
Experiential Learning (Supervised Agricultural Experience Program)

The Experiential Learning (SAEP) component of the secondary agriculture program is designed to provide opportunities for students to experience the diversity of the agriculture, food, fiber and natural resources sectors. According to Phipps & Osborne, *Handbook on Agricultural Education in the Public Schools*, 1988, page 313. Supervised Agricultural Experience (SAE) programs consist of all practical agriculture activities of educational value conducted by students outside of class and laboratory instructional time or on school-released time for which systematic instruction and supervision are provided by teacher, parents, employers, and others.

Vision

All students enrolled in a secondary agriculture program will develop an experiential learning (SAE) program that is a planned agricultural activity, supporting skill and competency development, career success, and application of agriculture and academic skills.

Mission

Experiential learning (SAE) programs prepare students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources sectors. Experiential learning (SAE) programs are teacher-supervised, individualized, hands-on and student-developed; and provide students real-world experience to help them select a career, secure employment and/or prepare for further education in the field of agriculture.

Standards and Guidelines

The importance of SAE programs in the experience of students enrolled in secondary agriculture programs is reflected in the *Standards and Quality Indicators for Agriculture Program Improvement* (2001), which indicates under Standard Eight, “Experiential Learning”, that there are eight quality indicators of a Supervised Agricultural Experience Program. These indicators or “standards of” are as follows:

- Each student enrolled in a 9th through 12th grade agriculture class will have a SAE program.
- Four regularly scheduled observations are made of each student’s supervised agricultural experience program or are at least 180 observations made each year by each instructor.
- Records will be kept to indicate that the teacher has conducted “on-site” observations to each student at least twice per year.
- Each student maintains a financial record book in which regular entries are maintained.

- Students' supervised agricultural experience programs and record books are utilized in determining course grades.
- Students are given an opportunity to fulfill supervised agricultural experience requirements through a variety of SAE types (entrepreneurship, placement, exploratory, research / experimental, analytical).
- A business agreement/education plan, signed by the appropriate parties, is kept on file for each student.
- A supervision period for agricultural experience programs is recognized as part of the teaching load.

Supervised Agricultural Experience Program Criterion

The SAE program should consist of one or more projects that meet the following criteria:

- SUPERVISED - Does the project plan include supervision by the teacher, parent (guardian), and/or employer?
- AGRICULTURAL - Is the project in an area related to agriculture, food, fiber and natural resources?
- EXPERIENCE - Does the planned experience include hands-on, practical opportunities for students?
- PROGRAM - Is there a planned course of action including record keeping and expansion?
- INSTRUCTION - Will related instruction be provided?
- TIME - Will a portion of the planned experience be conducted outside of scheduled class time?
- ECONOMIC BASE - Does the activity have the potential to make a contribution to family living now or in the future and will it be profitable?
- EVALUATED - Is there a planned evaluation, summary, and incorporated grade given?
- RECOGNITION - Does the project have the potential to be recognized through the FFA awards program?

Components of Supervised Agricultural Experience Programs

To be successful in the agriculture workplace and life, students need SAEs that are planned and supervised workplace applications of skills and competencies learned in secondary agriculture programs. To accommodate both the “traditional” and “non-traditional” agriculture student, the following components are approved classifications for SAE programs.

Major Components of SAE (see diagram on the following page)

Entrepreneurship - students own and manage an agricultural enterprise, such as a crop, livestock, or an agricultural business.

Exploratory - designed primarily to help students become literate in agriculture and/or become aware of possible careers in agriculture.

Placement - students are employed in agribusiness firms, school or community facilities, and/or on farms or ranches.

Research/Experimental - students plan and conduct an agricultural experiment using the scientific process; this type of activity is particularly suited for students in agriculture classes where there is a strong emphasis on biotechnology or agriscience.

Analytical - students identify an agricultural problem that is not amendable to experimentation and design a plan to investigate and analyze the problem. Students gather and evaluate data from a variety of sources and produce a finished product. A “scientific paper” evaluating and documenting outcomes may be the expected product for an analytical SAE.

Example #1 - a student completing an in-depth market analysis of an agriculture commodity and following the commodity with simulated trading activities over an extended period of time.

Example #2 - a student interested in agricultural journalism writes a series of articles on agriculture in the community for the local newspaper, but is not employed by the newspaper.

