

E DUCATIONAL **F** RAMEWORK FOR **L** OUISIANA'S **A** GRISCIENCE/**A** GRIBUSINESS/**FFA** PROGRAM

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Introduction

The Educational Framework for Louisiana's Agriscience/Agribusiness/FFA Program is an effort to restructure this program for the 21st century. This framework is based on the conviction that all students deserve and must have more productive and fulfilling lives through the application of agricultural, scientific, mathematical, language arts, FFA leadership activities, knowledge, ideas and processes. This conviction is a vision of great hope and optimism for the future of our graduates, one that can act as a powerful unifying force.

Setting goals and developing state standards to meet them are key strategies in the agriscience/agribusiness/FFA program. Support for educational frameworks in Louisiana originated in the 1980s when the National Governors Association sanctioned national education goals. Other events of key importance that laid the groundwork for these standards include

A Nation at Risk: The Imperative for Educational Reform (1983)¹

Understanding Agriculture: New Directions for Education (1988)²

Agricultural Education for the Year 2020 (1996-98)³

Several projects that developed innovative agriscience curricula during the past decade

Ongoing legislation and restructuring projects—such as the Southern Region Education Board's High Schools that Work Project and the School to Career legislation—mandate that curricular change in vocational, science, mathematics and other educational areas must occur.

These events have led to a strong conviction on the part of the agriscience/agribusiness/FFA community that continued reevaluation of the program and appropriate changes based on this reevaluation are required. A critical aspect of this reevaluation includes an assessment of the extent to which the agriscience/agribusiness instructional program and FFA career development events have implemented the changes called for in national educational reform efforts as shown in Table 1:

¹Published by the National Commission on Excellence in Education.

²Published by the National Academy of Sciences, National Research Council, Board on Agriculture.

³Project currently underway.

Table 1

Changes Called for by National Education Reform Efforts

LESS EMPHASIS ON	MORE EMPHASIS ON
Learning about agriculture by lecture and reading	Learning agriculture and science through investigation and inquiry including laboratory and site-based learning
Separation of agricultural and science disciplines	Integration of agriculture and science disciplines
Separation of theory and practice	Integration of theory and practice
Individual learning	Collaborative learning
Fragmented, one-shot planning	Long-term, objectives-based planning
Teacher as expert	Teacher as intellectual, reflective facilitator of learning
Teacher as consumer of knowledge about teaching	Teacher as producer of knowledge about teaching
Teacher as follower in curriculum development	Teacher as primary curriculum developer
Teacher as an individual based in an agriscience program	Teacher as a member of a collaborative, professional education community
Teacher as target of change	Teacher as source and facilitator of change
Content/skills and learning are the responsibility of the teacher	Content/skills and learning are the collaborative responsibility of the teacher and students

Agriscience/agribusiness/FFA educators have traditionally been strong proponents of the approach described in the right column. This project has allowed these educators to reevaluate how well they have implemented these concepts and to identify those course adjustments that are needed.

Regardless of our occupation, agricultural production, processing, and distribution are critical to the very existence of the American standard of living as we know it. All Americans should be equipped with a basic understanding of the American and global agricultural systems. This foundation is critical as they become involved in citizenship responsibilities such as voting and policy development, especially in a time of expanding environmental and biotechnological concerns.

Approximately 20% of all graduates will pursue careers in agriculturally related occupations and two percent of high school graduates will be directly involved in the

production of agricultural products. For these students, it is imperative that they study in a high school curriculum that makes them aware of and prepares them for careers in these agricultural occupations. High school agriscience education curricula must equip students with fundamental and advanced agricultural knowledge and skills, including technology, leadership, and career development.

Louisiana Content Standards Foundation Skills

The Louisiana Content Standards Task Force has developed the following foundation skills, which should apply to all students in all disciplines:

- 1. Communication:** A process by which information is exchanged and a concept of "meaning" is created and shared between individuals through a common system of symbols, signs, or behavior. Students should be able to communicate clearly, fluently, strategically, technologically, critically, and creatively in society and in a variety of workplaces. This process can best be accomplished through use of the following skills: reading, writing, speaking, listening, viewing, and visually representing.
- 2. Problem Solving:** The identifying of an obstacle or challenge and the application of knowledge and thinking processes which include reasoning, decision making, and inquiry in order to reach a solution using multiple pathways, even when no routine path is apparent.
- 3. Resource Access and Utilization:** The process of identifying, locating, selecting, and using resource tools to help in analyzing, synthesizing, and communicating information. The identification and employment of appropriate tools, techniques, and technologies are essential in all learning processes. These resource tools include pen, pencil, and paper; audio/video material; word processors; computers; interactive devices; telecommunication; and other emerging technologies.
- 4. Linking and Generating Knowledge:** The effective use of cognitive processes to generate and link knowledge across the disciplines and in a variety of contexts. In order to engage in the principle of continued improvement, students must be able to transfer and elaborate on these processes. *Transfer* refers to the ability to apply a strategy or content knowledge effectively in a setting or context other than that in which it was originally learned. *Elaboration* refers to monitoring, adjusting, and expanding strategies into other contexts.
- 5. Citizenship:** The application of the understanding of the ideals, rights, and responsibilities of active participation in a democratic republic that includes working respectfully and productively together for the benefit of the individual and the community; being accountable for one's choices and actions and

understanding their impact on oneself and others; knowing one's civil, constitutional, and statutory rights; and mentoring others to be productive citizens and lifelong learners.

Information Literacy Model for Lifelong Learning

Students must become competent and independent users of information to be productive citizens of the 21st century. They must be prepared to live in an information-rich and changing global society. Due to the rapid growth of technology, the amount of information available is accelerating so quickly that teachers are no longer able to impart a complete knowledge base in a subject area. In addition, students entering the workforce must know how to access information, solve problems, make decisions, and work as a part of a team. Therefore, information literacy—the ability to recognize an information need, and then locate, evaluate, and use effectively the needed information—is a basic skill essential to the 21st century workplace and home. Information literate students are self-directed learners who, individually or collaboratively, use information responsibly to create quality products and to be productive citizens. Information literacy skills must not be taught in isolation; they must be integrated across all content areas, utilizing fully the resources of the classroom, the school library media center, and the community. The Information Literacy Model for Lifelong Learning is a framework that teachers at all levels can apply to help students become independent lifelong learners.

1. **Defining/Focusing:** The first task is to recognize that an information need exists. Students make preliminary decisions about the type of information needed based on prior knowledge.
2. **Selecting Tools and Resources:** After students decide what information is needed, they then develop search strategies for locating and accessing appropriate, relevant sources in the school library media center, community libraries and agencies, resource people, and others as appropriate.
3. **Extracting and Recording:** Students examine the resources for readability, currency, usefulness, and bias. This task involves skimming or listening for key words, "chunking" reading, finding main ideas, and taking notes.
4. **Processing Information:** After recording information, students must examine and evaluate the data in order to utilize the information retrieved. Students must interact with the information by categorizing, analyzing, evaluating, and comparing for bias, inadequacies, omissions, errors, and value judgments. Based on their findings, they either move on to the next step or do additional research.

5. **Organizing Information:** Students effectively sort, manipulate, and organize the information that was retrieved. They make decisions on how to use and communicate their findings.
6. **Presenting Findings:** Students apply and communicate what they have learned (e.g., research report, project, illustration, dramatization, portfolio, book, book report, map, oral/audiovisual presentation, game, bibliography, hyper stack).
7. **Evaluating Efforts:** Throughout the information problem-solving process, students evaluate their efforts. This process assists students in determining the effectiveness of the research process. The final product may be evaluated by the teacher and also other qualified or interested resource persons.

Mission Statement for Agriscience/Agribusiness/FFA

The Mission of the Agriscience/Agribusiness/FFA Program Education is to prepare and support individuals for careers; build awareness of and develop leadership for the food, fiber and natural resource systems; and to sustain the viability of earth and people through education in agriculture. We value and desire to achieve this mission by

1. providing instruction in and about agriscience, food and natural resource systems;
2. serving all populations;
3. developing the whole person;
4. responding to the needs of the economic and educational marketplace;
5. advocating free enterprise and entrepreneurship education;
6. functioning as a part of the total educational system;
7. connecting classroom and laboratory instruction with real-world life and career experiences; and
8. utilizing a proven educational process which includes
 - a. formal instruction in classrooms and laboratories;
 - b. site-based, experiential learning in supervised agricultural experience programs; and
 - c. leadership and personal development thru the FFA.

Agriscience/Agribusiness/FFA Program Components/Structure - The Teaching and Learning of Agriscience/Agribusiness/FFA

Nature of the Agriscience/Agribusiness/FFA Program: What Is Agriscience/Agribusiness/FFA

The mission stated above is accomplished by using a combination of experiential and inquiry-based learning in the classroom, laboratory, and community. All students in agriscience/agribusiness/FFA benefit from the emphasis on lifelong skills such as leadership and personal development, critical thinking, communications, teamwork, career decision making, and citizenship. The Louisiana Content Standards Foundation Skills on page 3 and the Information Literacy Model on page 4 have been adopted by the Louisiana agriscience/agribusiness/FFA profession and have been incorporated into the teaching philosophy and processes used in Louisiana.

