
<i>Knowledge Objectives</i>	<i>Students will demonstrate knowledge of</i>	
0290 .25	<ul style="list-style-type: none"> • parts of a plant. • functions of plant parts. • processes of pollination, fertilization, germination, photosynthesis and transpiration. • major nut and fruit production crops in the U.S. • the pome, stone and citrus fruits production and processing. • availability of fruit and nut products year-round to consumers. • requirements for production of vegetable/fruit crops. • the impact of the floriculture and horticulture industry on the local economy. • landscaping layout and techniques used in the industry. 	
<i>Performance Objectives</i>	<i>Students will</i>	<i>Skill Set Met</i>
0290 .26	• identify the components and functions of plant roots.	
0290 .27	• identify the components and the functions of plant stems.	

0290 .28	• identify the components and the functions of plant leaves.	
0290 .29	• identify the components and the functions of plant flowers.	
0290 .30	• identify and label the major fruit and nut production states on a U.S. map.	
0290 .31	• distinguish between different varieties of apples using appearance and taste.	
0290 .32	• research and plan a layout of a produce garden/orchard.	
0290 .33	• plan and implement a landscape and/or floral design.	
Skill Set	Natural Resources	
<i>Knowledge Objectives</i>	<i>Students will demonstrate knowledge of</i>	
0290 .34	• water quality factors in the natural resource industry.	
	• tree identification in the local area.	
	• factors involved in soil formation.	
	• soil testing.	
	• soil ecosystems.	
<i>Performance Objectives</i>	<i>Students will</i>	<i>Skill Set Met</i>
0290 .35	• perform a water quality test.	
0290 .36	• analyze water quality data.	
0290 .37	identify the following trees: Red Oak, White Oak, Sugar Maple, Red Maple, Hickory, White Pine, Hemlock, Black Cherry, Black Locust, Yellow Poplar, White Ash, Basswood and Black Walnut.	
0290 .38	• explain why agriculture and all of life depend on the soil.	
0290 .39	• perform soil tests using chemical or electronic testing equipment.	
0290 .40	• explain the factors responsible for soil formation.	
0290 .41	• identify factors needed to classify land use (texture, permeability, slope).	
0290 .42	• define and recognize soil horizons within a soil profile.	
0290 .43	• determine the slope using various instruments.	
Skill Set	Power, Structural and Technical Systems	
<i>Knowledge Objectives</i>	<i>Students will demonstrate knowledge of</i>	
0290 .44	• the scope of agricultural mechanics as it applies to the industry.	
	• basic math practices used in Power, Structural and Technical Systems.	
	• the basic hand tools and their proper uses in an agricultural setting.	
	• portable power tools and their proper uses in an agricultural setting.	
	• power tools and their proper uses in an agricultural setting.	
<i>Performance Objectives</i>	<i>Students will</i>	<i>Skill Set Met</i>
0290 .45	• use a variety of measurement tools common in ag mechanics shop.	
0290 .46	• simplify fractions.	
0290 .47	• properly and safely use hand tools.	
0290 .48	• construct a project using hand tools.	
0290 .49	• utilize portable power tools to construct a carpentry project.	
0290 .50	• identify and classify portable power tools by their use.	
0290 .51	• identify tools and demonstrate proper use.	
0290 .52	• utilize power tools to construct a carpentry project.	
0290 .53	• demonstrate basic electrical wiring techniques.	
0290 .54	• demonstrate basic welding techniques.	
Skill Set	Introduction to FFA and SAE	
<i>Knowledge Objectives</i>	<i>Students will demonstrate knowledge of</i>	

0290 .55	<ul style="list-style-type: none"> • basic FFA history and facts. • the importance, types and components of an SAE. 	
<i>Performance Objectives</i>	<i>Students will</i>	<i>Skill Set Met</i>
0290 .56	<ul style="list-style-type: none"> • recite the FFA motto. 	
0290 .57	<ul style="list-style-type: none"> • research the history of FFA. 	
0290 .58	<ul style="list-style-type: none"> • research FFA activities for present and future involvement. 	
0290 .59	<ul style="list-style-type: none"> • research types of SAE's. 	
0290 .60	<ul style="list-style-type: none"> • conduct some type of SAE. 	
0290 .61	<ul style="list-style-type: none"> • keep SAE records. 	