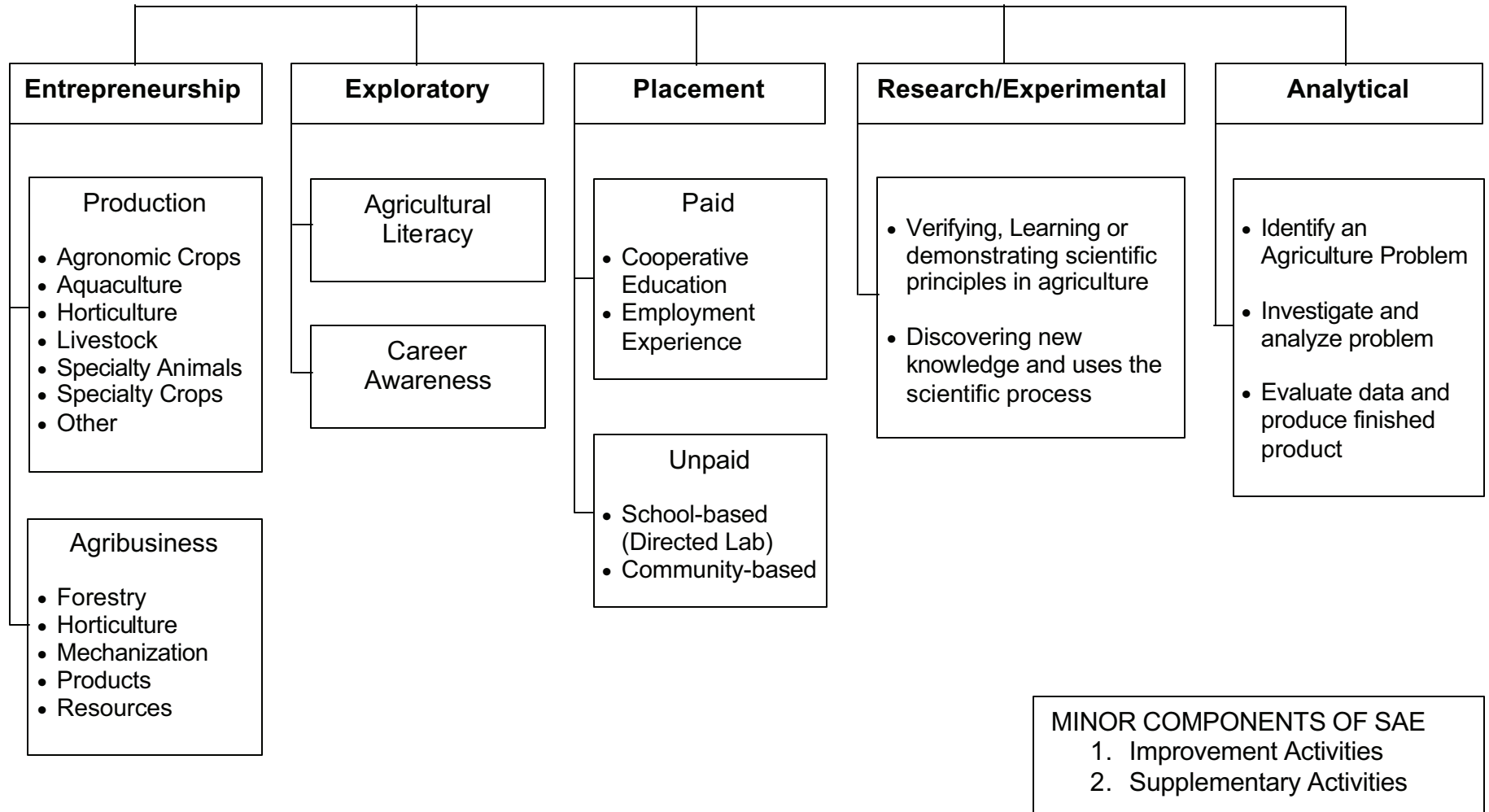
Directed Laboratory Experience - includes Exploratory and Placement (without pay), Research/Experimental, and Analytical programs.

Minor Components of SAE

Improvement Activities - a series of steps that require a number of days for completing.

Supplementary Activities - students perform a specific agricultural skill outside of normal class time; activity often accomplished in less than a day and does not require a series of steps.

MAJOR COMPONENTS OF SUPERVISED AGRICULTURAL EXPERIENCE



Instructor Supervision

The *Standards and Quality Indicators for Agriculture Program Improvement (2001)* indicate that four regularly scheduled supervisory visits or observations should be made of each student's SAEP per year. The purpose of the supervisory visits is to monitor student progress toward SAEP and instructional goals, to provide one-on-one time between instructor and student to work on financial records and individual problems, and provide opportunities to interface with parents. Motivation and communication with students and parents are the underlying benefits from regular SAEP visitations.

For SAEP supervisory visitations to be successful, they should be planned and scheduled in advance. The general recommendation has been to make one visit during each school semester and two during the summer to complete the four visits per year. Setting up a calendar of visits at the beginning of the fall semester, at the beginning of the winter/spring semester, and during May for summer will insure that the visitation schedule is evenly distributed and that students are available.

The following are approved guidelines for SAE observations:

1. Each student is expected to be observed an average of four times per year or each teacher is expected to make a total of 180 observations.
2. Teacher must spend at least 20 minutes in an individual conference with the student.
3. Individual conferences will be scheduled outside of class time.
4. Activities must be instructional in nature and related to the student's SAEP.
5. At least one SAEP observation per year should include the parents and guardians.
6. Teacher should provide written document of observations.

Supervisory Period

School districts should provide an SAE supervision period for the agriculture instructor to make supervisory observations. This period should be reserved and used for SAE instruction. In some cases, it may be difficult to arrange on-site observations during this period because of when it falls during the day and students' class schedules. However, the practice of completing one or two supervisory observations with each student at school during the instructor's SAE period or conference time has been recognized as being appropriate and worthwhile for many students, as long as the remaining supervisory observations are completed on-site. Instructors should use extreme discretion in removing students from other classes for SAEP supervisory visitations. Make sure that adequate notice is provided and proper permission is obtained from teachers of other classes. Local school policies often dictate how flexible students and teachers can be in participating in SAEP observations during the school day. Observation schedules should always be shared with the appropriate school administrators.