Note: From this point to the end of this document, “AgEd/FFA” will be used to denote the Agriscience/Agribusiness/FFA Program.

Unifying Concepts and Processes

Students are taught decision-making skills and provided opportunities to take responsibility for significant events and projects in the AgEd/FFA program. These opportunities require hands-on, applied activities that address the student's individual development in several areas: career development, leadership skills, workplace readiness, safety awareness, business management and marketing, and group and organizational skills. These skills are based on concepts taught in academic subjects and students are taught to apply these concepts to life in the real world. Since agriculture is the application of science, providing science credit for AgEd/FFA serves the student's educational needs while also incorporating current trends in science education. AgEd/FFA also incorporates the applications approach for mathematics, language arts and communications, and other academic areas.

In addition to the integration with academic subjects, there is a broad spectrum of careers in agriculturally related fields. AgEd/FFA serves as a career path for those students who choose to enter agricultural occupations. AgEd/FFA courses, in tandem with

appropriate academic and elective courses, prepare students to enter college, pursue post-secondary education, or enter the workforce upon graduation.

Instructional Issues

AgEd/FFA is not a classroom only subject. It is based on a constantly expanding knowledge base, evolving technology and other scientific advances, and emerging ethical issues both in the instructional environment and in agriculture. The AgEd/FFA program must meet student and community needs, and state leadership must provide for a wide range of local adaptation. It must be taught as an integral part of high school curricula, rather than as an isolated or stand-alone program.

Classroom/Laboratory/Site-Based Learning

AgEd/FFA is unique among educational programs in that its laboratory and site-based experiences are highly interrelated. For example, after classroom instruction on metal or wood construction techniques, materials, etc., students may perform metal or wood construction in a laboratory located at the school or they may perform the same task in a site-based experience. After classroom instruction on parliamentary law motions and procedures, students actually utilize these motions and procedures to conduct mock meetings using the classroom as a laboratory; then, students use parliamentary law to conduct the business of the school's FFA chapter. In both cases, depth of knowledge and skills is developed through a combination of classroom, laboratory, site-based experiences.

The program must allow the teacher to facilitate learning while continuing to integrate science, mathematics, and communication skills into the total program. Instruction should be coordinated with all high school courses and taught as an integral part of the total instructional experience for the student, rather than as an isolated program.

Technology, Materials, and Equipment

AgEd/FFA programs demand modern equipment, facilities, materials, and other technology that simulate the current environment in the workplace. The program must emphasize knowledge construction to solve problems via the problem-solving method traditionally used in AgEd/FFA, a method that has become popular in many other fields during the past few years. The problems used in this method must be realistic in nature and must require learners to determine the method of solving the problem as well as the actual application of the final solution. The instructional process must incorporate hands-on teaching, an approach that requires equipment, technology and materials similar to those used in the real-work world. Consumable supplies must be provided on a reliable, consistent basis.

FFA

The FFA is recognized as the finest student organization in the world. It is a co-curricular student organization that serves as an essential teaching tool in the AgEd/FFA program. FFA activities provide motivational, application-oriented opportunities for students to develop skills and demonstrate learning. Students are given the responsibility for running an FFA chapter. They learn critical thinking skills, leadership, teamwork, communications, competition, ethics, and other critical-life skills through this process. FFA activities connect classroom learning with career-related, real-world experiences. The FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth, and career success through AgEd/FFA.

Supervised Agricultural Experience Program (SAEP)

A very unique component of AgEd/FFA is the Supervised Agricultural Experience Program (SAEP). This component is in addition to the classroom, laboratory and site-based experiences described above. Each student enrolled in AgEd/FFA is required to plan and conduct a SAEP. SAEP is a coordinated set of supervised individual experiences in an agricultural career area. Examples of SAEPs include employment in a farm, ranch, or agribusiness setting; individual production of livestock or crops; volunteer work with community organizations using agricultural skills; or developing entrepreneurial opportunities.

The SAEP allows the student to apply the knowledge and individualized skills learned in school-sponsored classroom, laboratory and site-based activities in their own situation. These experiences allow students to explore career areas, to develop career skills further, to develop self-confidence and a sense of responsibility and pride, to hone their personal decision-making skills, and to receive recognition for their achievements.

Depth of Knowledge/Skills

Many critics of American education point to the Japanese, German and other systems of education as being superior primarily because of the depth of learning that is common to those systems. AgEd/FFA has traditionally emphasized depth of knowledge and skills. For example, instead of just learning measurement, students use measurement skills in conjunction with other skills to construct realistic agricultural projects or facilities. Instead of just studying chemicals and their effects on plants, students select appropriate chemicals for specific problems or situations, calibrate equipment, and apply the chemical according to manufacturers' specifications. Instead of just learning business principles, students are involved in entrepreneurial SAEPs, develop a business plan, maintain records, and evaluate business success. These examples demonstrate the depth that exists in the AgEd/FFA program.

Assessment

Purpose of Assessment

Assessment is the "process of collecting, synthesizing and interpreting information to aid in decision making " (Airasian, 1991)⁴. It is an important tool used to make decisions about educational quality and improvement. It is a key tool used by Louisiana Department of Education staff, members of the State Board of Elementary and Secondary Education, and other stakeholders to make decisions about education policy and to ensure accountability. Assessment must guide the enhancement and improvement of AgEd/FFA and FFA.

Objectives Oriented Approach

One major error made by some professionals and stakeholders in the field of education is that they often fail to base assessment on valid, measurable instructional objectives. If everyone has not agreed what a program is supposed to produce from an instructional quantity and quality standpoint, then any assessment is futile. In the case of the AgEd/FFA strands described in this publication, assessment design becomes even more critical because each local program of AgEd/FFA must be based on student and local community needs rather than a state-wide mandated curriculum. As such, assessment of AgEd/FFA programs should be conducted based on local objectives.

Alternative Assessment

One initiative in education reform is the promotion of the use of alternative assessment in all areas of education. "Alternative assessment includes any type of assessment in which students create a response to a question rather than choose a response from a given list (e.g., multiple-choice, true-false, or matching). Alternative assessment can include short answer questions, essays, performances, oral presentations, demonstration, exhibitions, and portfolios."⁵ AgEd/FFA has and will creatively use these forms of alternative assessment.

⁴Airasian, P. (1991). *Classroom assessment*. New York: McGraw-Hill, Inc.

⁵Regional Educational Laboratory Network Program on Science and Mathematics Alternative Assessment. (1994). *A toolkit for professional developers: Alternative assessment*, page 7.

Effective AgEd/FFA Program Assessment

The alternative assessment examples identified above match the instructional needs of AgEd/FFA programs and will continue to be used. However, a comprehensive, valid assessment of AgEd/FFA must include an assessment of all components of the program: classroom/laboratory/site-based instruction, supervised agriscience experience program, and FFA activities. This program cannot and should not be evaluated solely on written examinations or standardized test scores. However, AgEd/FFA students have consistently scored higher on all five portions of the Louisiana Assessment of Education Process (LEAP) tests than the general student population.⁶ Alternative methods such as portfolios, exhibitions, and skill performances, and career development events must be used. The Annual Report/Plan Louisiana Agriscience/Agribusiness/FFA is one tool that should be used in assessing AgEd/FFA programs. A copy of this document may be found on page 56.

Need and Context for Restructuring AgEd/FFA

The world of agriculture and AgEd/FFA continues to grow more complex. We develop, disseminate and interpret more information in less time than ever before. Our curriculum development, teacher education, state supervision/coordination of AgEd/FFA activities, and local delivery systems must stretch to keep the pace. AgEd/FFA educators must keep pace as scientists add more information to the knowledge base, budgets grow tighter, and the use of technology increases the speed of business.

These rapid changes require new ways of thinking, working and interacting. Just as newer, more powerful software applications can overwhelm today's computer systems, the ever-accelerating rate of change can overwhelm our system of AgEd/FFA. From curriculum development and dissemination to teacher preparation and state supervision/coordination of AgEd/FFA activities, our people are overloaded. It is time to take a fresh look at these systems to meet current and future needs more effectively.

Tremendous change is occurring in our nation's schools and particularly in Louisiana. Alternative scheduling is one initiative that is dramatically affecting AgEd/FFA. AgEd/FFA programs need the flexibility to function within 4X4 blocks and other forms of alternative scheduling. The use of this Framework in developing local curricula provides this flexibility.

The Frameworks project was launched in an effort to address these fundamental issues. This project is a visioning and planning initiative to develop a framework for 21st century education/FFA programs. This project, in collaboration with AgEd/FFA across the nation, is the first step in a multi-year effort to reinvent AgEd/FFA in the United States.

⁶Based on 1994-1996 data.

