

Suggested Outline Exploring Agriculture, Food & Natural Resources

Grade Level: 7 & 8

Length of Course: Varies

Credit: Varies

Course Description (68003A001): This exploration course provides the opportunity to learn fundamental concepts in agriculture to serve as a foundation for future courses and to inform students about the industry that is so vital to society and to their future. Major units of instruction include an introduction to the agricultural industry, animal science, plant science, horticulture science, agribusiness, environmental science, agricultural mechanics, food science, and leadership and personal development. Participation in FFA student organization activities is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

This is a suggested outline of instruction. Teachers should use it as a guide in developing a course outline for their local situation. It is advised that a minimum of 60-70% of the lessons found in this outline appear in the outline developed for the local situation. The curriculum outline is developed for one year of instruction. This document can be modified as needed to fit the situation at each middle school in regards to the grade level taught (6th-8th), focus of the program, as well as the length of the course. A year long course should receive one credit hour, a semester course should receive ½ credit and a quarter long course should receive ¼ credit.

UNIT OF INSTRUCTION: AGRICULTURAL EDUCATION / SAE		
Hours to be Allocated	Year Long Course	10 hours
	Semester Long Course	5 hours
	Quarter Long Course	3 hours
AVAILABLE RESOURCES:		
*MYCAERT AFNR LESSON - UNIT B. FFA		
Lesson Number	Lesson Title	
B1-1	Problem Area 1: History and Tradition of FFA - History of Agricultural Education and Student Organizations	
B2-2	Problem Area 2: Student, Chapter, and Community Development Through FFA - Opportunities in FFA	
**ONE LESS THING CURRICULUM		
Lesson Booklet	Lesson Name	
6 th Grade	Introduction to FFA Lesson	
6 th Grade	What is an SAE Lesson	
7 th Grade	Understanding the FFA Lesson	
7 th Grade	Introduction to SAEs Lesson	
8 th Grade	Purpose of FFA Lesson	
SAE CENTRAL		
http://harvest.cals.ncsu.edu/agscience/resources/sae-central/sae-lesson-plans/		
Lesson Number	Lesson Name	
1	What is a Supervised Agriculture Experience & what are the benefits?	
MS.68	LIFEKNOWLEDGE: Understanding SAEs	
MS.69	LIFEKNOWLEDGE: Record Keeping	
MS.70	LIFEKNOWLEDGE: Proficiency Awards and SAE	

UNIT OF INSTRUCTION: THE AGRICULTURE INDUSTRY		
Hours to be Allocated	Year Long Course	25 hours
	Semester Long Course	13 hours
	Quarter Long Course	6 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT A. GENERAL AGRICULTURAL SCIENCE		
Lesson Number	Lesson Title	
A1-1	Problem Area 1: General Ag Science - Defining Agriculture	
A1-2	Problem Area 1: General Ag Science - History of Production Agriculture	
A1-3	Problem Area 1: General Ag Science - Careers in Agriculture	
*MYCAERT AFNR – UNIT A. Introduction to the Agriculture, Food, and Natural Resources (AFNR) Industry		
Lesson Number	Lesson Title	
A1-1	Problem Area 1: The AFNR Industry's Role in Society - Nature and Importance of the Agriculture, Food, and Natural Resources Industry	
A1-4	Problem Area 1: The AFNR Industry's Role in Society - Agricultural Commodities in the United States	
A1-7	Problem Area 1: The AFNR Industry's Role in Society - Agriculture's Impact on the World Economy	
**ONE LESS THING CURRICULUM		
Lesson Booklet	Lesson Name	
6 th Grade	Impact of Ag	
6 th Grade	Food Origins	
6 th Grade	Growing a Nation	
6 th Grade	Careers in Ag	
7 th Grade	Importance of Ag	
7 th Grade	Ag Products and By-Products	
8 th Grade	Ag in Society	
8 th Grade	Work Ethic	
8 th Grade	Agriculture Careers Lesson	
***mAGic KITS: ILLINOIS		
Lesson Area	Lesson Name	
Math – 1	McDonald's: A Chicago Success Story	
Math – 7	Futures Trading	
Social Studies – 1	Stockyards to Skyscrapers	
Social Studies – 9	The Wealth of Illinois	
Social Studies -11	Inventors John Deere & Cyrus McCormick	
Science -4	Illinois Products & Processing	
ILLINOIS AG IN THE CLASSROOM RESOURCES		
Careers Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Careers%20Ag%20Mag%20for%20Smartboard_LINKS.pdf	
Illinois Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/IL%20Ag%20Mag.pdf	

