

Agriscience

Nebraska Career Development Event
Handbook and Rules for 2019-2022

1. EVENT PURPOSE

The purpose of the Nebraska Agriscience Career Development Event is to develop a foundation of knowledge and skills that will prepare first year students (9th or 10th grade) to continue in agricultural education coursework and enter agricultural careers within the natural resources, animal science, and/or plant science systems career fields.

Agriculture Education courses that align with the Agriscience CDE include: Introduction to Agriculture, Food, and Natural Resources.

2. OBJECTIVES

a. Team Activity Objectives

I. Natural Resources

- i. Demonstrate adherence to protective equipment requirements when using various AFNR tools and equipment.
- ii. Identify and label the external organs of a perch.
- iii. Describe the functions of the external organs of a perch.
- iv. Utilize dissection tools to safely dissect a perch.
- v. Identify and label the internal organs of the perch.
- vi. Describe the functions of internal organs of a perch.

II. Animal Science

- i. Demonstrate adherence to protective equipment requirements when using various AFNR tools and equipment.
- ii. Utilize dissection tools to safely dissect a fetal pig.
- iii. Identify and label the external anatomical features of a fetal pig.
- iv. Identify and label the internal anatomical features of a fetal pig.
- v. Describe the functions of the internal organs of a fetal pig
- vi. Distinguish the anatomical regions of a fetal pig.

III. Plant Science

- i. Demonstrate adherence to protective equipment requirements when using various AFNR tools and equipment.
- ii. Describe the influence of soil, water, and other environmental factors on plant growth.
- iii. Identify and label the components and functions of a flower.
- iv. Describe the functions and components of seeds and fruit.
- v. Identify and describe the function of plant parts.
- vi. Describe the process of plant pollination and fertilization.
- vii. Explain sexual and asexual propagation.
- viii. Describe proper techniques used to propagate plants.
- ix. Apply the principles of plant growth and common management practices to plant production.

b. Individual Career Report Objectives

- I. Research an agricultural career and describe the following aspects in a written report:
 - i. Job description and connection to agriculture
 - ii. Education, training and high school preparation

- iii. Working conditions
 - iv. Advantages and disadvantages of the job
 - v. Responsibilities/link to personal strengths
 - vi. Salaries/job outlook
 - vii. Aspects of the job liked by the student
 - viii. Possible SAE incorporation
 - ix. Personal connection with individual in career area
- II. Use proper grammar, sentence structure and semantics in writing a report.
- c. Individual Written Examination Objectives
- I. Natural Resources Annual Theme:
 - i. Identify biological requirements of living organisms in different living environments.
 - ii. Determine the relationship between water and soil in our environments.
 - iii. Determine relationships between forests and the resources they produce.
 - iv. Determine relationships between wildlife and their surrounding environment.
 - v. Understand the basic flow of energy through an ecosystem.
 - II. Animal Science Annual Theme:
 - i. Determine the nutritional requirements of animals and how to satisfy them.
 - ii. Identify specific management practices that may be needed to maintain an animal's health.
 - iii. Understand the basics of genetics and breeding.
 - iv. Identify specific management practices and care for small companion animals.
 - v. Understand basic approved practices in the care and management of dairy and livestock animals.
 - vi. Identify elements and trends in the food science industry.
 - III. Plant Science Annual Theme:
 - i. Identify major parts of a plant and state the functions.
 - ii. Identify the many purposes for different plants.
 - iii. Describe a plants relationship with soil, air, water and essential nutrients.
 - iv. Determine the appropriate management practices for plant growing factors.
 - v. Determine the methods used by plants to reproduce sexually and asexually.
 - IV. Yearly, Nonrotating Units:
 - i. Identify the basic living requirements for life.
 - ii. Identify the most influential turning points in the history of agriculture.
 - iii. Examine the elements of biotechnology.
 - iv. Describe some of the applications of biotechnology in agriculture.
 - v. Determine the major pest groups and some elements of effective pest management techniques for the different types.

- vi. Determine the nature of chemicals used to control pests and how to use those chemicals safely.
- vii. Determine the major strategies and procedures used for marketing agricultural commodities to maximize profits.
- viii. Identify the importance of agriculture for the economy.
- ix. Describe the economic principles used in agribusiness management decision making.
- x. Determine the different considerations necessary in planning and operating an entrepreneurship business.

3. ELIGIBILITY

- a. Any first-year agricultural education student may participate as long as they are in the 9th or 10th grade at the time of the event
- b. Students may only participate in the Agriscience CDE for one year.
- c. This is an open enrollment event at the state level.
- d. Each school may register one (1) team. A team is defined as having four (4) first year agricultural education students.
- e. Teams consisting of less than four individuals will be allowed to complete the team activity but will not be eligible to receive all team points or be eligible for team awards.