Purpose/Goals of the AgEd/FFA Framework Project

The purpose and goals of this project are to develop

1. A master plan for developing the agricultural literacy and advanced career skills of Louisiana students as they progress through K-12 AgEd/FFA.
2. A master plan for AgEd/FFA based on Louisiana's needs.
3. A visionary document that will enable teachers, students, parents, administrators, and other stakeholders to envision the nature, purpose and role of AgEd/FFA in Louisiana schools.
4. A master plan that
 - a. Provides substantial depth of content and skills.
 - b. Provides increased collaboration between teachers and students in instructional design.
 - c. Utilizes alternative assessment methodology (other than primarily written objective tests).
 - d. Describes the scope for AgEd/FFA.
 - e. Provides flexibility to teachers in selecting course content and activities based on local needs.
 - f. Prepares students for the 21st century.
 - g. Truly empowers teachers as leaders in the profession.
 - h. Reemphasizes science, mathematics, and communications content of AgEd/FFA curricula.
 - i. Emphasizes foundation skills developed by the Louisiana Content Foundation Skills Standards Task Force and by the Louisiana AgEd/FFA Framework Project Task Force:
 - i. Communication
 - ii. Problem solving

- iii. Resource access and utilization
 - iv. Linking and generating knowledge
 - v. Citizenship
 - vi. Leadership
 - vii. Career Development
 - viii. Agricultural/occupational experience
5. A master plan that recognizes that each AgEd/FFA program must be based on the needs of the students and local community. As such, not all AgEd/FFA programs will teach all benchmarks and identified benchmark components. Each AgEd/FFA educator must identify those benchmarks and benchmark components that are appropriate for their students and community.

Intended Audience

The Louisiana AgEd/FFA Framework is intended for a broad audience: AgEd/FFA teachers, K-12 teachers, parents, school and district administrators, school board members, policy makers, Louisiana Department of Education staff, college/university faculty/administrators, business/industry leaders, and government agency staff.

Intended Use

This Framework serves as a guide for curriculum and instruction and as a general reference to the basic principles of AgEd/FFA in Louisiana. It should be noted that the benchmarks and benchmark components taught should be based on the needs of the students and the community where the AgEd/FFA program is located. The intended uses of this Framework include the following:

1. for AgEd/FFA teachers to use in planning curriculum, instruction and assessment;
2. for K-12 teachers to use in identifying ways they can incorporate AgEd/FFA emphasis in their curricula;
3. for parents to use as a means of assessing the effectiveness of their children's AgEd/FFA;

4. for school and district administrators and school board members to use as a vision for AgEd/FFA and a basis for planning resource allocations, material purchases, local curriculum development, teachers' professional development, and facility construction;
5. for policy makers and state education staff as a basis for developing laws, policies, professional development activities/materials, assessment strategies, and funding priorities to support local program development;
6. for college/university faculty and administrators as a basis for the content and design of pre-service teacher education and in-service teacher development programs; and
7. for business/industry leaders and government agency staff as a basis for developing effective partnerships for supporting AgEd/FFA programs and professional development.

Selected Terminology

Term	Definition
Strand	Major division of instructional content.
Standard	Umbrella goal for each strand.
Benchmark	Broad labels that denote the process and content used as a reference to develop curriculum and assess student progress.
Benchmark component	Descriptions of the components of each benchmark.
SAEP	Supervised Agricultural Experience Program: an individualized student program of planned agricultural activities and occupational experiences that are supervised by the AgEd/FFA teacher. The SAEP may include placement, entrepreneurship or volunteerism experiences.
Work-based experiences	The occupation specific component of SAEP. Includes those experiences resulting from enrollment in the Cooperative Agricultural Education (CAE), an out-of-school placement program; mentoring; or job shadowing components of the AgEd/FFA program.
School to Work	Joint business-educator-labor partnerships whereby local teams design a focused system that links a rigorous and challenging curriculum with serious work-based learning experiences for career-bound youth.

Term	Definition
Connecting Activities	Activities that connect schools and workplaces. These "connecting activities" include 1) coordinating classroom instruction and workplace experience so that the instructional program in school reinforces student's work experiences and vice-versa; 2) providing regular communication, planning, and consultation between the student's employer and the school; 3) forming permanent two-way links with the business and the school, communicating their expectations of what students should learn and be able to do, and then working as partners to help students achieve; and 4) creating links to the full range of post-secondary options, including college.
Classroom Learning	A combination of AgEd/FFA information and experiences provided in classrooms, laboratories, or community.

How Individual Teachers Should Use this Publication

The Frameworks will serve AgEd/FFA policy makers and stakeholders and individual teachers as the foundation for the functional restructuring of AgEd/FFA curricula in Louisiana. The Framework outlines the content appropriate to be taught in Louisiana AgEd/FFA programs; local needs will determine what should be taught in local AgEd/FFA programs. Although teachers will be able to use this Framework to guide them in the restructuring of their curricula, **this document does not contain specific performance criteria that are essential in AgEd/FFA. These specific assessment criteria must be developed on the local level.**

Content Strands

Goal: The student will be able to communicate clearly and effectively, use knowledge and information efficiently, solve problems, demonstrate positive leadership, be creative and original, determine quality, work cooperatively with others, be prepared to make career choices and learn effectively throughout life through agricultural education. This goal will be accomplished by implementing the content strands and standards listed below.

Code	Content strand	Standard
AL	Agricultural Literacy - K-12	<u>ALL</u> students will become aware of the characteristics and components of the food and fiber systems.
PD	Personal Development	AgEd/FFA students will develop the necessary interpersonal and communication skills to obtain a job and work effectively and safely in an interactive work environment.
AB	Agribusiness	AgEd/FFA students will understand the concept of agricultural marketing, management, finance, and entrepreneurship.
BT	Biotechnology	AgEd/FFA students will be able to discuss basic concepts of biotechnology and be able to apply these concepts in written and laboratory activities.
AS	Animal Systems	AgEd/FFA students will understand the concepts and principles of animal science.
PS	Plant Systems	AgEd/FFA students will understand the concepts and principles of plant science.
EM	Environmental Management	AgEd/FFA students will develop an understanding of the interrelationship between people, agriculture and the environment.
AP	Agricultural Processing	AgEd/FFA students will understand processing and packaging of agricultural products.
AT	Agriscience Technology	AgEd/FFA students will demonstrate technical skills that reflect successful business and industry practices.

Special Note

The codes shown in the mathematics, science, and English language arts columns in the tables on the following pages were taken from the mathematics, science, and English language arts frameworks developed by the Louisiana Department of Education.

Agricultural Literacy K-12

Standard: All students will become aware of the characteristics and components of the food and fiber systems.

Focus: Agriculture is an important part of our state's economy from both product and employment perspectives. We depend on the agricultural system for survival and nourishment. Our citizens, both young and old, must be educated about the system that produces our abundant food supply. AgEd/FFA students will learn how food gets to their plates and the numerous biotechnological, economic, environmental, and monetary issues related to the global agricultural system.

AL - Agricultural Literacy

Local plan	Benchmarks	Benchmark Component	Cross Reference		
			Math	Science	English Language Arts
	A. Agricultural awareness grades k-4	1. Discussing the history and industry of agriculture	N1/2/3/4/5/6/7/ 8/9 A1/2/3 M1/2/3/4/5 G1/5/6 D1/2/3 P1/2/3	PS-A1/2/3/4/5, B1/2/3/4, C3/4/6/7 SI-A1/2/3/4/5/6/7, B1/2/3/4/5/6 LS-A1/2/3/4/5, B1/2/3/4 ESS-A1/2/3/4/5/6, B1/2/3/4/5/6 SE-A1/2/3/4/5	1-E1/2/5/6 2-E2/4/5 3-E3 4-E1/2/3/4/5/6/7 5-E1/2/3/4 6-E2 7-E1/2/4
		2. Exploring the animal kingdom as it relates to food and fiber	N1/2/3/4/5/6/7/ 8/9 A1/2/3 G1/5/6 D1/2/3 P1/2/3	PS-A1/2/3/4/5, B1/2/3/4, C3/4/6/7 SI-A1/2/3/4/5/6/7, B 1 /2/3/4/5/6 LS-A1 /2/3/4/5, B1/2/3/4 ESS-A1 /2/3/4/5/6, B1/2/3/4/5/6 SE-A1/2/3/4/5	1-E1/2/5/6 2-E2/4/5 3-E3 4-E1/2/3/4/5/6/7 5-E1/2/3/4 6-E2 7-E1/2/4