UNIT OF INSTRUCTION: ANIMAL SCIENCE		
Hours to be Allocated	Year Long Course	25 hours
	Semester Long Course	13 hours
	Quarter Long Course	6 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSONS – UNIT B. ANIMAL SCIENCE		
Lesson Number	Lesson Title	
B1-1	Problem Area 1: Animal Science - Classifying Animals	
B1-2	Problem Area 1: Animal Science - Exploring the Livestock Industry	
B1-3	Problem Area 1: Animal Science - Exploring Poultry and Poultry Products	
B1-4	Problem Area 1: Animal Science - Exploring Dairy Animals and Dairy Products	
B1-5	Problem Area 1: Animal Science - Exploring Companion Animals	
**ONE LESS THING CURRICULUM		
Lesson Booklet	Lesson Name	
6 th Grade	The Livestock Industry Lesson	
6 th Grade	Animal Identification Lesson	
6 th Grade	The Dairy Industry Lesson	
6 th Grade	Companion Animal Lesson	
***mAGic KITS: DAIRY		
Math – 1	Dairy Farming Computations	
Math – 2	Production per Cow	
ELA -1	Show What You Know About the Dairy Industry	
SS - 4	Moo-ving Through the Ages: Dairy Industry Through the Ages Time Line	
Science – 1	Bacteria in Food - Yogurt	
Science – 3	Making Cottage Cheese	
Science – 4	Ice Cream in a Bag	
***mAGic KITS: POULTRY		
ELA – 2	Show What You Know	
ELA -4	Egg Hunt Embryology	
Science - 1	Chicken Wings	
Science -2	Egg Anatomy	
Science – 3	Shell Porosity	
CHICKSCOPE 1.5 http://chickscope.beckman.uiuc.edu/		
Unit	Embryology	
Unit	Egg Math	
ILLINOIS AG IN THE CLASSROOM RESOURCES		
Milk – From Moo to You	http://www.agintheclassroom.org/TeacherResources/Lesson%20Booklets/Milk_final.pdf	
Dairy Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/DAIRY%20Ag%20Mag%20_SmartBoard_2015_3.pdf	
Beef Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Beef%20Ag%20Mag%202013%20for%20Smartboard_2.pdf	
Pork Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/AITC283J7%20Pork%20smartboard.pdf	
Horse Ag	http://www.agintheclassroom.org/TeacherResources/AgMags/Horse%20Ag%20Mag%20for%20SmartBo	

Mag	ard.pdf
Livestock Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Livestock%20Ag%20Mag%20_SmartBoard_2.pdf
Sheep Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/AG_MAG_13.pdf
Poultry Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/aqmag20_rev.pdf

UNIT OF INSTRUCTION: PLANT SCIENCE		
Hours to be Allocated	Year Long Course	15 hours
	Semester Long Course	8 hours
	Quarter Long Course	4 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT C. Plant Science		
Lesson Number	Lesson Title	
C1-1	Problem Area 1: Plant Science - Parts of a Plant	
C1-2	Problem Area 1: Plant Science - Grain Crops	
C1-3	Problem Area 1: Plant Science - Sugar and Oil Crops	
C1-4	Problem Area 1: Plant Science - Fiber Crops	
***mAGic KITS: PLANT		
Lesson Area	Lesson Name	
Science – 1	Monocots and Dicots	
ILLINOIS AG IN THE CLASSROOM RESOURCES		
Apple Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Apple%20Ag%20Mag%20_SmartBoard3.pdf	
Pollinator Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/AITC440_W7%20Pollinator%20Ag%20Mag%20for%20Smartboard.pdf	
Pumpkin Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/AITC441_W7%20Pumpkin%20Ag%20Mag%20for%20Smartboard.pdf	
Specialty Crop Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Specialty%20Crops%20Ag%20Mag%20SPLIT%20for%204%20Pages.pdf	
Soybean Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Soybean_Smartboard.pdf	
Wheat Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Wheat_Smartboard.pdf	
Corn Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Corn%20Ag%20Mag%20Smartboard.pdf	