Possible types of at school observation are:

- Work on financial records, applications, exploratory, experimental and analytical projects.
- Conference related to work in school laboratory.
- Conference related to planning an observation activity - at school or home.

NOTE: The intent is not to include work with Career Development Events or FFA officer meetings.

SAEP Records - Each student should maintain SAEP records as a part of his/her SAE program. Most will use the Missouri Agriculture Record Book for Secondary Students. Other record systems, such as computer programs, can be used as long as they provide the necessary information for record summarization. SAEP records should be evaluated regularly and included as a factor in students' grades. Sample grading procedures are included in *Experiencing Agriculture, A Handbook On Supervised Agricultural Experience* (1992), and on the University of Missouri website (<http://www.aged.missouri.edu/AgEd/inserv.html>).

Research/Experimental and Analytical SAEP Program - Instructors can document a student's progress by using the Scientific Writing document (Scientific Writing), <http://www.an.psu.edu/jxm57/irp/sciwrit.html>, The Scientific Paper, and the Laboratory Experiment Report, (Agriscience Notebook, Danville, Interstate Publishers, Inc., 1993). The Research/Experimental and Analytical SAEP programs will be documented as directed laboratory experience (without pay) in the Missouri Agriculture Record Book for Secondary Students.

Students Placed for Credit In Cooperative Vocational Education Programs - Students who are placed for credit (Agriculture - Coop), either during the school year or in the summer, must meet state established guidelines concerning written instructional plans, instructor supervision, and hours of credit granted for work experience. If students are placed in off-campus programs for credit, a copy of the latest policy statement must be obtained from the Department of Elementary and Secondary Education to make sure that all requirements are being met.

The following policies apply to the operation of cooperative education as part of DESE approved vocational education programs:

- The teacher/coordinator must provide both in-class related instruction and supervision of students' on-the-job training.
- Students must be enrolled in both the class and the supervised employment simultaneously.
- Training stations must be appropriate for the occupational area for which the program is designed.

- There must be a written Instructional Management Plan (IMP) between the school and the training sponsor that identifies both in-class instruction and on-the-job training that the student will receive.
- A current IMP must be on file for each student receiving cooperative education credit.
- There must be a written training agreement between the school and the training sponsor which assures that students are employed and compensated in conformity with federal, state, and local laws and without regard to race, color, national origin, sex, or disability.
- The credit awarded for on-the-job training should be 1 unit per school year for each 10 hours of employment per week. No more than 2 credits may be awarded for on-the-job training during a school year.
- Teacher/coordinator employment contracts should include an additional week beyond regular teacher contracts for each twelve to fifteen cooperative education students so that counseling, placement, scheduling and training station development can be conducted.
- The teacher/coordinator's schedule must include 225 minutes per week for each 12-15 cooperative students for supervision of an on-the-job training.
- Evaluation of students on the job must include occupationally specific skills as well as attitudinal criteria.

References - Two primary references are available and should be used by Missouri agriculture instructors in planning and conducting SAE programs: *Developing Programs of Supervised Agricultural Experience*, (Instructional Materials Laboratory, 1989), and *Missouri Record Book for Secondary Students*, (Instructional Materials Laboratory, 1989). The curriculum guide provides instructional units to be included in each year of instruction.

An additional reference entitled, *Experiencing Agriculture, A Handbook on Supervised Agriculture Experience*, (1992) contains instructional and planning materials developed as a project of *The National Council for Agricultural Education* for agriculture instructors across the country. The materials should be used to supplement Missouri's curriculum guides. A copy of the materials can be ordered from the National FFA Supply Service. Additional support documents and reference text for SAE can be found at the following websites:

SAE Central Website: <http://www.cals.ncsu.edu/agexed/sae/toolbox/index.html>

National FFA Website: <http://ffa.org/programs/sae/index.html>

The following documents and forms are provided to assist in planning and supervising students' SAEs:

- Exploratory SAE Opportunities
- Exploratory SAE Planning Form
- SAE Training Plan – Management Practices – Experiences Gained
- Placement SAE Weekly Report
- Placement Evaluation
- Scientific Writing
- The Scientific Paper
- Laboratory Experiment Report
- Supervision Record
- SAE Supervision Log
- High School Record Book Procedures
- “Sample” Monthly Scoring Guide Key for Record Book
- “Sample” Annual Scoring Guide Key for Record Book
- Agriculture - Cooperative Memorandum of Understanding
- Student Work Agreement - Agriculture Cooperative
- Agriculture Cooperative Parent Letter

Exploratory SAE Opportunities

The following Exploratory SAE Opportunities are only suggestions, activities may be adapted to the learning style, career interest, background, and experience of the student or different requirements may be added by the instructor to provide a unique activity for each individual student. Students are encouraged to be creative and take an active role in selecting their activities.

