

	Sustainable Agriculture		Unit A	Leadership, Careers and SAE
ESSENTIAL STANDARD:	2.00	10%		Examine careers related to sustainable agriculture.
<i>Objective:</i>	<i>2.01</i>	<i>4%</i>	<i>C2</i>	Recognize opportunities for careers in the field of sustainable agriculture.

Recognize opportunities for careers in the field of sustainable agriculture.

A. Careers in Sustainable Agriculture

- a. Farmers- Growing agronomic crops like grains, tobacco, soy and fiber crops like cotton.
- b. Ranchers- People who own and/or operate a ranch with cattle, sheep, bison, emu, or elk. Animals are used for meat and fiber.
- c. Horticulturist- A person growing or using plant material for fresh consumption or ornament. Growing takes place in a greenhouse, nursery, landscape or garden. Plants include flowers and greenery, herbs, vegetables, fruits, turf, grapes, and landscape/nursery plants.
- d. Entomologist- A person who identifies and cares for insects. Often monitors and understands pest or beneficial management.
- e. Politician- A person who develops policies, legislation, and laws related to agriculture.
- f. Educator- A person who teaches others about sustainable agricultural practices.
- g. Extension Agent- A person who is employed by a land grant university (every state has at least one land grant university) and is responsible for disseminating research and technologies to consumers and industry members about food and consumer sciences.
- h. Researcher- A person who works for a university, college, or the private industry. This person is responsible for managing projects related to sustainable agriculture and can involve work at test sites indoors or outdoors.
- i. Postharvest Technologist- This person manages the care and handling of crops from the moment of harvest until consumption. He/she can work for a company, farm, or a research facility.
- j. Biologist- A person who studies and manages all living organisms and those systems.
- k. Sociologist- Sociologists study society and social behavior by examining the groups, cultures, organizations, social institutions, and processes that people develop.
- l. Economist- The individual may study, develop, and apply theories and concepts from economics and write about economic policy. This person is often employed at universities, for the government, or within lobbying or legislature groups.
- m. Advertising and Marketing- This person is responsible for promoting a product or service in the agricultural industry.
- n. Distribution- This person works with shipping and movement of product from the farm to the consumer.
- o. Soil and/or Water Conservationist- This person studies and manages soil and/or water to ensure that safe and sustainable practices are employed.
- p. Veterinarian- Manages farm animals according to the highest animal welfare standards.
- q. Forester- A person who manages forested land with a specific objective in mind. This person can work for companies, organizations, or individual land owners.

B. Skill, Personal and Educational Qualifications

- a. Skills vary from unskilled to highly skilled depending on the career in sustainable agriculture. A harvester or farm worker needs few skills, but an entomologist needs many skills to check for insects and developing a plan for managing a pest population.
- b. Personal interests and qualifications include:
 - i. Working inside or outside or a combination.
 - ii. Working in a group or alone.
 - iii. Working with people or plants.
 - iv. Working at routine tasks or varying tasks.
 - v. Physical strength to do the job.

- c. 21st century skills required for the workplace
 - i. Leadership
 - ii. Critical Thinking
 - iii. Problem Solving
 - iv. Communication
 - v. Collaboration
 - vi. Informationally/Digitally Literate
 - vii. Productive/Work Ethic
 - viii. Innovative
- C. Educational qualifications vary depending on the careers.
 - a. High school graduate or less for unskilled entry-level job.
 - b. Technical education for skilled jobs.
 - c. Bachelors, masters or doctoral degrees for most professional areas because of required licenses, paper work, research and /or teaching.
 - i. Associate's degree is usually upon the completion at a technical college with a two-year program
 - ii. Bachelor's degree usually is upon completion of a four-year college or university
 - iii. Master's degree usually results after an additional two-years at a college or university and requires a project or thesis
 - iv. Doctoral degree usually requires additional specialization of two or more years at a college or university and can result in a degree where someone could create a dissertation after intense research or scientific experimentation.

	Sustainable Agriculture		Unit B	Supervised Agricultural Experience
ESSENTIAL STANDARD:	2.00	10%		Examine careers related to sustainable agriculture.
<i>Objective:</i>	<i>2.02</i>	<i>6%</i>	<i>C3</i>	Implement a SAE project.

Supervised Agricultural Experience

- A. The purpose of the SAE is to gain work experience in agriculture and build life skills.
- B. SAE is a project completed outside of class time that deals with any division of agriculture:
 1. Plants.
 2. Animals.
 3. Agriculture business.
 4. Agriculture based science experiments.
- C. Six Major Types of SAE
 1. Entrepreneurship- planning, implementing, operating and assuming financial risks in an agricultural business or farming activity.
 - i. Examples: raising plants to sell, owning a lawn maintenance business or owning a farm supply store.
 - ii. Record book- type of enterprise, amount of items bought or sold, expenses, income, efficiency factors, etc.
 2. Experimental- planning and conducting an agricultural experiment using the scientific process or scientific method.
 - i. Example: comparing different fertilizer rates on plants.
 - ii. Record Book- review of literature, hypothesis, data log, findings, recommendations, etc.
 3. Analytical- identifying an agricultural problem that cannot be solved by experiments. It does include designing a plan to investigate and analyze the problem.
 - i. Example: making a marketing display.
 - ii. Record Book- title of activity, identification of problem, background information, steps to solve problem, project log of what was done, results, and recommendations.
 4. Placement- placing students in jobs outside the regular classroom hours. They may be paid or unpaid (volunteer) work.
 - i. Examples: working at a farm supply store, at a greenhouse or for a landscape company.
 - ii. Record Book- training agreement signed by student, teacher, employer and parent or guardian stating which each will do, record of work, hours and income.
 5. Exploratory- helping students learn about agriculture and become aware of possible agricultural careers through short times spent observing, shadowing or helping. You may have to combine more than one exploratory experience.
 - i. Examples: attending a career day, interviewing a veterinarian or assisting a horse owner.
 - ii. Record Book- date, activity, observation and comments and hours.
 1. Improvement was considered a stand-alone type of SAE for many years. This is a series of activities that improves the value or appearance of the place of employment, school, home or community; the efficiency of a business or an enterprise; or the living conditions of the family. Today, however, this is now part of exploratory.
 - a. Examples: building a fence, computerizing records, remodeling a building or repairing equipment.
 - b. Record Book- date started, date completed, improvement activity and steps or tasks involved in the project, hours, costs.
 2. Supplementary- performing one specific agricultural skill outside of normal class time. This is now considered part of exploratory.

- a. This skill is not related to the major SAE but is normally taught in an agricultural program, involves experimental learning and contributes to the development of agricultural skills and knowledge on the part of the student.
- b. The activity is accomplished in less than a day and does not require a series of steps.
- c. Examples: pruning a tree, staking tomatoes or changing oil.
- d. Record Book- date, supplementary activities, comments and hours.

D. Why Should I Have an SAE?

1. Develop job skills- gain work experience.
2. Earn money.
3. Win FFA Awards.
4. Develop skills to start your own business.
5. Develop skills and knowledge that are helpful in college or work.
6. Learn about careers.
7. Keep accurate records.
8. Improve decision-making skills.

E. Recordkeeping

1. Maintain records for SAE project
2. Include various pieces of information
 - i. Hours worked
 - ii. Expenses
 - iii. Skills developed
 - iv. Income

F. Capture moments of the SAE with photographs

1. Ensure that the photographs include the student working
2. Record captions with the photograph

G. Employ various methods of record keeping

1. The Agricultural Experience Tracker (see directions in Activity 2.02.05)
 - i. www.theaet.com
 - ii. Student and Teacher accounts are simple and easily accessible
 - iii. Record experiences virtually
2. Use software like Microsoft Excel or Google Spreadsheets

A. Apply for FFA Proficiency Awards

1. Quality SAE projects can lead to awards in FFA
2. Scholarships and limitless career opportunities can also accompany a great SAE project