			Cross Reference		
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Exploring the plant kingdom as it relates to food and fiber	N1/2/3/4/5/6/7/ 8/9 A1/2/3/4 G1/5/6 D1/2/3 P1/2/3	PS-A1/2/3/4/5, BI/2/3/4, C3/4/6/7 SI-A1/2/3/4/5/6/7, B1/2/3/4/5/6 LS-A1/2/3/4/5, B1/2/3/4 ESS-A1/2/3/4/5/6, B1/2/3/4/5/6 SE-A1/2/3/4/5	1-E1/2/5/6 2-E2/4/5 3-E3 4-E1/2/3/4/5/6/7 5-E1/2/3/4 6-E2 7-E1/2/4
		4. Exploring the food and fiber system of our everyday lives	N1/2/3/4/5/6/7/ 8/9 A1/2/3/4 G1/5/6 D1/2/3 P1/2/3	PS-A1/2/3/4/5, BI/2/3/4, C3/4/6/7 SI-A1/2/3/4/5/6/7, B1/2/3/4/5/6 LS-A1/2/3/4/5, B1/2/3/4 ESS-A1/2/3/4/5/6, B1/2/3/4/5/6 SE-A1/2/3/4/5	1-E1/2/5/6 2-E2/4/5 3-E3 4-E1/2/3/4/5/6/7 5-E1/2/3/4 6-E2 7-E1/2/4
	B. Agricultural literacy grades 5-8	1. Explaining and analyzing the components of agriculture and the manner in which the industry affects our daily lives	N1/2/3/4/5/6/7 A1/2/3/4/5 M1/2/3/4/6 G1/6/7 D1/2/3/6 P1/2/3/4	SI-A1/2/3/4/5/6/7/8, B1/2/3/4/5/6/7 PS-A1/5/6/8/9, B1/2/3/4/5, C1/2/3/5/6/7/8 LS-A1/2/3/4/5/7, B1/2/3, C1/2/3/4, D1/2 ESS-A4/5/8/10/11/12, B2/3 SE-A1/2/3/4/5/6/7/8/9/10	1-M1/2/3/4/5 2-M1/4/5 3-M3 4-M1/2/4/5/6 5-M1/2/6 6-M1/2 7-M1/2/4
		2. Understanding how science relates to agriculture	N1/2/3/4/5/6/7 A1/2/3/4/5 M1/2/3/4/6 G1/6/7 D1/2/3/6 P1/2/3/4	SI-A1/2/3/4/5/6/7/8, B1/2/3/4/5/6/7 PS-A1/5/6/8/9, B1/2/3/4/5, C1/2/3/5/6/7/8 LS-A1/2/3/4/5/7, B1/2/3, C1/2/3/4, D1/2 ESS-A4/5/8/10/11/12, B2/3 SE-A1/2/3/4/5/6/7/8/9/10	1-M1/2/3/4/5 2-M1/4/5 3-M3 4-M1/2/4/5/6 5-M1/2/6 6-M1/2 7-M1/2/4

Local plan	Benchmarks	Benchmark Component	Cross Reference		
			Math	Science	English Language Arts
		3. Exploring animal and plant systems	N1/2/3/4/5/6/7 A1/2/3/4/5 M1/2/3/4/6 G1/6/7 D1/2/3/6 P1/2/3/4	SI-A1/2/3/4/5/6/7/8, B1/2/3/4/5/6/7 PS-A1/5/6/8/9, B1/2/3/4/5, C1/2/3/5/6/7/8 LS-A1/2/3/4/5/7, B1/2/3, C1/2/3/4, D1/2 ESS-A4/5/8/10/11/12, B2/3 SE-A1/2/3/4/5/6/7/8/9/10	1-M1/2/3/4/5 2-M1/4/5 3-M3 4-M1/2/4/5/6 5-M1/2/6 6-M1/2 7-M1/2/4
		4. Exploring vocational skills of the agricultural industry as they relate to agricultural occupations	N1/2/3/4/5/6/7 A1/2/3/4/5 M1/2/3/4/6 G1/6/7 D1/2/3/6 P1/2/3/4	SI-A1/2/3/4/5/6/7/8, B1/2/3/4/5/6/7 PS-A1/5/6/8/9, B1/2/3/4/5, C1/2/3/5/6/7/8 LS-A1/2/3/4/5/7, B1/2/3, C1/2/3/4, D1/2 ESS-A4/5/8/10/11/12, B2/3 SE-A1/2/3/4/5/6/7/8/9/10	1-M1/2/3/4/5 2-M1/4/5 3-M3 4-M1/2/4/5/6 5-M1/2/6 6-M1/2 7-M1/2/4
		5. Exploring career opportunities in the agricultural industry	N1/2/3/4/5/6/7 A1/2/3/4/5 M1/2/3/4/6 G1/6/7 D1/2/3/6 P1/2/3/4	SI-A1/2/3/4/5/6/7/8, B1/2/3/4/5/6/7 PS-A1/5/6/8/9, B1/2/3/4/5, C1/2/3/5/6/7/8 LS-A1/2/3/4/5/7, B1/2/3, C1/2/3/4, D1/2 ESS-A4/5/8/10/11/12, B2/3 SE-A1/2/3/4/5/6/7/8/9/10	1-M1/2/3/4/5 2-M1/4/5 3-M3 4-M1/2/4/5/6 5-M1/2/6 6-M1/2 7-M1/2/4

Local plan	Benchmarks	Benchmark Component	Cross Reference		
			Math	Science	English Language Arts
	C. Agricultural literacy grades 9-12	1. Exploring the food, fiber, and natural resource systems	N1/2/6/7 A1/2/3/4 M1/2/3/4 G6 D1/2/7/8/9 P1/2/3/4/5/6	SI-A1/2/3/4/5/6, B1/2/3/4/5 PSA1/2, B1, C1/2/3/4, D1/2/3/4/6, E1/2/4, F1/2, G4 LS-A1/2/3, B1/2/3/4, C4/5/6/7, D1/2/3/4, E1/2/3, F1/3/4, G1/2/3/4/5 SE-B1/2/3/4/5/6, C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		2. Discussing why agriculture is important in our lives	N1/2/6/7 A1/2/3/4 M1/2/3/4	SI-A1/2/3/4/5/6, B1/2/3/4/5 PS-A2, B1, C1/2/3/4, D1/2/3/4/6/7, E1/2/4, F1/2, G4 LS-A1/2/3/4, B1/2/3/4, C4-/5/6/7, D1/2/3/4, E1/2/3, F1/3, G1/2/3 SE-B1/2/3/4/5/6, C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		3. Recognizing areas of science that are a part of agriculture (physics, chemistry, geology, meteorology, biology)	N1/2/5/7 A1/2/3/4 M1/2/3/4 G1/3/6 D1/2/7/8/9 P1/2/3/4/5	SI-A1/2/3/4/5/6, B1/2/3/4/5 PS-A1/2, B1, C1/2/3/4, D1/2/3/4/6, E1/2/4, F1/2, G4 LS-A1/2/3, B1/2/3/4, C4/5/6/7, D1/2/3/4, E1/2/3, F1/3, G1/2/3	1-H1/3/4/5 2-H1/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

Local plan	Benchmarks	Benchmark Component	Cross Reference		
			Math	Science	English Language Arts
		4. Understanding the relationship between plants and animals	N1/2/6/7 A1/2/3/4 M1/2/3/4 G6 D1/2/7/8/9 P1/2/3/4/5	SI-A1/2/3/4/5/6, B1/2/3/4/5 PS-A1/2, B1, C1/2/3/4, D1/2/3/4/6, E1/2/4, F1/2, G4 LS-A1/2/3, B1/2/3/4, C4/5/6/7, D1/2/3/4, E1/2/3, F1/3, G1/2/3 SE-A1/2/3/4/5/6/7/8/9/10/11, B1/2/3/4/5/6,C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		5. Discussing jobs involved in agriculture	N1/2/5/6/7 A1/2/3/4 M1/2/3/4 G1/3/6 D1/2/7/8/9 P1/2/3/4/5	SI-A1/2/3/4/5/6, B1/2/3/4/5 PS-A1/2, B1, C1/2/3/4, D1/2/3/4/6, E1/2/4, F1/2, G4 LS-A1/2/3, B1/2/3/4, 4/5/6/7 D1/2/3/4, E1/2/3, F1/3, G1/2/3 SE-A1/2/3/4/5/6/7/8/9/10/11, B1/2/3/4/5/6,C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		6. Understanding how agriculture was and is necessary for the development of civilization	N1/2/7 A1/2/3/4 M1/2/3/4 G1/3/6 D1/2/7/8/9 P1/2/3/4/5		1-H1/3/4/5 2-H1/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

Personal Development

Standard: AgEd/FFA students will develop the necessary interpersonal and communication skills to obtain a job and work effectively and safely in an interactive work environment.

Focus: AgEd/FFA students will develop and demonstrate knowledge and skills in agricultural communications, teamwork, citizenship and agriculturally related careers needed in becoming productive citizens.

