Instructional Materials Service # RB-102

# SAEP ACTIVITIES FOR APPLIED AGRICULTURAL SCIENCE AND TECHNOLOGY AGSC 102

This publication contains a partial listing of potential SAEP activities that can be used to enhance learning. Plan, seek approval of, and verify the activities with the teacher of agricultural science and technology.

## A. Knowledge of the Employability Characteristics of a Successful Worker in the Modern Workplace

- Participate in an agricultural career day and share information collected with the class.
- Apply for awards and degrees in the FFA (for example, proficiency award recognition and outstanding student award programs).
- Exhibit an agricultural experiment in competition (for example, FFA Skills Team and UIL Science Fair) and prepare a report upon completion of the exhibition.
- Interview the owner of an agricultural business regarding job entry requirements.
- Conduct a survey of agricultural-related jobs in the community and post the job listing.
- Tour an agribusiness and report observations to other members of the class.
- Demonstrate parliamentary procedure skills attained to the FFA booster club parents.
- Discuss agricultural career opportunities with the school counselor.
- Request agricultural career information from a college, university, or technical school.
- Identify twenty or more occupations related to agriculture.
- Plan a SAEP for the next four years (or for the years remaining in high school career).
- Illustrate and discuss the different types of SAEPs adapted to the community.
- Describe a successful Supervised Agricultural Experience Program (SAEP).
- Train for and participate in a Career or Leadership Development Event.
- Critique a leadership training event and discuss the event with the class.
- Demonstrate proper dress and manners for a job interview.
- Present a five-minute program related to agriculture to the class.
- Serve as an officer or committee member of an agricultural-related club.

Other Approved Activities:

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## B. Identification of the Nature and Properties of Soils and Soil Formations

- Construct a soil monolith and exhibit it at a science fair or project show.
- Research and report on factors that influenced soil formation in the community.
- Collect and identify rocks and minerals from land areas in the community.
- Conduct an experiment to illustrate the formation of soil and report the findings.
- Prepare a soil and water conservation plan for a ranch or cropland area.
- Conduct an experiment to determine components or properties of a soil sample.
- Graphically illustrate the uses of soils in the state and discuss them in class.
- Contact the Natural Resource Conservation Service (NRCS) about the varied uses of soils in the community and report findings to the class.
- Map the geological regions of the state with its land resource areas and post the map on the bulletin board.
- Collect samples of soils having different components or properties for class discussion.
- Illustrate the components or properties of soils for class discussion.
- Contact an agronomist about soil science research and report the findings to the class.
- Illustrate the horizons for a soil profile in a home or cropland area for class discussion.
- Identify the common soil series in the community (using a published soil survey).
- Collect and submit a soil sample to a soils lab for testing and analysis.

- Interpret the analysis of a laboratory tested soil sample as a class report.
- Identify the components or properties of the soil in a home lawn or cropland area.

Other Approved Activities:

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**C. Performance of Technical Skills Related to Plant and Soil Science and Technology**

- Research and report on traditional and new uses of plants.
- Carry on an experiment related to the chemical alteration of plant hormones.
- Conduct an experiment related to asexual or sexual plant reproduction.
- Undertake a plant genetics experiment and record observations for class discussion.
- Experiment with germination rates of various species of seed.
- Collect and post pictures and photos of twenty or more nursery or landscape plants.
- Contact a botanist about plant science research and report the findings to the class.
- Define plant growth terms (for example, photosynthesis, respiration, transpiration, and food storage) and post them on the bulletin board.
- Request information from a college, university, or research center on current research in the field of plant genetics and breeding and share the information with class members.
- Prepare a labeled diagram of the reproductive parts of a plant for class discussion.
- Label the vegetative parts of a typical dioecious or monoecious plant for class discussion.
- Illustrate the classification of crops grown in the community for discussion in class.
- List fifteen or more common fruits and vegetables and identify the plant part (for example, stem, leaf, flower, and root) from which each comes.
- Collect and mount five or more different specimens of vegetative and reproductive parts of grasses or woody plants.

Other Approved Activities:

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**D. Performance of Technical Skills Related to Animal Science and Technology**

- Research and report the advantages and disadvantages of using "pedigree" and "visual appraisal" when selecting a livestock or poultry species.
- Draw and label the skeleton, digestive tract, or circulatory system of an animal.
- Attend, participate in, and report on an agricultural field day.
- Research and report on different animal breeding systems.
- Illustrate the relationship of ingredients listed on a feed product's label with the nutritional requirements of a livestock or poultry species.
- Identify and report differences in physical characteristics between a "young" animal and an "old" animal of the same livestock or poultry species.
- Describe blood flow and nutrient and waste exchange that take place in the circulatory system of a livestock or poultry species.
- Diagram typical growth or development patterns of a livestock or poultry species.
- Tour a genetics laboratory, commercial feedlot, or livestock or poultry operation and report findings to the class.
- Consult with a veterinarian on a livestock management skill (for example, vaccinating, dehorning, and palpating) and report findings to the class.
- Request information on embryo transfer techniques from a lab and share with the class.
- Obtain artificial insemination information from an AI school or company.
- Graphically illustrate the anatomy of a male or female reproductive system.
- Secure information on animal genetics research from a laboratory for use in class.
- Request information on animal nutrition from a feed company for use in class.
- Label and describe illustrations of the external anatomy of a livestock or poultry species.
- Identify livestock or poultry breeds and classes raised commercially in the community.
- Summarize the history and importance of a livestock or poultry breed, species, or class.
- Collect and identify pictures of ten or more different livestock or poultry breeds.