Plant/Crop Science

- Seed collection (Mount and Label) – number to be specified
- Plant collection (Mount and Label) – number to be specified
- Soil texture sample collection (verify texture by using the mason jar test)
- Munsel color testing kit
- Insect collection (Mount and Label) – number to be specified
- Write a letter to a college or university about career opportunities and majors in plant and crop science
- Job shadow a career in the plant/crop science industry. Examples:
 - Soil scientist with NRCS, University Extension, MDC, and DNR
 - Agronomist
 - Local seed dealer
 - Fertilizer sales representative
 - Seed house
 - Chemical sales representative

Animal Science

- Time line for any species from conception to processing
- Management calendar for any species
- Animal ID and characteristics (with pictures and labels) – number to be specified
- Fish ID (photos with each fish properly identified) – number to be specified
- Breed/Pedigree identification with pictures and labels
- Develop a yearly breeding program for any species
- Nutrition program and health management for any species
- Write a letter to a college or university about career opportunities and majors in animal science
- Job shadow a career in the animal science industry. Examples:
 - Feed store
 - Stock yards
 - Livestock producer
 - Veterinarian
 - Livestock extension specialist
 - Animal health sales representative
 - Artificial Insemination licensed technician
 - Dairy
 - Seed stock producer
 - Ferrier

Natural Resources

- Collect samples or pictures of native Missouri animals, trees, grasses, birds, etc.
- Acorn Collection (Mount and Label) – number to be specified
- Products of natural resources (collection) – number to be specified
- Leaf collection (Mount and Label) – number to be specified
- Feather collection (Mount and Label) – number to be specified
- Seed collection (from various trees, mount and label) – number to be specified
- Soil texture samples from various landscapes
- Plaster of Paris wildlife track collection (Label) – number to be specified
- Write a letter to a college or university about career opportunities and majors in natural resources
- Job shadow a career in the natural resources industry. Examples:
 - Conservation agent
 - NRCS
 - University Specialist
 - Missouri Water Patrol
 - Wildlife biologist
 - Fisheries biologist
 - Hatchery
 - Park ranger
 - Professional trapper

Horticulture

- Take plant cutting in the greenhouse for production
- Landscaping plan and materials list
- Plant collection (Mount and Label) – number to be specified
- Twig, bark and fruit collection (Mount and Label) – number to be specified
- Landscaping plant ID (pictures and include in the label the plant's required temperature, shade requirements, and ideal planting location)
- Design a landscaping plan using a landscape computer program
- Design and/or construct hydroponics project
- Design and/or construct a propagation bench for a greenhouse
- Write a letter to a college or university about career opportunities and majors in Horticulture
- Job shadow a career in the horticulture industry. Examples:
 - Florist
 - Greenhouse manager
 - Commercial greenhouse/nursery
 - Landscaper
 - Supply service and distribution
 - Home Depot
 - Lowe's
 - Grocery store produce manager

Agricultural Mechanization

- Welding equipment ID and usage (Pictures and Labels)
- Identify the requirements of a licensed and certified welder
- Identify industrial gasses and include uses, properties and hazards
- Nail ID collection (usage chart)
- Electric wire collection (Mount and Label)
- Diagram how the engine works
- Screw and bolt ID collection (usage chart)
- Cut away of a model engine showing how it works
- Layout and design of a shop of your choice
- Write a letter to a college or university about career opportunities and majors in Agricultural Mechanization
- Job shadow a career in the Agricultural Mechanization industry. Examples:
 - Hardware store
 - Small gas engine distribution center
 - Steel supply dealer
 - Metal fabrication
 - Automotive dealer / mechanic
 - Tractor and part dealer

Agricultural Business/Sales/Marketing

- Marketing plan
- Advertisement plan for a local business or for your FFA chapter fundraiser
- Marketing time line for livestock or crop species
- History of the stock market
- Report on a Agribusiness
- Stock tracking
- Sales presentation on a product
- Write a letter to a college or university about career opportunities and majors in Agricultural Business/Sales/Marketing
- Job shadow a career in the Agricultural Business/Sales/Marketing industry. Examples:
 - Farm Bureau
 - Individuals that are dealers, traders and involved in sales
 - Commodity broker
 - Auctioneer
 - Agriculture bank
 - Loan officer
 - Agriculture broad caster

Food Science

- Identify agriculture raw materials that go into commercial products
- Research and present on value added products
- Meat ID collection (Pictures and Label) – number to be specified
- Time line for any species from conception to processing (from gate to plate)
- Cheese ID (Pictures and Label with characteristics) – number to be specified

- Country cured ham
- Write a letter to a college or university about career opportunities and majors in Food Science
- Job shadow a career in the Food Science industry. Examples:
 - Meat cutter
 - Butcher shop
 - Dairy processing plant
 - Grocery store manager
 - Meat inspector
 - Grain processing
 - Orchard manager
 - Health inspector
 - Restaurant manager

Leadership and Communication

- Create a newspaper article for your chapter
- Chapter activity power point presentation
- FFA history chart/time line
- Personal portfolio
- Parent letters
- Franklin Covey (report on the system and the philosophy)
- Create a Successorie – number to be specified
- Adventure learning activity (create and build)
- Develop a scrapbook for your FFA chapter
- Write a letter to a college or university about career opportunities and majors in Leadership / Communication
- Job shadow a career in the Leadership / Communication. Examples:
 - Radio
 - Newspaper reporter or editor
 - T.V. reporter
 - Farm Bureau
 - Representative or Senator
 - Director of Communication for a commodity group

Exploratory SAE Planning

Name: _____

Grade level: 9 10 11 12

Course enrolled: _____

Academic year: _____

Teacher: _____

SAE interest areas (check all that apply):