UNIT OF INSTRUCTION: HORTICULTURE SCIENCE		
Hours to be Allocated	Year Long Course	10 hours
	Semester Long Course	5 hours
	Quarter Long Course	2 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT D. HORTICULTURE SCIENCE		
Lesson Number	Lesson Title	
D1-1	Problem Area 1: Horticulture Science - How Plants Grow	
D1-2	Problem Area 1: Horticulture Science - Plant Propagation	
D1-3	Problem Area 1: Horticulture Science - Ornamental Crops	
D1-4	Problem Area 1: Horticulture Science - Vegetable Crops	
D1-5	Problem Area 1: Horticulture Science - Fruit and Nut Crops	
**ONE LESS THING CURRICULUM		
Lesson Booklet	Lesson Name	
6 th Grade	The Horticulture Industry Lesson	
6 th Grade	Growth Needs of Plants Lesson	
6 th Grade	Plant Anatomy Lesson	
8 th Grade	Plant Growth Lesson	
8 th Grade	Plant Propagation Lesson	
ILLINOIS AG IN THE CLASSROOM RESOURCES		
Horticulture Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Horticulture.pdf	

UNIT OF INSTRUCTION: AG BUSINESS		
Hours to be Allocated	Year Long Course	20 hours
	Semester Long Course	10 hours
	Quarter Long Course	6 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT E. AGRIBUSINESS		
Lesson Number	Lesson Title	
E1-1	Problem Area 1: AgriBusiness - Personal Finances	
E1-2	Problem Area 1: AgriBusiness - Accounting: Record Keeping	
E1-3	Problem Area 1: AgriBusiness - Economics	
E1-4	Problem Area 1: AgriBusiness - Marketing Agricultural Production	
E1-5	Problem Area 1: AgriBusiness - World Trade: Imports and Exports	
AG IN THE CLASSROOM RESOURCES		
Futures Farming	https://nefbfoundation.org/images/FOundation/PDFs/Lesson_Plans/FuturesFarming.pdf	

UNIT OF INSTRUCTION: ENVIRONMENTAL SCIENCE/NATURAL RESOURCES		
Hours to be Allocated	Year Long Course	25 hours
	Semester Long Course	12 hours
	Quarter Long Course	6 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT C. PLANT SCIENCE		
Lesson Number	Lesson Title	
C1-5	Problem Area 1: Plant Science - Forest and Wood Products	
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT F. ENVIRONMENTAL SCIENCE		
Lesson Number	Lesson Title	
F1-1	Problem Area 1: Environmental Science – Soils	
F1-2	Problem Area 1: Environmental Science - Water Resources	
F1-3	Problem Area 1: Environmental Science – Wildlife	
F1-4	Problem Area 1: Environmental Science - Renewable Resources	
F1-5	Problem Area 1: Environmental Science – Recycling	
**ONE LESS THING CURRICULUM		
Lesson Booklet	Lesson Name	
7 th Grade	Natural Resources Lesson	
7 th Grade	Renewable and Nonrenewable Resource Lesson	
8 th Grade	The Forestry Industry Lesson	
8 th Grade	Forest Dendrology Lesson	
8 th Grade	Wildlife and Their Habitat Lesson	
***mAGic KITS: SOIL		
Math -4	A Slice of Planet Earth	
Social Studies – 4	Drummer Silty Clay Loam	
Science – 1	What is Soil?	
Science - 2	Soil Slurry	
Science – 3	Edible Soil	
ILLINOIS AG IN THE CLASSROOM RESOURCES		
Soil Sam	http://www.agintheclassroom.org/TeacherResources/InterestApproaches/Soil%20Sam%20Single.pdf	
Soil Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Interactive_soil_agmag.pdf	
Tree Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Tree%20Ag%20Mag%20for%20Smartboard.pdf	
Renewable Resources Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Renewable%20Energy%20Ag%20Mag%20for%20SmartBoard.pdf	
Water Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags.shtml	