- Describe the ideal characteristics of a specific livestock or poultry breed or species.
- Discuss reasons for the breeds of livestock raised in the community.

Other Approved Activities:

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**E. Description of the Principles of Food Science Technology**

- Develop an "imaginary" food product and plan a marketing strategy for it.
- Research price differences among canned, frozen, dried, and fresh food products and use PowerPoint graphs, charts, etc. to report the findings to the class.
- Conduct an experiment on chemical and/or natural ways to preserve foods.
- Experiment with methods of packaging food products to extend shelf life.
- Research new technologies in food processing, packaging, storing, or preserving.
- Tour a supermarket or food store and categorize shelved produce as raw or processed agricultural products and then discuss the categories in class.
- Illustrate uses of livestock, poultry, or seafood crops with their processing methods.
- Secure USDA information on the imports and exports of agricultural products.
- Request information on new/innovative technologies used by food processors.
- Illustrate and post a food chain on the bulletin board.
- Collect ten or more different types of packages used by food processors.

Other Approved Activities:

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**F. Safe Performance of Basic Mechanical Skills in Agricultural Applications**

- Develop an "imaginary" tool and illustrate its use(s).
- Prepare a display of twenty different nails and other fasteners.
- Safety color code the school or home shop.
- Compute a "bill of materials" for a shop project.
- Illustrate safe shop or laboratory equipment and practices.
- Prepare a listing of the different areas of agricultural mechanics (for example, electronics, welding, and fencing) and post the list on the bulletin board.
- Identify various mechanical skills needed to be performed at home, school, etc.
- Describe fifteen or more different hand tools and/or power equipment items to the class.
- Plan and build an agricultural mechanics project for exhibition and/or use at home.

Other Approved Activities:

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**G. Explanation of the Relationship Between Agriculture and the Environment**

- Research and report on uses of chemical products in other countries.
- Prepare and present a brief oral report on the effects of chemical product misuse.
- Design a new energy or water saving device or procedure and report on it to the class.
- Research and report on methods of conserving water.
- Weatherize a home or other building for energy conservation.
- Research and report on alternative energy sources for agriculture.
- Conduct an experiment related to alternative energy sources (for example, wind, solar energy, and methane gas) and present the experimental findings to the class.
- Interview an agricultural extension agent about restrictions placed on chemical product uses in the county and discuss the findings in class.
- Simulate emergency first-aid procedures for insecticide poisoning, etc. during class.
- Secure and discuss information from the State Department of Agriculture (SDA) on the effects of chemical products on the environment.
- Request and report on information from the Environmental Protection Agency (EPA) on proper handling and uses of agricultural chemicals.
- Illustrate safe handling and uses of agricultural chemicals to other members of the class.

- Identify and discuss methods of protecting the community's environment.
- Collect fifteen or more different fertilizer or pesticide labels for class discussion.
- Secure and share information on fossil fuel conservation from an oil company.
- Calculate actual usage (number of KWHs) and cost of electricity for a building for three consecutive months and compare usages with other students in the class.
- Request and discuss information from the United States Department of the Interior on current research with alternative energy sources.
- Obtain energy conservation information from an electric company for class discussion.
- Illustrate and post methods of energy conservation.
- Repair a machine or piece of equipment for efficient operation.

Other Approved Activities:

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**H. Demonstration of Agricultural and Personal Business Management Skills**

- Use a mock situation (such as a feedlot) to buy, feed, water, and medicate animals.
- Report on various money investment strategies (for example, IRA and MMA).
- Record personal expenses for a week and report on suggestions to reduce expenses.
- Prepare inventories of all personal assets and discuss the sources of assets.
- Locate and discuss examples of online financial records and physical records.
- Develop a personal budget using actual weekly and/or monthly incomes and expenses (for example, keep an account of all income and expense for one week, and with the income and expense records, develop a workable budget).
- Collect and post pictures or photographs of ten people working in agricultural finance.
- Balance a real or simulated checking account.
- Discuss procedures for reconciling a bank statement with the checkbook.
- Tour a local financial institution (bank, credit union, PCA, etc.) to observe operations and personnel and report the findings to the class.
- Visit a local business and obtain a copy of its annual budget for class discussion.
- Contact a bank official to discuss record keeping, budgeting, and financing.
- Interview an officer at a loan institution about requirements for obtaining a loan.
- Collaborate with a local business owner about the importance of a budget and report the findings to the class.
- Visit with an agricultural producer about the effects of financial institutions on the management of the interviewee's operations and report the findings to the class.
- Interview a local agribusiness manager or owner about the importance of accurate records to the business and report the findings to the class.
- Contact a bank official about requirements for opening a checking or savings account.
- Visit a savings and loan agency about requirements for opening a savings account and borrowing funds for the SAEP.
- Budget the projected expenses of your Supervised Agricultural Experience Program for one feeding or growing period.
- Write a personal check and record the information on a check stub (or similar check book journal) and then explain the procedure for writing a check to the class.
- Use a mock auto purchase to illustrate loans and borrowing procedures using a computer program that allows one to determine payments of varied principals, interest rates, and re-payment periods.
- Review a film or video program relating to agricultural finance careers.
- Develop a plan to find a job and explain how much you will need to survive given the situation in which you quit school and move to a town of choice.

Other Approved Activities:

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