- | | | |
|---|---|---|
| <input type="checkbox"/> Animal Science / Aquaculture | <input type="checkbox"/> Horticulture | <input type="checkbox"/> Food Science |
| <input type="checkbox"/> Plant / Crop Science | <input type="checkbox"/> Agricultural Mechanization | <input type="checkbox"/> Leadership / Communication |
| <input type="checkbox"/> Natural Resources | <input type="checkbox"/> Agricultural Business, Sales, and/or Marketing | <input type="checkbox"/> _____ (other) |

Comments/Notes (background, FFA goals, future courses, objectives, resources available):

<i>Exploratory SAE Project</i>		Target Date	<i>Comments/Evidence</i>	Date Completed	Hours	Grade / Points
2 nd Quarter						
3 rd Quarter						
4 th Quarter						
Summer						

Student's signature: _____

Date: _____

Parent/Guardian's signature: _____

Date: _____

Teacher's signature: _____

Date: _____

SAE Training Plan – Management Practices – Experiences Gained

FORM 102 – COMPETENCIES LIST

(student’s name)

(name of business/industry)

Year _____ Page _____ of _____

Instructions: Place a check under the level of performance after the competency/skill has been performed

Rating Scale: 3 = Mastered, 2 = Requires Supervision, 1 = Not Mastered, N = No Exposure

COMPETENCIES / SKILLS	LEVEL OF PERFORMANCE				SUPERVISOR’S COMMENTS
	3	2	1	N	
Written communication – communicates thoughts, ideas, information, and messages in writing.					
Listening – receives, attends to, interprets, and responds to verbal messages.					
Spoken communication – organizes ideas and communicates clearly.					
Creative thinking – demonstrates creativity in generating new ideas.					
Decision making – generates alternatives, considers risks, evaluates, and chooses best alternative.					
Problem solving – recognizes problems and devises and implements a plan of action.					
Learning initiative – uses efficient learning techniques to acquire and apply new knowledge and skills.					
Responsibility – exerts a high level of effort and perseveres toward goal.					
Self-esteem – believes in own self-worth and maintains a positive attitude.					
Sociability – demonstrates understanding, friendliness, adaptability, and politeness with others.					
Self-management – assesses self accurately, sets personal goals, monitors progress, and exhibits self-control.					

SAE Training Plan – Management Practices – Experiences Gained

_____ Year _____ Page _____ of _____
 (student’s name) (name of business/industry)

Instructions: Place a check under the level of performance after the competency/skill has been performed
Rating Scale: 3 = Mastered, 2 = Requires Supervision, 1 = Not Mastered, N = No Exposure

COMPETENCIES / SKILLS	LEVEL OF PERFORMANCE				SUPERVISOR’S COMMENTS
	3	2	1	N	
Integrity/honesty – chooses ethical courses of action.					
Resource management – identifies, organizes, plans and allocates resources efficiently (time, money, materials and facilities, and human resources).					
Team player – contributes to group efforts.					
Serves clients/customers – strives to satisfy customer’s expectations.					
Exercises leadership – communicates ideas, persuades and convinces others, responsibly challenges existing procedures and policies.					
Applies technology – understands overall intent and proper procedures for setup and operation of equipment.					

Placement SAE Weekly Report

Student's Name _____ Business/Industry _____ Business/Industry Telephone _____

Student's Home Address _____ Home Telephone _____

Total Hours Worked _____ Monday _____ through Friday _____
Date Date Date

JOBS COMPLETED – Knowledge and skills learned
 (Refer to Training Plan – Management Practices – Experiences Gained)

Monday Hours Worked _____	
Tuesday Hours Worked _____	
Wednesday Hours Worked _____	
Thursday Hours Worked _____	
Friday Hours Worked _____	

 Student's Signature

 Supervisor's Signature

Placement Evaluation

Student: _____

Placement Site: _____

This evaluation is used in assisting to determine the student's grade. Please evaluate the student on the following qualities in relation to the performance of your regular employees who perform the same functions. The forms may be completed while in conference with the instructor. These forms will be utilized on a regular basis during the student's work experience.

1. Was the student punctual and regular in attendance? _____ Yes _____ No
2. Is the student continuing to make progress? _____ Yes _____ No

Check one in each category

3. Quantity of work
 Has unusually high efficiency
 Usually does more than expected
 Turns out required amount
 Turns out below required amount
4. Quality of work
 Consistently does excellent work
 Usually does good work
 Usually does passable work
 Does inferior work
5. Initiative
 Looks for work to do
 Needs little supervision
 Needs normal supervision
 Needs much supervision
6. Attitude toward work
 Is enthusiastic and aggressive
 Has above average interest
 Has normal interest level
 Is indifferent
7. Management potential
 Demonstrates definite promise
 Demonstrates some promise
 Demonstrates little promise
8. Dependability
 Does what you want when you want it
 Needs little follow-up
 Needs occasional follow-up
 Requires frequent follow-up
9. Adaptability
 Quickly meets changed conditions
 Adjusts to new conditions given time
 Is a routine worker
 Is unable to adjust to change
10. Ability to follow directions and to accept criticism and guidance
 Solicits advice and guidance
 Appreciates advice and guidance
 Follows directions and accepts guidance
 Resents directions and guidance
11. Judgment and common sense
 Has exceptional judgment
 Has above-average judgment
 Usually thinks clearly
 Is unsound and illogical
12. Attitude toward other employees
 Is outstanding in cooperation and teamwork
 Promotes cooperation
 Cooperates
 Is antagonistic
13. If there was a position available with your company, would you consider hiring this student as a permanent employee?
Yes _____ No _____
14. General rating of student:
_____ Excellent _____ Superior _____ Average
_____ Needs improvement _____ Unsatisfactory