UNIT OF INSTRUCTION: FOOD SCIENCE		
Hours to be Allocated	Year Long Course	25 hours
	Semester Long Course	12 hours
	Quarter Long Course	6 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT H. FOOD SCIENCE		
Lesson Number	Lesson Title	
H1-1	Problem Area 1: Food Science - Sanitation, Spoilage, and Storage	
H1-2	Problem Area 1: Food Science - Nutritional Balance	
H1-3	Problem Area 1: Food Science - Food Ingredients	
H1-4	Problem Area 1: Food Science - Food Preparation	
H1-5	Problem Area 1: Food Science - Buying Food	
ILLINOIS AG IN THE CLASSROOM RESOURCES		
Candy, Culture and Creativity	http://www.agintheclassroom.org/TeacherResources/Lesson%20Booklets/Candy,%20Culture%20and%20Creativity.pdf	
Nutrition Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Nutrition%20Interactive%20Ag%20Mag3.pdf	
Pizza Ag Mag	http://www.agintheclassroom.org/TeacherResources/AgMags/Pizza%20Ag%20Mag.pdf	

UNIT OF INSTRUCTION: AGRICULTURAL MECHANICS		
Hours to be Allocated	Year Long Course	25 hours
	Semester Long Course	12 hours
	Quarter Long Course	6 hours
AVAILABLE RESOURCES:		
*MYCAERT AGL MIDDLE SCHOOL LIBRARY/AGRICULTURAL LITERACY LESSON – UNIT G. AGRICULTURAL MECHANICS		
Lesson Number	Lesson Title	
G1-1	Problem Area 1: Agricultural Mechanics – Safety	
G1-2	Problem Area 1: Agricultural Mechanics - Basic Carpentry	
G1-3	Problem Area 1: Agricultural Mechanics - Basic Electricity	
G1-4	Problem Area 1: Agricultural Mechanics - Machinery and Equipment	
G1-5	Problem Area 1: Agricultural Mechanics - Precision Farming	
**ONE LESS THING CURRICULUM		
Lesson Booklet	Lesson Name	
7 th Grade	Importance of Ag Mechanics Lesson	
7 th Grade	Ag Mechanics Lab Safety Lesson	
7 th Grade	Plumbing and PVC Parts Lesson	
***mAGic KITS: MACHINES		
Math - 3	Estimating Farm Machinery Costs	
Math – 4	Tinkering Outside of the Box	
ELA – 3	Simple Machines, Complex Inventions	
ELA – 4	Tinkering Outside of the Box	

***MyCAERT** provides teachers with an integrated online system to Plan, Document, Deliver, and Assess Career & Technical Education instruction. It not only allows access to a complete selection of instructional components, but also serves as a classroom organizational and management tool. The foundation of the MyCaert system is over 1,000 ready-to-use lesson plans and PowerPoint Presentations organized by topic into multiple Libraries. Access to MyCaert is available on a subscription basis. Subscriptions are provided to Illinois Teachers through the FCAE Project. Login information can be obtained from your local FCAE Program Advisor.

****One Less Thing All-in-One Lessons** include lesson content, teacher instructions, ready-to-print or copy worksheets, activity pages, Guided Notes, tests, grading rubrics, and customizable PowerPoints that directly follow the note pages. Follow the included Pacing Guide for 9 weeks of instruction and activities or fit the individual lessons into your own curriculum. Each lesson plan set includes lecture content, teaching suggestions, master copies of all handouts, and slide views of all PowerPoints, in PDF and PowerPoint files. Lessons are available for 6th, 7th or 8th grade or all lessons can be purchased. Visit their website for more information and to purchase at: <https://www.onelessting.net/collections/lesson-plans/middle-school>.

*****mAGic Kits** are self-contained, all-inclusive kits that are designed to bring agriculture to life in the classroom through hands-on learning activities. The Magic Kit lessons are written to address the Illinois Learning Standards in math, science, language arts, and social science. The Magic Kits in their entirety are available from Information Technology and Communication Services (ITCS) - <http://im.itcs.illinois.edu/>. Lesson booklets for mAGic Kits can be found on the Illinois Agricultural Education Website at www.agriculturaleducation.org under the Educator Resources Tab in the Teacher Toolbox file. A password for the website is required to access these lessons. This password can be obtained from your local FCAE Program Advisor.