4. REQUIRED ATTIRE

- a. Official FFA Dress or Professional Attire, such as dress pants and a collared shirt. Inappropriate dress, as determined by the event superintendent, may result in up to a 10% point deduction on the individual exam portion of the event.
- b. Lab coats are recommended but optional.

5. REQUIRED SUPPLIES AND EQUIPMENT

- a. ZERO TOLERANCE POLICY: Students who do not have, bring or wear required Personal Protective Equipment will not be allowed to participate in the team practicum portion of the event and a 75 point (25%) deduction from the team activity score will be assessed. PPE will not be provided under any circumstances.
 - I. Each student must bring to the competition:
 - i. Splash-proof safety goggles shall be provided by the student and must be properly worn during designated times when instructed during the team practicum.
 - II. Each student will be provided the following during the CDE, as required for the practicum, and must wear and/or properly use the following when instructed:
 - i. Non-Latex Gloves
 - ii. Dissection Kits
 - iii. Cleaning Supplies
- b. Two #2 pencils per student are required for the individual exam and the team practicum.

6. EVENT SCHEDULE

- a. Due to the Due to the number of participants in this event, there are multiple sections identified on the CDE schedule based on a school's Agricultural Education District. See the CDE schedule on the Nebraska CDE website for specific times.
- b. Teams must be present for the following:
 - a. Individual Exam - All participating students will take the exam at the same time. Students will be given 50 minutes to complete the exam.
 - b. Team Practicum Rotation - Teams must attend at the designated time based on their Agricultural Education District. Each rotation will be one-hour in length and will involve a team practicum. Each team will have 45 minutes to complete the practicum with a 15-minute period for rotation for lab clean up, set up, and team instructions.
- c. Career reports must be submitted by the date and using the link identified on the Nebraska CDE website.

7. ANNUAL THEME

- a. 2019 - Natural Resources (Perch Dissection) - Units: 7, 8, 9, 10, 11, 12, 18, 19, & 20
- b. 2020 - Animal Science (Fetal Pig Dissection) - Units: 26, 27, & 28
- c. 2021 - Plant Science (Flower Dissection) - Units: 15, 16, 17, 21, & 22
- d. 2022 - Natural Resources (Perch Dissection) - Units: 7, 8, 9, 10, 11, 12, 18, 19, & 20
- e. 2023 - Animal Science (Fetal Pig Dissection) - Units: 26, 27, & 28
- f. 2024 - Plant Science (Flower Dissection) - Units: 15, 16, 17, 21, & 22

8. EVENT FORMAT

- a. Team Activity
 - a. The team activity practicum, will arise out of the specific units within the annual theme area and students should have received instruction related to the laboratory activities found on the Agriscience CDE website as well as consulting the Agriscience Lab manual
 - b. Teams will be provided a worksheet to complete the team activity and these will be collected at the conclusion of the team activity.
 - c. All participants will be expected to work collaboratively, cooperatively and equally to complete the team activity.
- b. Individual Career Report
 - a. The Career Report will be completed and submitted prior the state event.
 - b. Students must select a career with a strong connection to agriculture and will receive a point deduction without a detailed description of its connection to agriculture. Follow the Career Report Rubric.

- c. Teachers must upload the career reports using the link provided and by the date posted on the CDE website so that they can be processed and evaluated prior to the on-campus activities.
- c. Individual written Examination
 - a. Fifty (50) questions in a multiple-choice format.
 - i. Thirty-five (35) questions will cover core material, which will originate from the units within the annual rotating theme.
 - ii. Fifteen (15) questions will come from the other nonrotating units from within the Agriscience (6th edition) textbook. Unit: 1, 2, 3, 4, 13, 14, 34, 35, 36
 - b. Material covered on the examination will be taken from the Delmar/Cengage Agriscience: Fundamentals and Applications (6th Edition).
 - c. Each year a theme will be emphasized and rotated on a three-year basis. The themes can be found in the Annual Theme section above and includes each year's theme area to assist districts in CDE development and an explanation of the rotational system.
 - d. All four students will complete the examination on campus, based on the schedule posted on the CDE website.
 - e. Fifty-minutes will be allowed for individuals to complete the examination and team members will work individually.

9. SCORING

Event	Individual Points
• Written Examination	200
• Career Report	100
Total score	300

Event	Team Points
• Total of 4 Individual Scores (4 x 300)	1200
• Team Activity	300
Total score	1500

10. TIEBREAKER

- a. Individual
 - I. In situations involving ties with individuals, questions from the examination scores will be used as the first criteria (Question x, Question y, Question z). The superintendent will randomly select the questions.
- b. Team
 - I. In situations involving team ties, we will use the combined individual scores from each team involved in the tie.

