



INSTRUCTIONAL MATERIALS LABORATORY
UNIVERSITY OF MISSOURI-COLUMBIA

Exploring Agriculture in America



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Food and Natural Resources • University of Missouri-Columbia

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Exploring Agriculture in America

Writers:

Anna L. Ball and Bradley C. Greiman
Agricultural Education
University of Missouri-Columbia

Consulting Editor:

James E. Dyer, Ph.D
Agricultural Education
University of Missouri-Columbia

Veronica J. Feilner, Senior Editor and Project Coordinator

Marie Korte, Editor
Instructional Materials Laboratory
University of Missouri-Columbia

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Veronica J. Feilner, Senior Editor and Project Coordinator
Instructional Materials Laboratory
University of Missouri-Columbia

James E. Dyer, Assistant Professor
Agricultural Education
University of Missouri-Columbia

Foreword

Instruction about agriculture is important for the development of an educated citizenry. Every person has a vested interest in agriculture. The future of human beings is directly dependent upon agriculture. *Exploring Agriculture in America* was developed to inform students about the industry that is so vital to their future.

Exploring Agriculture in America is a curriculum designed to provide instruction about agriculture for seventh and eighth grade students. Lessons included in the curriculum encompass a problem-solving instructional approach. Student-oriented activities have been included to provide opportunities for experiential learning. A crosswalk table is included to show where *Exploring Agriculture in America* competencies relate to Missouri's Show-Me Standards and Missouri's Frameworks for Curriculum Development. A suggested teaching calendar is included at the end of the table of contents.

This instructor guide and the corresponding student reference contain seven units: Introduction to Agriculture, Plant Science, Animals in Society, Products from Agriculture, Natural Resources and Conservation, Leadership and Personal Development, and Basic Home and Farmstead Safety and Maintenance.

James E. Dyer, Assistant Professor
Agricultural Education
University of Missouri-Columbia

Terry Heiman, Director
Agricultural Education
Department of Elementary and
Secondary Education

Exploring Agriculture in America

Table of Contents

Acknowledgments.....	iii
Foreword.....	iv
Table of Contents.....	v
Competencies/Objectives	ix
References and Materials	x
Competency Crosswalk	xvi
Teaching Calendar.....	xix
UNIT I - INTRODUCTION TO AGRICULTURE	
Lesson 1–Agriculture: What Is It?	I-1
TM 1.1: Agriculture Is	I-7
TM 1.2: Agriculture Is. . . (cont.).....	I-9
TM 1.3: World Population Growth.....	I-11
TM 1.4: Average Annual Expenditures for Typical U.S. Family	I-13
TM 1.5: Disposable Income Spent for Food	I-15
TM 1.6: Life Expectancy.....	I-17
AS 1.1: Planting Seeds	I-19
AS 1.2: Change in World Population (Instructor)	I-21
AS 1.3: Current World Population	I-23
AS 1.4: Agricultural Career Collage	I-25
AS 1.5: A to Z Agricultural Careers	I-27
AS 1.6: Cheeseburger, Fries, and Shake	I-29
AS 1.7: Name That Career (Instructor)	I-31
AS 1.8: Agriculture in My Community (Instructor)	I-33
Lesson 2–Agriculture in the World	I-35
TM 2.1: Food Deficit Countries	I-39
TM 2.2: World Map	I-41
TM 2.3: Agricultural Commodities in Major World Regions	I-43
TM 2.4: World Statistics for Food, Population, and Life Expectancy	I-45
TM 2.5: U.S. Exports Purchased.....	I-47
AS 2.1: International Auction (Instructor)	I-49
AS 2.1: International Auction (Student).....	I-55
AS 2.2: Travel to a Foreign Country on the Internet.....	I-57
AS 2.3: World Food Activity (Instructor).....	I-59
Lesson 3–Agriculture in the United States	I-61
TM 3.1: Map of United States	I-67
AS 3.1: Census of Agriculture (Instructor)	I-69
AS 3.1: Census of Agriculture (Student)	I-71
AS 3.2: Time Line of Agriculture and History (Instructor).....	I-75
Lesson 4–Agriculture in Missouri	I-77
TM 4.1: Missouri's 1998 Ranking in the United States	I-81
TM 4.2: How Has Missouri Agriculture Changed?	I-83
HO 4.1: 1997 Cash Receipts	I-85
AS 4.1: Name That Drawing (Instructor).....	I-87

AS 4.2: Agricultural Commodities Produced in Missouri.....	I-89
AS 4.3: Hat Day.....	I-91
Lesson 5–Advances in Agricultural Technology	I-93
AS 5.1: The Future and Change (Instructor)	I-99
AS 5.2: Future Headlines (Instructor)	I-101
AS 5.3: Invent a New Product for 2020.....	I-103

UNIT II - PLANT SCIENCE

Lesson 1–The Importance of Plants	II-1
TM 1.1: Value of Leading Missouri Crops in 1998	II-5
AS 1.1: Soil Dessert (Instructor).....	II-7
AS 1.2: Landscaping Plant Material Collection	II-9
AS 1.3: Plant Science Businesses	II-11
Lesson 2–Plant Parts and Processes	II-13
TM 2.1: Main Parts of a Plant.....	II-19
TM 2.2: Plant Propagation	II-21
TM 2.3: Asexual Propagation Methods	II-23
TM 2.4: Methods of Taking Cuttings	II-25
TM 2.5: Parts of a Complete Flower	II-27
TM 2.6: Can You Name an Annual or Perennial?.....	II-29
TM 2.7: Monocot or Dicot?.....	II-31
TM 2.8: Stages in Germination and Emergence of a Monocot.....	II-33
TM 2.9: Stages in Germination and Emergence of a Dicot.....	II-35
AS 2.1: Starting Plants from Stem Cuttings (Asexual Propagation)	II-37
AS 2.2: Parts and Functions of a Complete Flower	II-39
AS 2.3: Effect of Light on Photosynthesis	II-41
Lesson 3–The Growing Medium	II-43
TM 3.1: Components of Soil.....	II-49
TM 3.2: Relative Sizes of Sand, Silt, and Clay.....	II-51
TM 3.3: What is in a Soilless Mix?	II-53
TM 3.4: Aquarium Hydroponic System	II-55
AS 3.1: Examining Soil.....	II-57
AS 3.2: Water-Holding Capacity of Soil (Instructor).....	II-59
AS 3.3: Design Your Own Medium	II-61
Lesson 4–Plant Care Requirements	II-63
TM 4.1: What Do the Numbers 10-15-10 Mean?.....	II-67
TM 4.2: Rules of Proper Watering	II-69
AS 4.1: Plant Care Contest (Instructor).....	II-71
AS 4.2: Plant Care Requirements	II-73
Lesson 5–Technologies Used in Plant Agriculture	II-75
TM 5.1: Precision Agriculture Is Managing Small Areas of a Field.....	II-79
TM 5.2: One Acre Is About the Size of a Football Field.....	II-81
TM 5.3: Gene Splicing.....	II-83
AS 5.1: Yield Maps on the Internet (Instructor)	II-85
AS 5.2: Wonder Plants (Instructor)	II-87
AS 5.2: Wonder Plants (Student).....	II-89
AS 5.3: Genetic Engineering Conference (Instructor).....	II-91
AS 5.3: Genetic Engineering Conference (Student)	II-93
AS 5.4: Biotechnology Survey (Instructor)	II-95
AS 5.4: Biotechnology Survey (Student)	II-97

UNIT III - ANIMALS IN SOCIETY

Lesson 1–The Importance of Animals	III-1
TM 1.1: Livestock in Missouri.....	III-5
TM 1.2: Animal Terminology	III-7
AS 1.1: Animal Industry Terms	III-9

