Careers in Ag Engineering

Unit Outline

1. Project Team Members: Michael R. Shultz, Midd-West School District

2. Title of Course: Agricultural Engineering (Ag. Metals, Ag. Power, and Ag. Building & Construction)

3. Title of Unit or Project: Careers in Ag Engineering

4. Approximate length of Unit or Project: 3 weeks

5. Brief description of the Unit or Project with an expected final outcomes:

   Students will work to learn about various career opportunities in the field of ag engineering; opportunities that are both local and global. They will research a career of their choice, and prepare an oral presentation about their selected career. They will then visit a few local businesses and evaluate the working environment and work standards that are required for various careers. Following the field trip, they will prepare a written and oral report describing their experience, and evaluating the prospective job opportunities. To conclude the unit, they will select a career option that would have been available locally, and complete a mock application and current resume for a possible position.

6. Major Goals of Unit:

The Student will be able to:

   a. examine various careers in Ag Engineering both globally and locally.
   b. analyze work sites, compare/contrast working conditions and define skills needed by employers – technical, academic, and "Employability Skills."
   c. prepare short speeches and present them.
   d. thoroughly and accurately complete a job application.
   e. set up a complete and thorough resume.

7. Sequence of balanced and integrated activities for students:

   Students will complete the following activities:

      Introduction to Careers: As a class, various traditional Ag Engineering careers will be discussed. Students will then choose from a list of careers that they may research on the web or elsewhere. The students will pair up with another student to research a specific career option in ag engineering, and give a 2-3 minute presentation on their career area. ***(Career group presentation rubric)***

Local field trip: The class will visit several local ag businesses and tour their facilities. Owners/managers will give basic information on jobs, etc. Students must ask specific questions to complete their written and oral reports. ***(Field Trip Notes)***

Written comparison/contrast, summary, and evaluation of field trip: The students will complete a one page written report that will compare the job sites, summarize the experience, and give a personal evaluation and reflection of the experience. They will also compare their expectations prior to the visits to what they actually discovered at the job sites. ***(Field trip report rubric)***

Oral Report: The students will present a one to two minute summary from their point of view. ***(Individual oral rubric)***

Resume and application: As a conclusion to the careers unit, the students will prepare an application and a resume for their desired position. ***(Resume/App Rubric)***

8. Checklist or rubric of assessment components for students:
   Rubrics are attached to this document if needed in hard copy. If on disk, they should have separate file names (see above for correct assessments).

9. Specific Standards addressed in this Unit or Project:

Ref. #	Name of Standard	Title of Individual Standard
1.1-1.2	PA RWSL	1.1.8 B 1.1.11 A 1.1.11 F 1.1.11 G 1.2.8 A 1.2.11 A 1.2.11 B
1.5	PA RWSL	1.5.8 A 1.5.11 A 1.5.11 B 1.5.11 C 1.5.11 D 1.5.11 E 1.5.11 F
1.8	PA RWSL	1.8.8 C 1.8.11 A 1.8.11 B

13.1	PA CEW	13.1.8A 13.1.8B 13.1.8C 13.1.8D 13.1.8E 13.1.8G 13.1.11A 13.1.11C 13.1.11D 13.1.11E 13.1.11F
13.2	PA CEW	13.2.8B 13.2.8D 13.2.8E 13.2.8G 13.2.11C
13.3	PA CEW	13.3.8B 13.3.8C 13.3.8D 13.3.11A
13.4	PA CEW	13.4.8A 13.4.11C
3	VISIONS FOR AG ED STANDARDS. CONTENT AREA: POWER SYSTEMS AND TECHNOLOGY	3.1, 3.2

NAME:_____ DATE:_____

Careers in Agricultural Engineering: Group Presentation

We have been discussing various careers available to you in the field of ag engineering. We have just begun to brush the surface of the available careers that are out there for you. There are many other fields that are out there that you may be interested in, and others in your class are probably interested in, yet you know very little about them or maybe have never even heard of them. Using the Internet and various class and library publications, we want to explore different careers in ag engineering and broaden our vision of ag careers. With a partner(selected be me☺), you will need to research a career and share your research with the rest of the class.

Grading will be based on the following criteria:

GRADING RUBRIC	**Possible points**	**Self assessment**	**Teacher Assessment**
Content:			
Career clearly stated	8		
Job responsibilities described	10		
Job qualifications described	10		
Job opportnties explained	10		
Conclusion/wrap-up	7		
Presentation:			
Was well planned and coherent	10		
Incorporated both partners equally	10		
Was clear and concise	10		
Length (2-3 minutes)	5		
Written work:			
Bibliography	10		
Visual Aides			
Appropriate, useful, and neat	10		
TOTAL POSSIBLE POINTS	100		

(List of businesses to visit)

Name_____
Date_____

Field Trip Notes

1. What job did I like the best or would want to perform?
2. What kind of training or experience would I need?
3. What would my employer expect from me?
4. What would be some good/bad points about working in each place?

NAME:_____ DATE:_____

Careers in Agricultural Engineering

We recently took a field trip to _(list places)
_____. The objective of the field trip was for you to get a chance to see various career possibilities that your ag engineering courses are working to prepare you for. Now that you have been on the trip, you need to answer a few questions!

1. What job(s) interested you the most at these places?
2. Why would you be interested in working that particular job(s)?
3. What training and other qualifications would you need to be hired by these companies?
4. What would your employer expect from you on a daily basis as an employee?
5. Compare/contrast the work sites. What attracted you or turned you off about the various sites? (environment, conditions, atmosphere, etc.)

These questions should be answered in a short essay, and attached to this page.

Grading will be based on the following:

____ 40 points: The essay answers the above questions clearly. (content) (8 points per question)

_____ 20 points: The essay is clear, organized, and focused.

_____ 20 points: Correct spelling, grammar, and sentence formation.

_____ 10 points: Neatness/Pride

_____ 10 points: Length: 1-2 pages typed, or 2-3 pages written **(300-500 words)**

_____ 10 points bonus if typed. Double-spaced, Arial font, size 12, 1" margins all around, MLA Format

_____ GRADE out of 100

NAME:_____ DATE:_____

Careers in Agricultural Engineering: Oral Report

Using the information from your written report, prepare a 1-2 minute oral report. Be sure to answer the same questions for the class that you answered in your written report. Be prepared to answer any questions after your oral report. Note cards will be allowed, however you must hand in your written report prior to giving the oral report.

Grading will be based on the following criteria:

GRADING RUBRIC	Possible points	Teacher Assessment
Opening (appearance, Introduction)	15	
Voice (pitch, tempo, volume, enthusiasm)	10	
Body Language (Poise, eye contact, etc)	10	
Organization (logic, clarity, suitability)	20	
Mechanics(grammar, pronunciation)	10	
Closing (sumarize & conclude)	15	
Effectiveness (Covered the topics of the written paper, informative)	20	
Deductions (-1 for every 10 sec. Over or under time)		
TOTAL POSSIBLE POINTS	100	

Name: _____Date: _____

Careers in Agricultural Engineering: Job Application and Resume

Complete the job application for the employer and job of your choice. Also construct a resume for the position. Be neat, thorough, and accurate in the process.

Grading will be based on the following criteria:

APPLICATION	**Possible points**	**Teacher Assessment**
Neatness	15	
Thorough and complete	25	
Accurate	25	
RESUME		
Career Objective	15	
Job History	15	
Clubs/Hobbies	10	
Accurate	15	
Crisp, clear layout	10	
Spacing, mechanics	10	
Grammar, spelling	10	
TOTAL POSSIBLE POINTS	150	