PD - Personal Development

Local plan	Benchmarks	Benchmark Component	Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
			Math	Science	English Language Arts
	A. Agricultural communication	1. Identifying FFA leadership activities	A1 G6 D1/5/7/8/9 N1/2/6	SI-A1/2/3/4/6, B2/4/5 LS-D4 SE-A2/7/8/10/11, B1/5, C5/C7, D2/4/9	1-H1/3/4/5 2-H2/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
		2. Developing agricultural related speeches	A1 G6 D1/5/7/8/9 N1/2/6	SI-A1/2/3/4/6, B2/4/5 LS-D4 SE-A2/7/10/11, B1/5, C5, D2/4	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
		3. Participating in leadership skills career activities	A1 M1/4 G6 D1/5/7/8/9 N1/2/6	SI-A1/2/3/4/6, B2/4/5 LS-D4 SE-A2/7/8/10/11, B1/5, C5, D2/4	1-H1/3/4/5 2-H/2/5, 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	B. Team work in agriculture	1. Participating in agricultural career event activities	A1/2/3/4 M1/2/3/4 G6 D1/5/7/8/9 N1/2/3/4/5/6/7	SI-A/2/3/4/6, B2/4/5 LS-D4 SE-A2/78/10/11, B1/5, C5 D2/4	1-H1//3/4/5 2-H/2/5, 3-HI/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
		2. Developing chapter recruitment activities			1-H1/3/4/5 2-H/2/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/213/4/6 7-HI/2/4
		3. Developing student and community related financial activities	A1/2/3/4 M4 G6 D1/5/7/8/9 N1/2/5/6/7		1-H1/3/4/5 2-H/2/5 3-H1/2/3 4-H1/2/3/4/5/6 5-HI/2/3/4/6 7-HI/2/4
	C. Citizenship in agriculture	1. Developing community related economic activities	A1/2/3/4 M1/4 G6 D1/5/7/8/9 N1/2/5/6/7		1-H1/3/4/5 2 H/2/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		2. Conducting local agricultural and environmental awareness activities	AI M1/4 G6 D1/5/7/8/9	SI-A1/3/6 PS-G4, H2 LSI-D4 ESS-A12, B1/4 SE-A1/2/3/4/5/6/7/10/11, B1/2/3/4/5/6/, C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H/2/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
		3. Conducting community related citizenship and human resource development activities	AI M1/4 G6 D1/7/8/9	SI-AI/3/6 LS-D4 ESS-A1/2, C3/4/5 SE-A1/2/6/17/10/11, B1/2/3/4/5/6/7, C2/4/5/6/7, D2/3/4/5/6/7/8/9	1-H1/3/4/5 2-H/2/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
	D. Careers in agriculture	1. Exploring agricultural related occupations	AI M1/4 G6 D1/5/7/8/9 N1/2/5/6/7	SI-AI, BI PS-AI, DI, EI/2 LS-G5 SE-C5, D3/9 ESS-A1/2, C3/4/5	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
		2. Developing agriculture work experiences	A1 M1/4 G6 D1/5/7/8/9	SI-A1, B1 PS-A1, D1, E1/2, H1/3 LS-G5 SE-C5, D3	1-H1/3/4/5 2-H2/4/5/6 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Participating in agricultural career events	A1 M1/2/3/4 G6 D1/5/7/8/9 N1/2/3/4/5/6/7	SI-A3/6, B1 PS-D2, G3/4, H1/3 LS-D4, G5 ESS-B1 SE-A2/4, D3	1-H1/3/4/5 2-H2/5 3-H1/3 4-H1/2/3/4/5/6 5-H1/2/3/4/6 7-H1/2/4
		4. Developing job seeking and keeping skills	A1 M4 G6 D1/5/7/8/9 N1/2/5/6/7	SI-A6, BI PS-HI LS-G5 SE- D3	1 -H1/3/4/5 2-H/2/5, 3-H 1 /3 4-H 1 /2/3/4/5/6 5-H 1 /2/3/4/6

Agribusiness

Standard: AgEd/FFA students will understand the concept of agricultural marketing, management, finance, and entrepreneurship.

Focus: This strand focuses on the study of sound business practices and the effect of supply and demand in the marketplace. Strong emphasis is placed on the development of individual business plans.

AB - Agribusiness

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	A. Production systems	1. Identifying various production practices of the world	N1/2/3/5/7 A1/3/4 M2/4 G6 D9	SI-A1/2/4/5/6, B1/3 LS-B1/3 SE-A2/6/10	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/4/6 7-H4
		2. Determining the factors that affect the development of production practices	N1/2/3/5/7 A1/3/4 M2/4 G6 D9	SI-A1/2/4/5/6, B1/3 LS-B1/3 SE-A2/6/10, D3/4/5/9	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/4/6 7-H4
		3. Understanding human diversity and its affect on world markets	N1/2/3/5/7 A1/3/4 M2/4 G6 D6/7/9	SI-A1/2/4/5/6, B1/3 LS-B1/3 SE-A2/6/10, D3/4/5/9	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/4/6 7-H4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		4. Discussing problems affecting agricultural production worldwide	N1/2/3/5/7 A1/3/4 M2/4 G6 D9	SI-A1/2/4/5/6, B1/3 LS-B1/3 SE-A2/6/10, D3/4/5/9	1-H1/3/4/5 2-H2/3/4/5 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
	B. Selections from various choices	1. Identifying occupational preferences	G6 D1/5/9	SE-C3, D1	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		2. Explaining the reasons for and effects of unemployment	G6 D1/5/6/7/9	SE-D1	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 7-H1/2
	C. Factors that make employees successful	1. Explaining the roles of customers and salespersons	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1 SI-A1, B1/3 LS-F3	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5 7-H1/2
		2. Exploring various buying decisions	A1/3/4 N2/3/5/7 M2/4 G6 D9	SE-D1 SI-A1, B1/3	1-H1/3/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Describing the types of customers	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1 SI-A1, B1/3 LS-F3	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		4. Describing the desirable characteristics of a good salesperson	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1 SI-A1, B1/3	2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
	D. Agricultural marketing sales and services	1. Explaining the laws of supply and demand	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2	2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		2. Understanding the agricultural market, sales and services systems	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2	3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		3. Discussing marketing costs and margins	A1/3/4 N1/2/3/5/7 M2/4 G6 D6/7/9	SE-D1, A2	2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		4. Discussing the impact of the customer on markets, sales, and services	A1/3/4 N1/2/3/5/7 M2/4 G6 D6/7/9	SE-D1, A2	2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
	E. Economics of production	1. Understanding how the factors of production are organized and how they differ between systems	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SI-A1/2/4/5/6, B1/3	3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
	F. Develop a business plan	1. Explaining the importance of budgeting and understanding the types of costs	A1/3/4 N1/2/3/5/7 M2/4 G6 D6/7/9	SE-D1, A2/6/10	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		2. Explaining credit and its uses in a business	A1/3/4 N1/2/3/5/7 M2/4 G6 D6/7/9	SE-D1, A2/6/10	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2

			Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Explaining the various types of business organizations	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		4. Understanding the meaning of assets and liabilities	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		5. Developing a cash flow projection for a business	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 2-H2/6 3-H1/2/3 4-H1/2/3/4/5/6 7-H1/2
		6. Explaining variable versus fixed costs	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/3/4/5/6 7-H1/2
		7. Understanding the legal aspects of a business	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		8. Demonstrating the concept of capital investment	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2
		9. Explaining the purposes and types of Insurance in agriculture	A1/3/4 N1/2/3/5/7 M2/4 G6 D9	SE-D1, A2/6/10	1-H1/3/4/5 2-H2/4/5 3-H1/2/3 4-H1/2/4/5/6 5-H1/2/3/4/5/6 7-H1/2

Biotechnology in Agriculture

Standard: AgEd/FFA students will understand the concepts and principles of biotechnology and the relationships biotechnology has with the agricultural environment.

Focus: This strand focuses on the study of interrelationships of science and technology and the impact of this technology on agriculture and agricultural products. This strand includes a focus on research and career opportunities.

BT - Biotechnology

Local plan	Benchmarks	Benchmark Component	Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
			Math	Science	English Language Arts
	A. Basic concepts and applications of biotechnology	1. Defining biotechnology and the history of its development	N2/3/4/5/6	SI-A2/5/6 B1/2/3/4/5 LS-A1/2/3 B1/2/3/4	1-H4/5 2-H2/4/5 3-H1/2/3
		2. Applying the steps of the scientific method and developing record-keeping methods	M1/3/4 D1/3/5/7 N1/2/5/7	SI-A1/2/3/4/5 B1/2/3/4/5	2-H6 3-H1/2/3 5-H6 7-H4
		3. Analyzing the model of DNA model	G1 D1/3/5/7 N1/2/3/4/5/6	LS-B1	4-H2 5-H6
		4. Distinguishing between types of cell structure		PS-A1/2/3 B1	5-H2 7-H2

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		5. Understanding the processes involved in the transfer of genetic information	G1 D1/3/5/7 N1/2/3/4/5/6/7	LS-B1/2/3/4	1-H4/5 7-H2/4
		6. Demonstrating the applications of biotechnology in agriculture	D3/5/7 N1/2/3/4/5/6/7	LS-D1/4	1-H4/5 5-H3
	B. Impacts and public issues of biotechnology	1. Understanding the benefits and concerns in biotechnology		LS-D1/4 G1/5	1-H3/4/5 4-H1
		2. Exploring ethical issues in biotechnology		SE-D1/2/6/9 SI-B1/2/3/4/5	1-H4/5 2-H1 3-H3 5-H1/2
		3. Distinguishing among types of companies and jobs available in the biotechnology industry			5-H1/2
	C. Processes and applications affecting the plant systems	1. Understanding the purposes for plant biotechnology		SE-B1/2/3/4 PS-D2	1-H4/5

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		2. Distinguishing between plant breeding systems and genetic engineering of plants	D1/3/5/7 N1/2/3/4/5/6/7	LS-A1/2/3 B1/2/3/4 F1 PS-D2	1-H4/5 5-H1 7-H2/4
		3. Analyzing agriculture applications of plant and tissue culture	D1/3/5/7 N1/2/3/4/5/6/7	LS-A1/2/3 B1/2/3/4 PS-D2	1-H4/5 7-H1/2
	D. Processes and applications affecting animal systems	1. Understanding the purposes for animal biotechnology		LS-B1/3/4	1-H4
		2. Distinguishing between traditional animal breeding and genetic engineering of animals	D1/3/5/7 N1/2/3/4/5/6/7	LS-B1/3/4	1-H4/5 5-H1 7-H4/5
		3. Selecting ways to use biotechnology for making changes in animals and animal products		LS-B1/3/4	1-H4/5
	E. Microbial biotechnology in agriculture	1. Understanding microorganisms and relationships to food processing and the environment	D1/3/5/7 N1/2/3/4/5/6/7	SE-A8/9/10/11 C2 PS-D1 SE-A3/8/9/10	1-H4/5 5-H3
		2. Applying the types of fermentation systems	N1/2/3/4/5/6/7	PS-D1	7-H1/2

			Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Distinguishing the products of fermentation and their benefits	N1/2/6/7	PS-D1 SE-A3/8/9/10	1-H4/5 5-H1 7-H2

Animal Systems

Standard: AgEd/FFA students will understand the concepts and principles of animal science.

Focus: AgEd/FFA students will demonstrate necessary skills to obtain a job and to work effectively in the area of animal science. (“Other animals” referenced in the benchmarks below include fish, wildlife, equine, small animals, etc.)

AS - Animal Systems

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	A. Selection of livestock, poultry, and other animals	1. Identifying and using systems for selecting and breeding livestock, poultry, and other animals	N1/3/4/5/6 G1/4 M1/2/3/4 D1/3/9	SI-A1/2/3/4/5/6 PS-B1 SE-A6	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
	B. Anatomy and physiology of livestock, poultry, and other animals	1. Describing and understanding the anatomy and physiology of livestock, poultry, and other animals	N1/2/3/4/5/6/7 G1/6 M1/2/3/4 D1/2/3/4/5/6/7/ 8/9	SI-A1/2/3/4/5/6/7 LS-A1/2/3 B1/2/3/4 C1/2/3/4/5/6/7 F1/2/3	2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	C. Reproduction of livestock, poultry, and other animals	1. Understanding reproduction of livestock, poultry, and other animals	N1/3/4/5/6/7 A1/2/3 M1/2/3/4 D1/2/3/4/5/6/7/ 8/9	SI-A1/2/3/4/5/6/7 LS-A1/2/3 B1/2/3/4	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
	D. Nutrition of livestock, poultry, other animals	1. Determining nutritional needs of livestock, poultry, and other animals	N1/3/4/5/6/7 A1/2/3 M1/2/3/4 D1/2/3/4/5/6/7/ 8/9	SI-A1/2/3/4/5/6/7	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
	E. Environmental factors affecting livestock, poultry, and other animal systems	1. Identifying environmental factors affecting livestock, poultry, and other animal production systems	N1/2/3/4/5/6/7 A1/2/3 M1/2/3/4 D1/2/3/4/5/6/7/ 8/9 P1	SI-A1/2/3/4/5/6/7, B1/2/3/4/5 LS-B3/4, C6, D1/2/3/4, F3, G1/3/4 PS-A1/2, C1/2/4/5/6, D1/2/4 ESS-A1/2, B1, C3/4/5 SE-A1/2/3/4/5/6/7/8/9/10/11, B1/2/3/4/5/6, C2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
	F. Diseases and parasites of livestock, poultry and other animals	1. Describing and identifying diseases and parasites of livestock, poultry, and other animals	N1/2/5/6/7 M1/3/4 D1/2/3/4/5/6/7/ 8/9 P1	S-A3/6 LS-G1/2/3/4/5	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	G. Ethical issues related to livestock, poultry, and other animal systems	1. Discussing ethical issues related to livestock, poultry, and other animals		LS-G1/3/4 SE-C1/2/3/4/5 D1/2/3/4/5/6	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

Plant Systems

Standard: AgEd/FFA students will understand the concepts and principles of plant science.

Focus: This strand focuses on the study of the processes and environmental variables related to the successful growth and production of plants for food and fiber. This strand includes a focus on relating life, environmental and earth science concepts to real-life problems in plant production through the use of modern technology.

PS - Plant Systems

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	A. Internal processes affecting plant growth and reproduction	1. Describing plant structures and functions		LS-A1/2, B1/2/3/4	2-H1/2
		2. Exploring growth processes		LS-A1/2, B1/2/3/4	2-H1/2
		3. Explaining asexual and sexual reproduction processes		LS-A1/2, B1/2/3/4	
		4. Developing and implementing genetic improvement systems	N1/2/3/4/5/6/7 A1/2/3/4 D1/2/3/4/5/6	LS-A1/2, B1/2/3/4 SI-A1/2/3/4/5/6/7, B1/2/3/4/5	

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	B. External environmental factors affecting plant growth and reproduction	1. Understanding relationships among moisture, temperature, air, and plant growth	N1/2/3/5/6/7 M1/2/3/4 A1	ESS-C6 LS-D1/4 SE-A3/7/11, B3/4/5, C8, D1/9	
		2. Planning and implementing integrated pest management	M1/2/3/4 N1/2/3/4/5/6/7	ESS-C6 LS-D1/4 SE-A3/7/11, B3/4/5, C8, D1/9 PS-D7	
		3. Applying sustainable production concepts and practices	N1/2/3/4/5/6/7 M4	ESS-C6 LS-D1/4 SE-A3/7/11, B3/4/5, C8, D1/9 PS-D2/7	
	C. Soil fertility	1. Understanding differences between soil and soil-less mixtures		ESS-A4, B2/4, C8 SE-B4	
		2. Understanding basic soil-plant relationships		ESS-A1/2/6, B1, C3/4/5/8 PS-D2/7 SE-B4	
		3. Determining liming and soil acidity relationships	M1/2/3/4 N1/2/3/4/5/6/7 A1	ESS-A1/2/6, B1, C3/4/5 PS-D2/7 SE-B4	
		4. Exploring the importance of soil fertility and soil management	N1/2/3/5/6	ESS-A1/2/6, B1, C3/4/5 PS-D2/3/7 SE-B4	2-H1/2

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		5. Selecting and applying fertilizers	N1/3/4/5/6/7 M1/2/3/4 D7/8/9 P1/2/3/4/5 A1	ESS-A1/2/6, B1, C3/4/5 PS-D2/7 SE-B4	
	D. Plant production	1. Learning to identify the uses of plants		LS-B2, C1/2 SE-A4 SI-A1/2/3/4/5/6/7, B1/2/3/4/5	
		2. Exploring the way plants grow and the environmental factors required	N1/2/3/4/5/6/7	LS-B2, C1/2 SE-A4 PS-D7	7-H1/2
		3. Understanding and implementing proper crop management	N1/2/3/4/5/6/7	LS-B3	
	E. Landscaping and Floriculture	1. Learning to properly identify and classify plants for landscape and floral design use		LS-B3	
		2. Evaluating the plant data for selection and placement (size, growth, habitat, pests, and cultivar)	N1/2/3/4/5/6/7 D1/2/5/7/8/9 M2/4	LS-B3	
		3. Developing landscaping plans and floral designs	A1/2/3/4 M1/2/3/4 G1/2/3/4/5/6	LS-B3	

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	F. Crops of Louisiana	1. Understanding the role of modern-day crop production			2-H1/2/3/4/5/6 3-H1/2/3/4/5
		2. Understanding the differences among the various crops			1-H1/5 7-H1/2/4
		3. Understanding the concepts of conservation tillage and crop rotation	N1	SI-A1/2/3/5/6 ESS-A1/2/6, C3/4/5 SE-B1/2/3/4/5/6, C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5
	G. Horticultural crops of Louisiana	1. Understanding the role of modern-day horticultural crop production			1-H1/3/4/5 2H1/2/3/4/5
		2. Understanding the differences among the various crops			1H1/3/4/5 2H1/2/3/4/5
	H. Agribusiness relating to crop production	1. Exploring the different career opportunities			1-H1/3/4/5 2-H1/2/3/4/5 4-H4/5/6
		2. Learning the basic recordkeeping practices	N3/4/5/7 A1/2/3/4 D1/2/5/6/7		1-H4/5 2-H2/6 5-H1/2/3/4/5/6

			Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Understanding the concepts and skills related to successful employment			2-H1/2/3/4/5/6 4-H1/2/3/4/5/6

Environmental Management

Standard: AgEd/FFA students will develop an understanding of the interrelationship between people, agriculture and the environment.

Focus: This strand focuses on utilization and conservation of environmental resources for multiple purposes through a study of maintaining, protecting, and harvesting these resources.