AS 1.2: Services and Products	III-11
Lesson 2–The Responsibilities of Animal Ownership	III-13
AS 2.1: Animal Care Requirements	III-17
AS 2.2: Pet Journal	III-19
Lesson 3–Selecting an Animal	III-21
TM 3.1: Pet Concerns	III-25
AS 3.1: Animal Budget – Can You Afford a Pet?	III-27
AS 3.2: Pet Sources	III-29
AS 3.3: Livestock Concerns	III-31
Lesson 4–Current and Emerging Technologies	III-33
TM 4.1: Alternative Reproductive Practices	III-37
AS 4.1: Alternative Reproduction Technologies	III-39
 UNIT IV - PRODUCTS FROM AGRICULTURE	
Lesson 1–Agriculture in the Food Chain	IV-1
TM 1.1: Simple Food Chain in the Natural Environment.....	IV-5
TM 1.2: Simple Food Chain in the Aquatic Environment	IV-7
TM 1.3: Agricultural Food Chain	IV-9
AS 1.1: Student Chain (Instructor)	IV-11
AS 1.2: Food Web (Instructor)	IV-13
Lesson 2–Food Products from Plants	IV-15
TM 2.1: Cereal Food Label Ingredients.....	IV-19
TM 2.2: Key Parts of a Food Label	IV-21
AS 2.1: Food Inventory.....	IV-23
AS 2.2: Do You Know Your Food Label?	IV-25
AS 2.3: Compare Food Labels.....	IV-27
Lesson 3–Food Products from Animals	IV-29
TM 3.1: Wholesale and Retail Cuts of Beef.....	IV-35
TM 3.2: Meat Consumption Trends in the United States	IV-37
TM 3.3: Know Your Meat Label.....	IV-39
HO 3.1: Per Capita Consumption of Meat Products in the United States	IV-41
HO 3.2: Beef Chart.....	IV-43
HO 3.3: Pork Chart.....	IV-45
HO 3.4: Lamb Chart	IV-47
HO 3.5: Meat Labels	IV-49
AS 3.1: Identify the Most Popular Meat Product	IV-51
AS 3.2: Animal Food Products	IV-53
AS 3.3: Identifying per Capita Consumption Trends of Meat Products.....	IV-55
AS 3.4: Processing Whipped Cream and Butter.....	IV-57
AS 3.5: Reading a Meat Label	IV-59
Lesson 4–Food Processing and Food Safety	IV-61
TM 4.1: Processing Food: From Producer to Consumer.....	IV-67
TM 4.2: Recommended Safe Cooking Temperatures	IV-69
AS 4.1: Popcorn Processing (Instructor).....	IV-71
AS 4.1: Popcorn Processing (Student)	IV-73
AS 4.2: Soybean Processing (Instructor)	IV-75
AS 4.3: Ice Cream Processing (Instructor)	IV-77
AS 4.3: Ice Cream Processing (Student)	IV-79
AS 4.4: Food Safety Activities (Instructor)	IV-81
Lesson 5–Fiber Products from Agriculture	IV-83
TM 5.1: Steps in Processing Wool.....	IV-87
AS 5.1: Create a Sweater Pattern	IV-89
AS 5.2: Clothing Labels.....	IV-91
AS 5.3: Scavenger Hunt for Fiber Trivia	IV-93
Lesson 6–Nonfood Products from Agriculture	IV-95
TM 6.1: Corn Has Many Uses.....	IV-101

AS 6.1: Biodegradable Plastic.....	IV-103
AS 6.2: Cornstarch Activities (Instructor)	IV-105
AS 6.3: The Papermaking Kit (Instructor)	IV-107
AS 6.4: Nonfood Products from Cattle and Hogs	IV-109

UNIT V - NATURAL RESOURCES AND CONSERVATION

Lesson 1–Conservation of Natural Resources	V-1
TM 1.1: Inexhaustible and Exhaustible Resources	V-7
AS 1.1: Inexhaustible vs. Exhaustible Resources	V-9
AS 1.2: Resources for the Future.....	V-11
AS 1.3: Oil Pollution of Water Environment	V-13
Lesson 2–Soil Conservation	V-17
TM 2.1: U.S. Land Affected by Soil Erosion	V-21
AS 2.1: How Does Mulch Prevent Soil Loss? (Instructor).....	V-23
Lesson 3–Water Quality	V-25
TM 3.1: The Hydrologic Cycle	V-29
AS 3.1: Water’s Going On?!.....	V-31
AS 3.2: Edible Earth Parfaits.....	V-33
Lesson 4–Air Quality	V-35
TM 4.1: Air Pollution in the Past.....	V-39
AS 4.1: Factors Affecting Air Quality.....	V-45
AS 4.2: Pollutants in the Home	V-47
Lesson 5–Wildlife Management	V-49
TM 5.1: Economic Impacts of Recreation & Wildlife Watching in Missouri 1996	V-53
TM 5.2: Wildlife Management Agencies	V-55
AS 5.1: Maintaining Wildlife Habitats	V-57
AS 5.2: Oh My Deer	V-59
Lesson 6–Conservation Issues Affecting Agriculture	V-61
AS 6.1: Conservation in Agriculture	V-65

UNIT VI - LEADERSHIP AND PERSONAL DEVELOPMENT

Lesson 1–Developing Leadership Skills	VI-1
AS 1.1: Personal Leadership Qualities	VI-5
AS 1.2: Researching a Leader	VI-7
AS 1.3: Setting Goals.....	VI-9
AS 1.4: Verbal Communication Skills Checklist.....	VI-11
AS 1.5: The Parliamentary Procedure Game.....	VI-13
Lesson 2–Importance of Financial Records	VI-15
TM 2.1: A Million Dollars or a Penny?	VI-19
TM 2.2: Two Ways to Become a Millionaire.....	VI-21
TM 2.3: Rule of 72.....	VI-23
TM 2.4: Calculating Simple Interest	VI-25
HO 2.1: Two Ways to Become a Millionaire	VI-27
AS 2.1: Time Value of Money and Rule of 72	VI-29
AS 2.2: Calculating Simple Interest.....	VI-31
AS 2.3: Tips on Saving Money.....	VI-33

UNIT VII - BASIC HOME AND FARMSTEAD SAFETY AND MAINTENANCE

Lesson 1–Electricity	VII-1
TM 1.1: Reading an Electric Meter.....	VII-7
TM 1.2: Fuses and Circuit Breakers	VII-9
AS 1.1: Daily Use of Electricity in My Home.....	VII-11
AS 1.2: Electrical Safety Checklist	VII-13
Lesson 2–Common Measurements and Their Uses	VII-15
TM 2.1: Reading a Ruler	VII-21
TM 2.2: Measures of Length, Area, Volume, and Weight.....	VII-23

AS 2.1: Reading a Ruler.....	VII-25
AS 2.2: Area Calculations	VII-27
AS 2.3: Volume Calculations.....	VII-29
AS 2.4: Calculating Board Feet.....	VII-31
AS 2.5: Weight Calculations.....	VII-33
Lesson 3–Common Tools and Their Uses	VII-35
TM 3.1: Common Hand Tools.....	VII-39
TM 3.2: Common Power Tools	VII-43
AS 3.1: Common Hand Tools	VII-45
AS 3.2: Common Power Tools.....	VII-47
Lesson 4–Personal Safety Practices	VII-49
Lesson 5–Safety and Maintenance Procedures for Lawn and Garden Equipment.....	VII-53
AS 5.1: Hand Lawn Tool Identification	VII-61
AS 5.2: Power Lawn Tool Identification.....	VII-65
AS 5.3: Two- vs. Four-Stroke Engines.....	VII-67
AS 5.4: Mower Safety Demonstration (Instructor).....	VII-69
AS 5.5: Mowing Obstacle Course (Instructor).....	VII-71
AS 5.6: Lawn Mower Safety Guidelines	VII-73

COMPETENCIES/OBJECTIVES

UNIT I - INTRODUCTION TO AGRICULTURE

1. Define agriculture and identify career opportunities in agriculture.
2. Describe the role of agriculture in the world.
3. Describe the role of agriculture in the United States.
4. Describe agriculture in Missouri.
5. Identify advances in agricultural technology and their implications.

UNIT II - PLANT SCIENCE

1. Describe how plants affect our lives.
2. Describe the parts of a plant and major processes.
3. Describe the importance of the growing medium to plants.
4. Identify the important factors to consider in caring for plants.
5. Identify current and emerging technologies of plant agriculture.