11. RESOURCE MATERIALS

- a. Team Activity
 - a. Agriscience Fundamentals and Applications corresponding Lab Manual (ISBN: 9781133686897)
 - b. Professional Development Webinar videos linked on the CDE webpage
- b. Career Report:
 - a. <https://www.agexplorer.com>
- c. Written Exam
 - a. Agriscience Fundamentals and Applications, 6th Edition by L. DeVere Burton (ISBN-10: 1133686885)
 - b. Test bank
 - i. <https://go.unl.edu/agriscientetestbank>

12. PAST EXAMS

- a. Test questions are generated from the Agriscience Fundamentals and Applications, 6th Edition test bank, thus no past exams are included.
- b. Example of a career report will be provided for the 2020 state event.

13. POST-CDE DEBRIEFING OPPORTUNITY

- a. There is no post-CDE debriefing offered.
 - b. An online Professional Development Webinar video will be shared prior to the event that covers the team practicum portion and will be linked on the CDE website.
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Appendix

Appendix 1: Career Report Rubric

NAME: _____ SCHOOL: _____

Indicator	Strong Evidence of Information (10-7 points)	Moderate Evidence of Information (6-3 points)	Weak Evidence of Information (2-0 points)	Points Earned
Job Description/ Correlation to Agriculture	Job title is provided, with an extensive, detailed description of the job along with how it correlates to agriculture.	Job title is provided, with a vague description of the job along with how it ties to agriculture.	Job title is given, with a vague description, lacks descriptive link of the job to agriculture.	
Education: Degree and/or Training, and High School Preparation	Describes and provides examples of education needed to perform the job and where to obtain education. Included a list of high school courses and activities to prepare for the career.	Describe and provide examples of what degree/ training is needed to perform the job but lacks some details. Minimal high school courses or activities listed.	Mentioned training or a degree was needed but no details given. High school courses or activities not mentioned.	
Working Conditions	Described what conditions the work is performed in including: features, physical environment, stress, noise levels, degree of safety or danger, etc.	Described what conditions the work is performed in but lacked details.	Vaguely described work conditions and did not elaborate.	
Advantages and Disadvantages of the Job Described	Explained in detail at least 3 advantages of the job, describing why they are advantages. Explained in detail at least 3 disadvantages of the job, describing why they are disadvantages.	Briefly explained the advantages and/or disadvantages of the job, described why they are advantages/disadvantages. Provided minimal details.	Advantages and/or disadvantages weren't stated, lacked detail, or were hard to find.	
Responsibilities/ Linkage to Personal Strengths	Explained in detail at least five responsibilities of the job, describing how the responsibilities match his/her personal strengths and skills.	Explained with minimal detail less than 5 responsibilities of the job, vague description of how responsibilities match him/her personally.	Responsibilities and/or correlation to personal strengths missing or incomplete	
Salaries/Wages & Job Outlook	Gives salaries/wages for both beginning and advancing employees, including how to advance, and the need for this career.	List the salaries/wages for both beginning and advancing employees, but lacks advancements and/or job outlook.	Gives a salary/wages but lacks the needed information.	
Aspects of the Job You Liked Explained	Gave at least 3 reasons why he/she likes the job relative to the job description, training, work conditions, advantages or personalized reasons not previously mentioned.	Gave fewer than 3 reasons why he/she likes the job, did not relate them back to the job description, training, basic work conditions, advantages already given, or any other reasons.	Aspects stated they liked but no explanation of why.	
Possible SAE Incorporation	Students gives multiple examples of possible supervised agricultural experiences he/she could take advantage of either in their community or school.	Students gives a few examples of possible supervised agricultural experiences student could take advantage of either in their community or school.	Students fails to adequately correlate career to supervised agricultural experience opportunities.	
Personal Connection with Individual in Career Area	Made a personal connection with someone within the community, industry or from one of the recommended resources who helped with the research, explained how they contributed.	Gave a name of someone within the community, industry or from one of the recommended resources who helped them in their research.	Did not give a name of individual, did not state first and last name, or did not explain how the individual helped with the research.	
Grammar, Sentence Structure, Semantics	The report contains no more than five spelling or grammatical errors. It is easy to read and the information is communicated clearly.	The report contains more than five spelling or grammatical errors. It is easy to read and the information is communicated.	The report has many spelling or grammatical errors, making it difficult to read or understand.	

Total:

COMMENTS: