

ENVIRONMENTAL AND NATURAL RESOURCES

Team Event

IMPORTANT NOTE

Please thoroughly read the General CDE Rules Section at the beginning of this handbook for complete rules and procedures that are relevant to State FFA Career Development Events.

I. PURPOSE

Environmental and natural resource education has a responsibility to educate the public and prepare students to enter careers in the environmental and natural resource industry. The purpose of the environmental and natural resource career development is to foster student interest, promote environmental and natural resource instruction in the agricultural education curriculum and provide recognition for those who have demonstrated skills and competencies because of environmental and natural resource instruction.

II. OBJECTIVES

The objectives of this career development event are directly aligned with the objectives of the Environmental Science and Natural Resources curriculum as developed by the Curriculum and Instructional Materials Center (CIMC). The *Introduction to Natural Resources, 3rd Edition*, will be used to create all contest elements.

III. EVENT RULES

- A. Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of the weather. Participants should have rainwear, warm clothes and appropriate footwear.
- B. Under no circumstance will any participant be allowed to handle any of the items in the identification portion of the practicums. Any infraction of this rule will be sufficient to eliminate a team from the event.
- C. Possession or use of any equipment, including electronic devices, other than items specified in section IV. B., is prohibited.
- D. Participants will be assigned to group leaders who will escort them to various event--- staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.
- E. All written material will be furnished for the event. No written materials such as tests, problems and worksheets shall be removed from the site.

IV. EVENT FORMAT

- A. Each team will be comprised of three or four members. The top three scores will be used to determine the total team score.
- B. Equipment
 1. We will have handheld GPS units available; however, PARTICIPANTS can bring their own dedicated handheld GPS unit. Minimum requirements for GPS will be Garmin eTrex receiver or compatible. Position accuracy WAAS enabled 3 meters, 20 routes, 500 waypoints (total). Students from each team will not be allowed to share the

same GPS unit, unless the group leader has determined the GPS memory to be cleared. No cellphones or tablets will be allowed. EACH PARTICIPANT will also be responsible for bringing:

- a. Clean transparent clipboard, and
 - b. No. 2 pencils (sharpened)
2. Equipment provided— Participants must use the other tools and equipment furnished for the event. All activities will be on a scan sheet provided by the contest administrators. Water test results will be provided—students will not conduct their own analysis.
- C. Objective Written Exam – (100 points) (45 minutes)
1. The written exam will consist of 50 questions generated from the Introduction to Natural Resources text from CIMC (see reference list).
- D. Identification – (100 points) (45 minutes)
1. Students will identify 50 items from the categories listed below. It is important to note that identification items may include pictures, actual full specimens, animal tracks, and/or elements of specimens (e.g. wing of a specific duck species). See the complete list of identification items in the reference section of these guidelines.
 - a. Equipment
 - Water quality
 - Aquatic
 - Wildlife
 - Geographical
 - Weather
 - Forestry
 - b. Native Species
 - Wildlife
 - Birds
 - Reptiles/amphibians
 - Fish and other aquatic animals
 - c. Invasive/non---native species
 - Plants
 - Animals
- E. Rotational Practicums – (100 points each) (30 minutes each)
1. Students will participate in following practicums described below.
 - a. *Water Analysis – (100 points, 30 minutes)*
 - Test results for each of the following categories can be included in the staged scenario: dissolved oxygen, nitrates, nitrites, pH, temperature, phosphates, water hardness, chlorine and ammonia.
 - Analyze the results of measurements and determine if it is suitable for a specific use.
 - Answer questions using the data collected about water quality and limiting factors.
 - b. *GPS Locations – (100 points, 30 minutes)*
 - Participants should be prepared to use the GPS unit to complete any of the following:
 - Identify the longitude and latitude of a given set of points using a

- GPS unit and/or a map.
- Identify boundaries of a given area including calculation of land area and linear feet of boundary.
- Determine the slope of land area.
- Use GPS unit and topographic map to layout the location of a fence line, pond, drainage structure or other related facilities, management practices, or land issue.
- Use a GPS unit to mark location of a path or road through a given area.

V. SCORING

<u>Individual</u>	
Written Exam	100
Identification	100
Rotational Practicums	200 (100 each)
<u>Individual Total</u>	<u>400</u>
<u>Team Total</u>	<u>1200</u>

VI. TIEBREAKER

- Individual with the highest exam score.
- Individual with the highest annual practicum scores.
- Individual with the highest rotational practicum scores.

VII. RESOURCES

- The Environmental and Natural Resources CDE will be based upon the following CIMC curriculum:
- B.A. Fulgenzi, K. Gibson, J. Milligan, and J. Whisenhunt. (2013). Environmental Science and Natural Resources. Stillwater, OK: Oklahoma Department of Career and Technology Education.

VIII. SUPPLEMENTAL MATERIALS AND FORM

- Identification List
- Scansheet: Universal C 705C-1