EM - Environmental Management

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	A. Universal impact of forestry	1. Identifying the major species of trees that are important to the forestry industry		LS-C1/4 SE-A10	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		2. Exploring the multiple-use concept of forest management and forest products		SI-A1/2/3/4/5/6/7, B1/2/3/4/5 PS-A1/2, B1/2/3, C3/4/7, D1/2/3/4/5/6/7, E1/2/3/4/5, F1/2 LS-A1/2/3, B1/2/3/4, C1/2/3/4/5/6/7	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Investigating the impact of insects, diseases, fire, and laws that affect the forest industry		SI-A1/2/3/4/5/6/7, B1/2/3/4/5 PS-D7, E1	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		4. Describing common methods used to reforest timber areas	M1/2/3/4 N1/2/3/4/5/6/7	SI-A1 LS-B4, D4 SE-A1/2/6/7/8/70, B2/4, C5, D3	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		5. Describing the harvesting and marketing of forest products	M1/2/3/4 N1/2/3/4/5/6/7	SI-A1/2/3/4/5/6/7, B1, D4	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		6. Determining land and timber volumes	M1/2/3/4 N1/2/3/4/5/6/7 A1 G1/2/3/6	SI-A1/2/3/4/5/6/7, B1/2/3/4/5 PS-D2 SE-A1/2/6/4/8/10, B1/2/3, C4/5, D3/4/5	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	B. Wildlife management and conservation	1. Understanding wildlife production requirements, habitat analysis and evaluation, and wildlife damage control	M1/2/3/4 N1/2/3/4/5/6/7	SE-A2/6/7/8/9/10/11, B1/2/4/5/6, C4/5, D1/2/3/4/5/6 SI-A1/2/3/4/5/6/7, B1/2/3/4/5	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		2. Describing an ecosystem		LS-C5 SE-A2/4/6/7/10, C2	
		3. Explaining the policies, laws, funding and administration, and regulatory agencies of wildlife management, recreation, and conservation	N1/3/4	SE-B4/5/6, C4/5, D2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
	C. Environ- mental quality	1. Understanding relationships among agriculture, water quality, and air quality	M1/2/3/4 N1/2/3/4/5/6/7	SE-A2/6/7/8/9/10/11, B1/2/4/5/6, C4/5, D1/2/3/4/5/6 SI-A1/2/3/4/5/6/7, B15	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		2. Applying principles of soil, water, and air conservation	M1/2/3/4 N1/2/3/4/5/6/7	SE-A2/6/7/8/9/10/11, B1/2/4/5/6, C4/5, D1/2/3/4/5/6 SI-A1/2/3/4/5/6/7, B1/2/3/4/5	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Understanding issues related to wetlands conservation and coastal erosion		SE-A2/6/7/8/9/10/11, B1/2/4/5/6, C4, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

Agricultural Processing

Standard: AgEd/FFA students will develop an understanding of the processes of distributing, grading, inspecting, processing, mixing, packaging, and storing of food and non-food products.

Focus: This strand focuses on the various processing steps and methods involved with the different agricultural products using modern technology.

AP - Agricultural Processing

Local plan	Benchmarks	Benchmark Component	Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
			Math	Science	English Language Arts
	A. Agricultural meat processing	1. Understanding and complying to federal and state standards	N1/3/6 A1/2 M1/2/3/4 G6 D1 P1/5	SI-A2/3 PS-A1, F1 LS-G2	1-H1/3/4/5 2-H1/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
		2. Explaining and analyzing the process of slaughtering, packaging and distributing	N1/3/6 A1/2/3/4 M1/2/3/4 G6 D1 P1/2/3/4/5	SI-A2/3 PS-A1, D2/7, F1 LS-G2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	B. Milk and dairy product processing	1. Explaining the handling, processing, and distributing of fresh milk and milk products	N1/2/3/6 A1/2/3/4 M1/3/4 G6 D1 P1/5	SI-A1/2/3 PS-A1, D2/7, F1 LS-G2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6
	C. Fruits and vegetable processing	1. Explaining the handling, manufacturing, and transporting of fresh, frozen, and canned fruits and vegetables	N1/3/4/5/6 A1/2/3/4 M1/2/3/4 G6 D1 P1/5	SI-A1/2/3 PS-A1, D2/7, F1 LS-G2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6
	D. Grain crop processing	1. Understanding USDA regulatory programs	N1/3/6 A1/2/3/4 M1/2/3/4 G6 D1 P1/5	SI-A1/2/3 PS-A1, F1 LS-G2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6
		2. Explaining the handling, processing, and distributing of grain crop products	N1/3/6 A1/2/3/4 M1/2/3/4 G6 D1 P1/5	SI-A1/2/3 PS-A1, F1 LS-G2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	E. Career awareness	1. Describing the various careers associated with agricultural processing and the occupational outlook	N1/3/6 A1/2/3/4 M1/2/3/4 D1	SI-A1/2/3 PS-A1, F1 LS-G2	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6

Agriscience Technology

Standard: AgEd/FFA students will demonstrate technical skills that reflect successful business and industry practices.

Focus: This strand focuses on the study and use of agricultural power and energy, energy sources in agriculture, mathematics in agricultural welding technology, and agricultural structures and facilities.

AT - Agricultural Technology

Local plan	Benchmarks	Benchmark Component	Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
			Math	Science	English Language Arts
	A. Agriculture power and energy	1. Explaining the principles of electricity; terms, service entrances, meters, and circuits	N4/5/7 M1/2/3/4	PS-B3,E4,G2/4 ESS-A1	1-H1/3/4/5 2-H4/5 3-H1/2/3 4-1/2/3/4
		2. Understanding the applications for lighting, heating, and selecting electric motors	M1/4 A1/3 G6	PS-E1/2, F1, G1/2/3	1-H1/3/4/5 2-H5 3-H1/2/3 4-1/2/3/4
		3. Working safely with electrical energy		PS-G4	1-H1/3/4/5 2-H5 3-H1/2/3 4-1/2/3/4 5-H6

			Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		4. Developing skills in planning, estimating, selecting of materials, installing, testing and troubleshooting	N1/3/4/5/7 M1/4 G6	SI-A3	1-H1/3/4/5 2-H5 3-H1/2/3 4-1/2/3/4 5-H6
		5. Describing the principles of the internal combustion engine, including both two-stroke, four-stroke and diesel engines	N4/5	PS-E2/3, F1, G1/2/3	1-H1/3/4/5 2-H4/5 3-H1/2/3 4-1/2/3/4 5-H6
		6. Exploring the fundamentals of hydraulic power		PS-A1, E2/3, F1, G1/2/3	1-H1/3/4/5 4-H1/2/3/4
		7. Explaining and analyzing pneumatic power		PS-E2/3, F1, G1/2/3	1-H1/3/4/5 3-H1/2/3 4-H1/2/3/4
		8. Servicing trouble shooting, repairing, and overhauling of small engines	M1/3/4 N3/4/5/6	SI-A3 PS-E2/3, F1, G1/2/3	1-H1/3/4/5 2-H5 3-H1/2/3 5-H6
		9. Explaining and demonstrating maintenance, operation and safety of tractor and lawn equipment	N3/4/5 M1/2/3/4	SE-D1/2/3/4 PS-E1/2/3, F1/2, G1/2/3	1-H1/3/4/5 2-H4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H6

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
	B. Energy sources in agriculture	1. Describing primary nonrenewable sources of energy including coal, natural gas and petroleum		PS-E1/2/3, F12/3 ESS-A1/2/6, C3/4/5 SE-C3	1-H1/3/4/5 2-H4/5 3-H1/2/3 4-H1/2/3 5-H6
		2. Understanding other sources of energy (ethanol, solar, etc.)		SE-A1/2/3/4/5/6/7/8/9/10/11, B1/2/3/4/5/6, C1/2/3/4/5, D1/2/3/4/5/6, ESS-A1/2/6, C3/4/5 PS-E1/2/3, F1, G1/2/3	1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3 5-H6
		3. Discussing issues related to federal and state regulation of energy sources		SE-C1/2/3/4/5, D1/2/3/4/5/6	1-H1/3/4/5 2-H1/2/3/4/5 3-H1/2/3 4-H1/2/3/4/5/6 5-H1/2/3/4/5/6 7-H1/2/4
	C. Mathematics in agriscience technology	1. Explaining and applying whole numbers, fractions, decimals and percentages in standard and metric form	M1/2/3/4 N1/4/5/6		1-H1/3/4/5 2-H4/5 3-H1/2/3 4-H1/2/3 5-H6
		2. Explaining and solving problems involving perimeter, area, volume, ratio, and proportion	M1/2/3/4 N1/4/5/6 D1/2 G1/2/6		1-H1/3/4/5 2-H4/5 3-H1/2/3 4-H1/2/3 5-H6