UNIT III - ANIMALS IN SOCIETY

1. Describe the importance of animals.
2. Describe the responsibilities of animal ownership.
3. Identify factors in selecting an animal.
4. Identify current and emerging technologies of animal agriculture.

UNIT IV - PRODUCTS FROM AGRICULTURE

1. Describe the role of agriculture in the food chain.
2. Identify food products from plants.
3. Identify food products from animals.
4. Describe the importance of food processing and safety.
5. Identify fiber products from agriculture.
6. Describe nonfood products from agriculture.

UNIT V - NATURAL RESOURCES AND CONSERVATION

1. Describe the importance of natural resources.
2. Describe the importance of soil conservation.
3. Describe the importance of water quality.
4. Describe the importance of air quality.
5. Describe the importance of wildlife management.
6. Describe how conservation issues affect agriculture.

UNIT VI - LEADERSHIP AND PERSONAL DEVELOPMENT

1. Identify important factors in developing leadership skills.
2. Explain the importance of keeping financial records.

UNIT VII - BASIC HOME AND FARMSTEAD SAFETY AND MAINTENANCE

1. Understand electricity and explain precautions for the safe use of electricity.
2. Identify common measurements and give examples of their uses.
3. Identify common tools and their uses.
4. Identify personal safety practices when using hand and power tools.
5. Identify safety and maintenance procedures for lawn and garden equipment.

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Materials and Supplies

Dwight and Rosemary Hall, Highway 111 West, Box 335, Oregon, MO 64473 (800) 762-1384

Lee Seed Company, 2242 Highway IA 182, Inwood, IA 51240 (712) 753-4403

The Soy Bin, Route 1, Box 99, Marienthal, KS 67863 (316)375-2746

Super Soynuts, Soybean Candies, and/or Mighty MO Munchies

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Exploring Agriculture in America - Competency Crosswalk

		CURRICULUM FRAMEWORKS FOR GRADES 5-8							
		SHOW-ME STANDARDS							
Duty Band & Task Statement	Knowledge (Content)	Performance (Goals)	Communication Arts	Fine Arts	Health/Physical Education	Math	Science	Social Studies	
A-1	SC 8, SS 3, SS 4, SS 6	1.1, 1.3, 1.9, 1.10, 2.6, 4.8	I/1a, I/2e, I/3g, I/6c, II/1a				VII.B 2a, VII.B 3a	II.B/3a, b, e; II.E/2a, b, c, d	
A-2	CA 4, SC 4, SS 4, SS 7	1.1, 1.6	I/2b, I/3c, I/6a				VII.A/1a, VII.A/2a, VII.A/3a	I.D/2g; II.E/4b, d	
A-3	CA 3, CA 6, SC 8, SS 5, SS 6	1.1, 1.6, 1.8	I/1a, I/3c, II/2a					II.E/2a, d, j, k; II.E/3a, b, j, k	
A-4	CA 3, CA 6, SC 8, SS 5, SS 6	1.1, 1.6	I/1a, I/3c, II/2a					II.E/2a, k; II.E/3a, j, k	
A-5	CA 1, CA 3, SC 3, SS 4, SS 5, SS 6, SS 7	1.1, 1.2, 1.6, 1.7, 2.7, 3.8	I/1a, I/3c, II/2c				II.A/2a		
B-1	CA 1, CA 3, SC 3, SS 4, SS 5, SS 6	1.2, 1.3, 1.7, 1.8, 1.10	I/1b, I/3c		II.B/1b, 2a, 2b		VI.B/4b, VII.B/2a	III.E/6c, e, f, i, n; IV.D/1h	
B-2	CA 1, CA 3, SC 3	1.1, 1.2, 1.3, 1.6	I/1d, I/3g				VII.B/1a, VII.B/2a, VII.B/3a		
B-3	CA 1, CA 3, SC 3	1.1, 1.2, 1.3					I.B/1a, VI.A/4a, VI.A/7a, VI.A/8a		
B-4	CA 1, CA 3, SC 3	1.2, 1.3, 1.8, 2.1, 3.1					VI.A/8a, VII.A/3a, VII.B/2a, VII.B/3a		
B-5	CA 1, CA 3, SC 3, SC 7, SC 8	1.1, 1.2, 1.3, 1.4, 2.7					II/1a, II/2a, VII.D/1a, VII.D/2a		

Duty Band & Task Statement		SHOW-ME STANDARDS				CURRICULUM FRAMEWORKS FOR GRADES 5-8					
		Knowledge (Content)	Performance (Goals)	Communication Arts	Fine Arts	Health/Physical Education	Math	Science	Social Studies		
C-1	CA 1, CA 5, CA 6, SC 3, SC 4, SS 4, SS 6	2.2, 2.3	I/2b, d; II/3a, b; II/5b, c, d, e					I.D/4j, I.D/7j			
C-2	CA 6, SC 3, SS 6	1.3, 1.4, 1.6, 2.3, 3.7, 3.8	I/2e		I.B/6a			I.B/1g, 1j; I.B/2g, j; I.B/3g, j			
C-3	CA 6, MA 1, SC 3, SS 6	2.3, 3.1, 3.3, 3.7				IV/2b, d; IV/3b, d; V/1a					
C-4	CA 1, CA 4, SC 3, SC 7, SC 8	1.1, 1.3, 1.5, 1.6, 1.8, 2.7, 3.5, 4.6	I/1b; I/2b, c; II/3c				VII.D/1a, VII.D/2a				
D-1	HP 2, SC 8, SS 6, SS 7	1.4, 2.7, 3.5			II.B/6a		VIII.A/1a, b; VIII.A/2a, b; VIII.A/3a; VIII.A/4a	II.B/4b, II.B/3c, II.B/2l			
D-2	CA 3, HP 2, HP 6	1.2, 1.4, 1.5, 1.6, 1.7, 1.10			II.B/1a, b; II.B/2a, b; II.B/3a; II.B/8a						
D-3	HP 3, HP 6, SS 4, SS 6	1.1, 1.9, 1.10, 4.1			II.C/1a, b; III.A/2a; III.A/8a						
D-4	HP 3, HP 6, SS 4, SS 6	1.1, 1.9, 1.10, 4.1			II.C/1a, 1b, III.A/2a, III.A/8a			I.D/6l			
D-5	CA 3, SC 8, SS 4	1.1, 1.2	I/2b					I.D/2a			
D-6	CA 3, SC 8, SS 4	1.1, 1.2	I/2b					I.D/2a			
E-1	CA 1, CA 3, CA 6, HP 3, SC 4, SS 5, SS 6	1.1, 1.2, 1.3, 1.6, 1.8, 3.8	I/3c, g		III.D/1a, III.D/2a, III.D/3a		VI.A/9a, VIII.A/3a, VIII.B/1a	II.E/2a, b, c; II.E/3c; d; II.E/4a; III.E/3c, e, f, g			

SHOW-ME STANDARDS		CURRICULUM FRAMEWORKS FOR GRADES 5-8							
Duty Band & Task Statement	Knowledge (Content)	Performance (Goals)	Communication Arts	Fine Arts	Health/Physical Education	Math	Science	Social Studies	
E-2	CA 3, SC 4, SC 5, SS 5, SS 6	1.1, 1.2, 1.3, 1.6, 1.8, 3.8	I/3c, g				VI.A/9a, VIII.B/2a		
E-3	CA 3, SC 4, SC 8, SS 5, SS 6	1.1, 1.2, 1.3, 1.6, 1.8, 3.8	I/3c, g				VI.A/9a, VIII.B/1a	II.E/2e; II.E/3k; II.E/4a	
E-4	CA 3, SC 5, SC 6, SS 5	1.1, 1.2, 1.3, 1.6, 1.8, 3.8	I/3c, g				VI.A/9a, VIII.B/2a		
E-5	CA 3, SC 4, SC 7, SC 8, SS 5	1.1, 1.2, 1.3, 1.6, 1.8, 3.8	I/3c, g				III.A/3a, VI.A/9a, VIII.B/2a		
E-6	CA 3, SC 4, SC 7, SC 8, SS 5	1.1, 1.2, 1.3, 1.6, 1.8, 3.8	I/3c, g				VI.A/9a, VIII.A/3a, VIII.B/2a	II.E/4e	
F-1	CA 1, CA 4, CA 6, HP 2, HP 5, SS 1, SS 3, SS 6	1.7, 2.4, 3.2, 3.4, 3.6, 4.3, 4.6	II/1a, II/2c		II.A/1a, b			II.B/7j, k, l, n	
F-2	CA 1, MA 1	1.6, 1.10, 2.1, 2.2, 3.8, 4.1				V/1b, d		II.D/6f, k	
G-1	CA 1, CA 3, SC 1	1.2, 1.3, 1.4, 1.6, 1.10	I/2e				III.B/3a, b; III.B/4a, b		
G-2	MA 1	2.5, 3.8, 4.1				VI/1g			
G-3	MA 2	1.10, 2.7				VI/3d, e, f			
G-4	HP 2, HP 5,	1.7, 3.1			II.A/1a, III.B/1a				
G-5	HP 2, HP 5	1.7, 3.1			II.A/1a, III.B/1a				

Exploring Agriculture in America

Teaching Calendar

	Periods for Classroom Instruction/Activities	Length for Activity Sheets (AS)
Unit I, Lesson 1	4 days	AS 1.1 .5 class period
		AS 1.2 .5 class period
		AS 1.3 .75 class period
		AS 1.4 1 class period
		AS 1.5 .5 class period
		AS 1.6 .5 class period
		AS 1.7 .75 class period
		AS 1.8 .75 class period
Unit I, Lesson 2	3 days	AS 2.1 1 class period
		AS 2.2 .75 class period
		AS 2.3 .75 class period
Unit I, Lesson 3	2 days	AS 3.1 1 class period
		AS 3.2 1 class period
Unit I, Lesson 4	3 days	AS 4.1 .75 class period
		AS 4.2 .75 class period
		AS 4.3 1 class period
Unit I, Lesson 5	3 days	AS 5.1 .5 class period
		AS 5.2 1 class period
		AS 5.3 1 class period
Unit II, Lesson 1	3 days	AS 1.1 .5 class period
		AS 1.2 1 class period
		AS 1.3 .5 class period
Unit II, Lesson 2	3 days	AS 2.1 .5 class period
		AS 2.2 .5 class period
		AS 2.3 .75 class period
Unit II, Lesson 3	3 days	AS 3.1 .5 class period
		AS 3.2 1 class period
		AS 3.3 1 class period
Unit II, Lesson 4	2 days	AS 4.1 .5 class period
		AS 4.2 .75 class period
Unit II, Lesson 5	4 days	AS 5.1 1 class period
		AS 5.2 .5 class period
		AS 5.3 4 class periods
		AS 5.4 .75 class period
Unit III, Lesson 1	2 days	AS 1.1 .5 class period
		AS 1.2 .75 class period
Unit III, Lesson 2	2 days	AS 2.1 .75 class period
		AS 2.2 .75 class period

	Periods for Classroom Instruction/Activities	Length for Activity Sheets (AS)
Unit III, Lesson 3	3 days	AS 3.1 .5 class period
		AS 3.2 .75 class period
		AS 3.3 .5 class period
Unit III, Lesson 4	2 days	AS 4.1 .75 class period
Unit IV, Lesson 1	2 days	AS 1.1 .5 class period
		AS 1.2 .75 class period
Unit IV, Lesson 2	2 days	AS 2.1 .5 class period
		AS 2.2 .5 class period
		AS 2.3 .5 class period
Unit IV, Lesson 3	4 days	AS 3.1 .5 class period
		AS 3.2 .5 class period
		AS 3.3 .5 class period
		AS 3.4 .75 class period
		AS 3.5 .5 class period
Unit IV, Lesson 4	4 days	AS 4.1 .75 class period
		AS 4.2 .5 class period
		AS 4.3 1 class period
		AS 4.4 1.5 class periods
Unit IV, Lesson 5	2 days	AS 5.1 .75 class period
		AS 5.2 .5 class period
		AS 5.3 .5 class period
Unit IV, Lesson 6	3 days	AS 6.1 .75 class period
		AS 6.2 .5 class period
		AS 6.3 1 class period
		AS 6.4 1 class period
Unit V, Lesson 1	3 days	AS 1.1 .5 class period
		AS 1.2 .75 class period
		AS 1.3 2 class periods
Unit V, Lesson 2	2 days	AS 2.1 1 class period
Unit V, Lesson 3	2 days	AS 3.1 .75 class period
		AS 3.2 1 class period
Unit V, Lesson 4	3 days	AS 4.1 .5 class period
		AS 4.2 .5 class period
Unit V, Lesson 5	2 days	AS 5.1 .75 class period
		AS 5.2 1.5 class periods
Unit V, Lesson 6	2 days	AS 6.1 .75 class period
Unit VI, Lesson 1	3 days	AS 1.1 .75 class period
		AS 1.2 .75 class period
		AS 1.3 .75 class period
		AS 1.4 .75 class period
		AS 1.5 1 class period