COMMENTS:

Supervisor's Signature

Date

Scientific Writing

Resource: <http://www.an.psu.edu/jxm57/irp/sciwrit.html>

With regard to presenting your investigations, one of the objectives of this laboratory course is to develop your writing skills. In science, writing is the most important means of communicating research findings. In most cases, scientists report the results of their research activities in scientific journals in a rather standard scientific paper format. In this laboratory program, you will practice writing in this scientific format and style.

As you carry out this I.R.P., you will make observations, ask questions, and propose hypotheses. You will conduct experiments using procedures that are designed for you in this Web site. You will record results, design tables and graphs to present your data in a logical and organized format. You will interpret your results and come to conclusions based on your hypotheses. This process will be reflected in your independent construction of a scientific paper, which is the culmination of this I.R.P. project.

A scientific paper usually includes the following parts: a **Title** (statement of the question or problem), an **Abstract** (short summary of the paper), an **Introduction** (background and significance of the problem, a **Materials and Methods** section (report of exactly what you did, a **Results** section (presentation of data), a **Discussion** section (interpretation and discussion of results), and **References** (books and periodicals used). A **Conclusion** (concise restatement of conclusions) may also be included.

Since performing this I.R.P. will be a collaborative effort (students will be working in teams of two), you and your teammate will share information for the *Materials and Methods* and the *Results* sections of your reports. However, the *Introduction*, *Discussion*, and *References Cited* (or *References*) sections *must be the product of your own personal library research and creative thinking*. If you are not certain about the level of independence and what constitutes plagiarism in this laboratory program, ask me, your instructor, to clarify the class policy. Plagiarism will not be taken lightly.

A more detailed description of each section of a scientific paper follows. As you write your paper, clearly label each section (except the title page), placing the title of the section against the left margin on a separate line.

- **Title Page and Title**
- **Abstract**
- **Introduction**
- **Materials and Methods**
- **Results**
- **Discussion**
- **References**
- **Conclusion**

The Scientific Paper

Once scientists arrive at conclusions, they need to communicate their findings to others. In most cases, scientists report the results of their research activities in scientific journals in a rather standard scientific paper format. A **SCIENTIFIC PAPER** usually includes the following parts: a Title, an Abstract, an Introduction, Materials and Methods, a Discussion, a Conclusion, and References. This paper is written for submission to a journal for publication; or, the abstract itself may be submitted to a society/club/organization in order for approval to present data personally to peers/colleagues.

Components of Scientific Paper

1. **Abstract:** The abstract summarizes the question being investigated in the paper, the methods used in the experiment, the results, and the conclusion drawn. The reader should be able to determine the major topics in the paper without reading the entire paper. Usually written after paper is completed.
2. **Introduction:** Here you introduce the problems and questions you addressed in conducting your experiment (i.e., why did you do it?). Again, you must make a statement, which encompasses your hypothesis. You may also want to state the question(s) you are trying to answer. Address previous experimental results that preceded your work.
3. **Materials:** As in a Protocol, list all major items used to carry out your experiment. How did you set up your experiment? How many experimental groups did you have? How did you measure the effect you studied? These and any other methods should be explicitly stated or referenced. Again, anything that is different from previously published methods should be explicitly stated.
4. **Results:** Here is where you show the data that you collected. Results are usually shown in tables or graphs (figures). All Figures that are presented must have a caption or a title placed above it that describes its contents. Tables and Figures are numbered consecutively throughout a lab report or scientific paper. The title should give enough information to allow the table to be understandable apart from the text. You should also write a brief statement about the trends you see in your results.
5. **Discussion:** For write-ups, this section is of major importance. You should critically examine your results and interpret the trends in the data. Do your results support your hypothesis? Were your questions answered? What new questions come to mind after examining the results?
6. **References:** Include published works that you cite in your write-up. Use the standard format given in **Scientific Writing**.

Suggested Items for Discussion

1. Observations
 - ⇒ Quality
 - ⇒ People skills
 - ⇒ Professional ethics

2. Record book
 - ⇒ Receipts and expenses
 - ⇒ Cash flow
 - ⇒ Inventory
 - ⇒ Budget
 - ⇒ Business agreements
 - ⇒ Leadership section
 - ⇒ Proficiency award information

3. FFA
 - ⇒ Proficiency awards
 - ⇒ FFA degrees
 - ⇒ Offices
 - ⇒ WLC/Made for Excellence Conference
 - ⇒ Goals in the FFA

4. Skill instruction
 - ⇒ Identify skills taught during supervisory visit

5. Recommendations
 - ⇒ Improvements
 - ⇒ Changes
 - ⇒ Expansion

6. Goals
 - ⇒ Establish short range goals for the project
 - ⇒ Establish long range goals for the program
 - ⇒ Career guidance

7. Follow-up

High School Record Book Procedures

<u>Month</u>	<u>Freshman</u>	<u>Sophomore/Junior/Senior</u>
September	<ol style="list-style-type: none"> 1. Planning an SAE 2. Discuss use of record books with SAE 	<ol style="list-style-type: none"> 1. Bring all expenses and receipts up to date 2. Summarize all fairs / shows / placement / camp / leadership / competencies activities 3. Cash flow (Form 5) updated 4. All sales and receipts have units (lbs., bu., head) 5. Exchange of Labor updated (if applicable)
October	<ol style="list-style-type: none"> 1. Start Budgets (enterprises) 2. Determine SAE programs 	<ol style="list-style-type: none"> 1. Update expenses, receipts, cash flow, labor/exchange transactions, and loan transactions
November	<ol style="list-style-type: none"> 1. Finalize budgets 2. Determine SAE program 3. Start expenses and receipts for capital purchased and operating costs 	<ol style="list-style-type: none"> 1. Normal expense and receipts transactions 2. Update cash flow and supplementary forms
December	<ol style="list-style-type: none"> 1. Develop inventories for January 1st 2. Complete budgets 3. Personal assets/liabilities are correctly inventoried 4. Develop depreciation tables for capital purchases 5. Develop (beginning) financial statement/balance sheet 6. Complete supplementary forms for use the next year 	<ol style="list-style-type: none"> 1. Total and complete cash flow, expenses and receipts 2. Prepare preliminary tax estimate (if warranted)
January	<ol style="list-style-type: none"> 1. Complete beginning inventories, depreciation tables, liabilities 2. Complete beginning financial statement/balance sheet 3. Start expenses and receipts 4. Complete exchange of labor budget 	<ol style="list-style-type: none"> 1. Complete all former year record book forms 2. Reconcile cash transactions with checking accounts 3. Start cash flow (Form 5) 4. Complete 1040F and 1040 tax forms 5. Prepare budget 6. Update leadership and proficiency awards in FFA section of record book 7. Reconcile net worth increase/decrease as to, net profit, gifts, personal income, etc.
February	<ol style="list-style-type: none"> 1. Check expense/receipts, cash flow and exchange of labor 2. Update budgets and SAE plans 	<ol style="list-style-type: none"> 1. Justify record book with State Farmer and Proficiency applications 2. Update expenses and receipts
March	<ol style="list-style-type: none"> 1. Check expense/receipts, cash flow transfers 2. Check if depreciation is correctly set up 3. Review loan payments 4. Review support records 	
April & May	<ol style="list-style-type: none"> 1. All record books graded for accuracy and ready for end of school year 2. Set one on one visit for summer SAE visit 3. Complete summary for graduating seniors not continuing in FFA 	
June & July	<ol style="list-style-type: none"> 1. SAE visits, review record book for accuracy 2. Update budgets and all record book forms. Determine which support records apply to Proficiency Awards & State Farmer applications. 3. Take pictures of SAE and Placement activities 	
August	<ol style="list-style-type: none"> 1. Check to see if students have recorded all fair/show records 2. Check expense/receipts/fairs/placings, etc. 3. Relate in newsletters they should be completing all records for review and grading in September 	

“Sample” Monthly Scoring Guide Key for Record Book

Student: _____

Record Period: _____ to _____

Forms 1 & 2	Receipts (30% maximum)	Student	Teacher
	Amount and Description 20% _____ Directed Experience 5% _____ Ownership 5% _____ Placement 5% _____ Personal 5% _____ Distribution 5% _____		
	Maximum 30%	_____	_____
Forms 3 & 4	Expenditures (30% maximum)		
	Cost and Description 20% _____ Ownership 5% _____ Placement 5% _____ Personal Expenses 5% _____ Exchange of Labor 5% _____		
	Maximum 30%	_____	_____
Form 5	Cash Flow (20% maximum) 20%	_____	_____
Form 105	5% _____		
Form 106 & 107	Breeding & Performance Record/Show Record 5%		
Form 108	FFA Leadership & Participation 10%		
Form 109	Leadership & Participation other than FFA 5%		
Form 110	Other FFA Activities 5%		
Form 111	Proficiency Award Information 5%		
	Maximum 20%	_____	_____
Monthly Total		_____	_____

List below what your SAE is today					
Placement:					
On <u>Farm</u> Belonging To: _____			Hours Worked: _____		
In <u>Agribusiness</u> Belonging To: _____			Hours Worked: _____		
Laboratory (Description): _____			Hours Worked: _____		
Other (Describe): _____			Hours Worked: _____		
Ownership:					
# Head of Beef:	Cows _____	Calves _____	Bulls _____	Yearlings _____	Other _____
# Head of Swine:	Sows _____	Boars _____	Pigs _____	Fat Hogs _____	Other _____
# Head of Sheep:	Ewes _____	Rams _____	Lambs _____	Fat Lambs _____	Other _____
# Head of Rabbits:	Breeding Rabbits _____		Non-Breeding Rabbits _____		
# Head of Horses:	Brood Mares or Stallions _____		Colts _____	Other _____	
List other Livestock (Kind & Head) _____					
Crops (Kind & Number of Acres) _____					
Ownership Agribusiness (Description) _____			Hours Worked: _____		

“Sample” Annual Scoring Guide Key for Record Book

Student: _____

Record Period: _____ to _____

Forms 1 & 2	Receipts	Student	Teacher
	Amount and Description.....10% _____ Directed Experience..... 5% _____ Ownership..... 5% _____ Placement..... 5% _____ Personal..... 5% _____ Distribution 5% _____		
	Maximum 15%	_____	_____
Forms 3 & 4	Expenditures		
	Cost and Description10% _____ Ownership..... 5% _____ Placement..... 5% _____ Personal Expenses 5% _____ Exchange of Labor..... 5% _____		
	Maximum 15%	_____	_____
Form 5	Cash Flow (10% maximum)..... 10%	_____	_____
Form 105	5% _____		
Form 106 & 107	Breeding & Performance Record/Show Record 5% _____		
Form 108	FFA Leadership & Participation 10% _____		
Form 109	Leadership & Participation other than FFA 5% _____		
Form 110	Other FFA Activities 5% _____		
Form 111	Proficiency Award Information 5% _____		
	Maximum 20%	_____	_____
Form 6	Depreciation Schedule Machinery, Equipment, and Land 5% _____		
Form 7	Depreciation Schedule Livestock/Animals 5% _____		
Form 8	Inventory of Livestock/Animals 5% _____		
Form 9	Inventory of Crops, Supplies, Machinery, Buildings, and Land 10% _____		
Form 12	SAE Program Summary 10% _____		
	Maximum 20%	_____	_____
Form 10a & 10b	Balance Sheet (Beginning & Ending) 15% _____		
Form 11	Profit or Loss Statement 15% _____		
	Cash Reconciliation 10% _____		
	Net Worth Reconciliation 10% _____		
	Maximum 20%	_____	_____
TOTAL		_____	_____

Memorandum of Understanding

Agriculture - Cooperative Anytown Agricultural Education Work Experience Program

The Supervised Work Experience in Agriculture is a vocational training program in which all involved cooperate to provide training for students who are considering a career in agriculture after graduation from high school or college. This memorandum provides a basis of understanding regarding the work experience of the student and to promote good relations among the student, parent, school, and employer. As a condition for acceptance into the work experience program, the student and parent agree to the following:

- To be regular in attendance in school and at the place of employment.
- To notify the employer and high school principal's office in advance in case of necessary absence.
- Keep Mr./Ms. Agriculture Teacher informed of employment status immediately upon any change and that the employment training must continue throughout time enrolled in the program or no credit will be earned.
- If conduct or work is not satisfactory at school or on the job, the opportunity to participate in the Ag - Coop program will end.
- To carry out training on the job in such a manner that it reflects credit upon the student, agricultural - cooperative program, Anytown High School, and the employer.
- To complete class work and homework assignments earnestly and sincerely, and to be punctual on the job and in the class.

Student's Signature

Parent's Signature

Date

Date

**Student Work Agreement
Ag-Coop Work Experience Program**

I, _____, agree to work in the Anytown Agricultural Education
Department's work program for _____ . Employment will begin _____
Student's Name Employer Date
and end _____ .
Date

Work will typically be on the following days: _____

with work hours on week days being _____ to _____. Work hours on weekends
Starting Time Ending Time
will be _____ to _____. If the job starting or ending time will vary from day to
Starting Time Ending Time
day, please explain: _____.

The beginning wage will be \$ _____ per hour.

Student's Signature

I, _____, agree that the information above is
Employer or Supervisor
correct and that I have read the guidelines listed below:

- Provide the student with opportunities to learn a variety of jobs in the business.
- Assign the student new responsibilities only when judged able to handle them.
- Avoid subjecting the student to unnecessary hazards.
- Maintain the areas of work and the equipment used in a safe and acceptable manner.
- Assist the teacher in making an honest appraisal of the student's performance.
- Notify the parent and the school immediately in case of accident or sickness and if any serious problem arises.
- Notify the parent and school immediately if the student misses work without prior notice and justifiable cause.
- Not to employ the student trainee for a period of at least 90 days if the student drops out of school.

Employer's / Supervisor's Signature

Sample Parent Letter

Date

Dear Parents:

Your son/daughter is receiving high school credit for being release early from school to work at an agriculture related job. I am enclosing two copies of the Memorandum of Understanding. Please sign and return one of the contracts to me.

I want to emphasize some of the important guidelines that must be followed for the work program to be a success.

1. Students must arrive at school on time in the morning. If a student is absent from school, he/she is not allowed to work that day. If this is abused, students will be removed from the work experience program and put in a full day of regular classes.
2. Students must maintain good grades and good discipline in all school classes and activities. Students must be punctual to all classes. If a student is assigned detention, it shall be made up after school, even if the student must miss work.
3. Students are to keep me informed of their work schedule, days off, etc. Students are to go directly to work or home after they leave school. I realize that a few of the students may have a regular school day as their day off from work. Still, the student must leave school after his/her last class and go home. Students should not be seen downtown or back at school.

It has been my experience that the above three items need to be emphasized. It is a privilege to work in the agriculture cooperative program and only those earning the privilege will be allowed to participate. If these guidelines are followed, I know your son/daughter's work placement will be a valuable experience.

Thank you for your cooperation. If you have any questions, or if a problem should arise, please contact me.

Sincerely,

Jane Henry, Agriculture Instructor
Anytown High School