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Using various measuring devices	M1/2/3/4 N1/2/3/4/5/6/7		1-H1/3/4/5 5-H6
	D. Agriscience welding technology	1. Identifying careers and appropriate work behavior in the welding industry			1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3/4/5/6 5-H6
		2. Identifying and applying skills in welding safety			1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3 5-H6
		3. Demonstrating basic competencies needed for applying welding skills	M1/2/3/4 G4/6 N3/4/5/6	PS-C3, D7, E1/2/3, F1/2, G1/2/3	
		4. Demonstrating shielded arc welding skills (stick)	G4/6 M1/3/4 N1/3/4/5/6	PS-C3, D7, E1/2/3, F1/2, G1/2/3	
		5. Describing and applying the different gas metal arc welding technology (wire feed welding), including short arc, flux core and inner shield	G4/6 M1/3/4 N1/3/4/5/6	PS-C3, D7, E1/2/3, F1/2, G1/2/3	2-H4/5 4-H1/2/3

		Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)			
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		6. Explaining the concepts, process and purpose of tungsten inert gas welding (TIG)	N1/3/4/5/6	PS-C3, D7, E1/2/3, F1/2, G1/2/3	1-H1/3/4/5 2-H4/5 3-H1/2/3 4-H1/2/3/4
		7. Explaining and demonstrating the concepts, process and purposes of plasma arc cutting	M1/3/4 N1/3/4/5/6	PS-C3, D7, E1/2/3, F1/2, G1/2/3	1-H1/3/4/5 2-H4/5 3-H1/2/3 4-H1/2/3/4
		8. Identifying and applying the safe set up, lighting, adjusting and usage of oxyfuel equipment	M1/3/4 N3/4/5/6	PS-C3, D7, E1/2/3, F1/2, G1/2/3	1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3/4 5-H6
	E. Agricultural structures and facilities	1. Planning, estimating and using building components in agricultural construction	M1/2/3/4 G1 D7 N1/3/4/5/6/7		1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3/4 5-H6
		2. Developing skills in estimating and applying paints	M1/2/3/4 G1 D7 N1/3/4/7		1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3/4 5-H6

			Cross Reference (from grade 9 - 12 benchmarks, unless noted otherwise)		
Local plan	Benchmarks	Benchmark Component	Math	Science	English Language Arts
		3. Developing skills in selection and use of surveying equipment	M1/2/3/4 G1/6 D7 N1/3/4/5/7		1-H1/3/4/5 3-H1/2/3 4-H1/2/3/4 5-H6
		4. Developing skills in planning, estimating and installing agricultural plumbing and/or irrigation systems	M1/2/3/4 G1/6 D7 N1/2/3/4/5/6/7		1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3/4 5-H6
		5. Developing skills in planning, estimating and placing concrete	M1/2/3/4 G1/6 D7 N1/2/3/4/5/6/7		1-H1/3/4/5 2-H5 3-H1/2/3 4-H1/2/3/4 5-H6

Annual Report/Plan for Louisiana Agriscience/Agribusiness/FFA

To be completed and submitted to Agriscience/Agribusiness/FFA Program Manager annually by July 1

Date:	
To:	One copy submitted to AgEd/FFA State Office One copy submitted to school principal, local education authority supervisor Optional: copy to local superintendent, school board members, sponsors, parents, students, other interested individuals
From:	
School:	
Why:	Provide summary of year's activity, document program performance, highlight accomplishments, and present goals for next year

Mission Statement for Agriscience/Agribusiness/FFA Program

The Mission of the Agriscience/Agribusiness/FFA Program is to prepare and support individuals for careers; build awareness of and develop leadership for the food, fiber and natural resource systems; and sustain the viability of earth and people through education in agriculture. We value and desire to achieve this mission by

1. providing instruction in and about agriscience, agribusiness, food and natural resource systems;
2. serving all populations;
3. developing the whole person;
4. responding to the needs of the economic and educational marketplace;
5. advocating free enterprise and entrepreneurship education;
6. functioning as a part of the total educational system;
7. connecting classroom and laboratory instruction with real-world life and career experiences; and
8. utilizing a proven educational process that includes
 - a. formal instruction in classrooms and laboratories;
 - b. site-based, experiential learning in supervised agricultural experience programs; and
 - c. leadership and personal development through the FFA.

Certification of Authenticity

I/We hereby certify that the enclosed Annual State FFA Plan/Report and the information contained herein are true and accurate to the best of my/our knowledge.

Agriscience/Agribusiness/FFA

Teacher Name(s) (Print or Type)	Ag. Certified (Yes or No)	Signature(s)	Date

Approved: _____
Principal

Approved: _____
LEA Supervisor

Program Activities

Performance past year	Activity	Next year's goals	Comments
1	Course Enrollment:		
2	Grade 6-8 Courses:		
3	Exploratory Agriscience		
4	1 Carnegie Unit Courses:		
5	Agriscience/Agribusiness I		
6	Agriscience/Agribusiness II		
7	Agriscience/Agribusiness III		
8	Agriscience/Agribusiness IV		
9	Agriscience Lab III		
10	Agriscience Lab IV		
11	2 Carnegie Unit Courses:		
12	Cooperative Agricultural Education (Note: must be taken with Agriscience III or IV)		
13	½ Carnegie Unit Courses:		
14	Agricultural Entrepreneurship		
15	Agricultural Construction		
16	Agricultural and Environmental Applications		
17	Animal Production		
18	Crop Production		
19	Equine Science		
20	Food and Fiber Systems		
21	Forestry		
22	Horticulture		
23	Introduction to Aquaculture		
24	Introduction to Agribusiness		
25	Personal Development		
26	Small Engines		
27	Welding		
28	Approved Special Electives:		
29			
30			
31	Total enrollment (duplicated count)		
32	Total enrollment (unduplicated count):		
33	Grades 9-12		
34	Grades 7-8		
35	# of chartered FFA chapters in your school (Gold and Blue)		

Performance past year	Activity	Next year's goals	Comments
36	# of FFA chapter meetings held		
37	# of dues paying FFA members:		
38	Grades 9-12		
39	Grades 7-8		
40	# of FFA members receiving the Greenhand Degree		
41	# of FFA members receiving the Chapter FFA Degree		
42	# of FFA members applying for the State FFA Degree		
43	# of FFA members nominated for American FFA Degree		
44	# of <u>local</u> FFA proficiency awards earned by students		
45	# of <u>state</u> FFA proficiency awards earned by students		
46	# of FFA members attending Louisiana FFA convention		
47	# of FFA members attending National FFA Convention		
48	# of students engaged in a supervised agricultural experience program (SAEP): <---Enter totals from next 8 lines here.--->		
49	# who own/operate animal program		
50	# who own/operate plant program		
51	# who own/operate agriculture business		
52	# who work in an animal program		
53	# who work in a plant program		
54	# who work in an agribusiness		
55	# who work in the school labs		
56	# who have no SAEP		
57	# of students visited in conducting 12 month program		
58	# of students exhibiting livestock:		
59	Local show(s)		
60	District show		
61	State show		
62	# of students participating in Food for America Program		
63	# of students participating in PALS Program		
64	# of students participating in Area Camp		

	Performance past year	Activity	Next year's goals	Comments
65		# of students participating in Washington Leadership Conference		
66		# of students participating in Made for Excellence Program (MFE)		
67		# of students attending chapter banquet		
68		# of students applying for Superintendent's or Governor's Awards for livestock production		
69		# of students on the honor roll		
70		# of community members used in classes		
71		# of field trips conducted		
72		Public relations:		
73		# of elementary school programs conducted		
74		# of middle-school programs conducted		
75		# of activities conducted for other high school programs		
76		# of open houses or community days held		
77		# of AgEd/FFA program advisory council meetings conducted		
78		# of community improvement projects completed		
79		# of TV news stories aired about this program		
80		# of radio news programs aired about this program		
81		# of state/national newspaper stories printed about this program		
82		# of local newspaper stories printed about this program		
83		# of student speaking engagements about this program		
84		# of displays promoting this program		
85	Yes No	Did your chapter apply for the AgEd/FFA Student Award?	Yes No	
86	Yes No	Did you apply for the AgEd/FFA Teacher Award?	Yes No	
87	Yes No	Did you apply for the Outstanding Young Teacher Award?	Yes No	
88	Yes No	Did your chapter apply for the Livestock Exhibition Award?	Yes No	
89	Yes No	Did you participate in the LVATA/SDE inservice for AgEd/FFA teachers?	Yes No	

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Performance past year	Activity	Next year's goals	Comments
Yes No	Did your FFA chapter apply for a National Chapter Award?	Yes No	

Career Development Events

Indicate (/) your Chapter's HIGHEST level of participation in the following activities.

Event	Local	Sub-district	District	Area	State	National
1 Contests:	/	/	/	/	/	/
2 Dairy Cattle						
3 Dairy Products						
4 Electricity						
5 Farm Business Management						
6 Floriculture						
7 Forestry						
8 Horse Judging						
9 Livestock Judging						
10 Meats Judging						
11 Nursery/Landscape						
12 Poultry						
13 Small Engines						
14 Soils Judging						
15 Welding						
16 Leadership Events:	/	/	/	/	/	/
17 Extemporaneous Speaking						
18 Prepared Public Speaking						
19 Gulf Of Mexico Prepared Public Speaking						
20						
21 Parliamentary Law						
22 FFA Officer Candidate(s)						

List Your 5 Major Accomplishments for This Year.

- 1.
- 2.
- 3.

4.

5.

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