	Periods for Classroom Instruction/Activities	Length for Activity Sheets (AS)
Unit VI, Lesson 2	4 days	AS 2.1 1 class period
		AS 2.2 1 class period
		AS 2.3 1 class period
Unit VII, Lesson 1	3 days	AS 1.1 .75 class period
		AS 1.2 .75 class period
Unit VII, Lesson 2	2 days	AS 2.1 .5 class period
		AS 2.2 1 class period
		AS 2.3 1 class period
		AS 2.4 1 class period
		AS 2.5 .75 class period
Unit VII, Lesson 3	2 days	AS 3.1 .75 class period
		AS 3.2 .75 class period
Unit VII, Lesson 4	3 days	None
Unit VII, Lesson 5	3 days	AS 5.1 .75 class period
		AS 5.2 .75 class period
		AS 5.3 1 class period
		AS 5.4 1 class period
		AS 5.5 1 class period
		AS 5.6 2 class periods

Exploring Agriculture in America Competency Profile

Directions:

Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale: **3 Mastered** - can work independently with no supervision
2 Requires Supervision - can perform job completely with limited supervision
1 Not Mastered - requires instruction and close supervision
N No Exposure - no experience or knowledge in this area

3	2	1	N

A. Introduction to Agriculture

1. Define agriculture and identify career opportunities in agriculture.
 2. Describe the role of agriculture in the world.
 3. Describe the role of agriculture in the United States.
 4. Describe agriculture in Missouri.
 5. Identify advances in agricultural technology and their implications.
- Other: _____

3	2	1	N

B. Plant Science

1. Describe how plants affect our lives.
 2. Describe the parts of a plant and major processes.
 3. Describe the importance of the growing medium to plants.
 4. Identify the important factors to consider in caring for plants.
 5. Identify current and emerging technologies of plant agriculture.
- Other: _____

3	2	1	N

C. Animals in Society

1. Describe the importance of animals.
 2. Describe the responsibilities of animal ownership.
 3. Identify factors in selecting an animal.
 4. Identify current and emerging technology of animal agriculture.
- Other: _____

3	2	1	N

D. Products from Agriculture

1. Describe the role of agriculture in the food chain.
 2. Identify food from plants.
 3. Identify food from animals.
 4. Describe the importance of food processing and safety.
 5. Identify fiber products from agriculture.
 6. Describe nonfood products from agriculture.
- Other: _____

3	2	1	N

E. Natural Resources and Conservation

1. Describe the importance of natural resources.
 2. Describe the importance of soil conservation.
 3. Describe the importance of water quality.
 4. Describe the importance of air quality.
 5. Describe the importance of wildlife management.
 6. Describe how conservation issues affect agriculture.
- Other: _____

3	2	1	N

F. Leadership and Personal Development

1. Identify important factors in developing leadership skills.
 2. Explain the importance of keeping financial records.
- Other: _____

3	2	1	N

G. Basic Home and Farmstead Safety and Maintenance

1. Understand electricity and explain precautions for the safe use of electricity.
 2. Identify common measurements and give examples of their uses.
 3. Identify common tools and their uses.
 4. Identify personal safety practices when using hand and power tools.
 5. Identify safety and maintenance procedures for lawn and garden equipment.
- Other: _____

