

# Food Science

## Junior Division

# FFFA

## Overview

Revised:11/24

The food science and technology career development event is designed to promote learning activities in food science and technology related to the food industry and to assist students in developing practical knowledge of principles used in a team decision making process.

## Eligibility

This event is open to all 7-8th grade members from middle school chapters in good standing. The event is held during June CDE week in conjunction with senior division.

## Event Procedure

1. Team Make Up – The team will consist of four members with all four members' scores being totaled for the team score.
2. Summer Attire Dress is required for all participants.
3. The middle school food science career development event will consist of three types of activities: Objective test (NOT TAKEN as a team), food safety and quality practicum, and a sensory evaluation practicum with the Safety and sanitation event being conducted as the team activity.
4. All team members will participate in all of the activities. There will be a possible 960 points per team. The team activity will be worth a maximum of 100 points. Individually, each participant will earn a maximum of 215 points on all practicums together. (see score breakdown on next page)
5. Allergy Information: Food products used in this event may contain or come in contact with potential allergens. Advisors must submit a special needs request form for participants with any allergies with certification. The event committee will make all reasonable efforts to accommodate students with food allergies.
6. Observers will not be permitted in the event area while the event is in progress.
7. All participants will be given an identification number by which they will be designated throughout the event.
8. Each participant must provide:
  - a. A clipboard that is clean and free of notes.
  - b. Two sharpened No. 2 pencils.
  - c. A bottle of water per participant to cleanse palettes between sensory sample.

- d. Electronic Calculator – Calculators used in this event should be non-programmable and non-graphing. Calculators should have only basic functions such as addition, subtraction, multiplication, division, etc. No other calculators are allowed to be used, including cell phones.
  - e. Teams and/or individuals will not be permitted to use electronic media during the event. This includes but is not limited to cell phones, mp3 players, cameras, etc.
9. Participants will not be allowed to possess any personal electronic devices (i.e. cell phones, smart watches, air pods, etc) other than those approved by event officials. Participants who possess personal electronic devices without prior approval of the event officials will be disqualified from the event.

## Event Format

### Individual Activities

#### A. Objective Test

1. The objective questions administered during the food science and technology examination will be designed to determine the team's understanding of basic principles of food science and technology. The test will be comprised of questions taken from the past three (3) years of National FFA CDE Exams, which are primarily based on the list of references at the end of this chapter. 2. 60 minutes will be given to complete the examination. Each question will be worth 3 point, for a total of 150 points.

#### B. Food Safety & Quality Practicum

1. Customer Inquiry – Each participant will be given five scenarios representing general consumer inquiries. Participants must determine if the consumer inquiry reflects a quality or safety issue and determine if it is a biological, chemical, or physical concern or hazard. (25 Points)

#### C. Sensory Evaluation Practicums

1. Triangle Tests – Four different triangle tests will be conducted. Participants are expected to identify the different samples through flavor, aroma, visual cues and/or textural difference. Answers will be given on the sheet provided. No list will be provided for this segment of the practicum. Each test is worth 5 points. (20 Points)

2. Aromas – Each participant will be asked to identify four different aromas from vials provided at each station and record the answer on the sheet provided. A list of potential aromas will be provided to each person. Each sample is worth 5 points. (20 Points)

### Team Activity

#### A. Food Safety & Sanitation Team Activity

Each team will be given 5 photos. The team will work together to evaluate the situation depicted in the photo and complete a safety/sanitation report which will include observations,

degree of concern, recommendations/corrective actions. (80 points) Students will also be evaluated on their teamwork. (20 points)

## AROMAS

- |                      |                    |
|----------------------|--------------------|
| 10. Apple            | 26. Maple          |
| 11. Banana           | 27. Molasses       |
| 12. Basil            | 28. Nutmeg         |
| 13. Butter           | 29. Onion          |
| 14. Cherry           | 30. Orange         |
| 15. Chocolate        | 31. Oregano        |
| 16. Cinnamon         | 32. Peach          |
| 17. Clove            | 33. Peppermint     |
| 18. Coconut          | 34. Raspberry      |
| 19. Coffee           | 35. Sage           |
| 20. Garlic           | 36. Smoke (liquid) |
| 21. Ginger           | 37. Strawberry     |
| 22. Grape            | 38. Vanilla        |
| 23. Lemon            | 39. Watermelon     |
| 24. Licorice (anise) | 40. Wintergreen    |
| 25. Lime             |                    |

## SCORING

### Team Activity

Safety/Sanitation Report 60 Mins

Total Points 100 Points

### Individual Activities

Safety & Quality Practicum 30 Mins

Customer Inquiry 25 Points

Total Points 25 Points

General Knowledge Exam 60 Mins

Total Points 150 Points

Sensory Evaluation 30 Mins

Triangle Tests 20 Points

Aromas 20 Points

Total Points 40 Points

Team Activity Points ( 100 Points Possible)

Individual Points (215 Points Possible x 4 Members)

TOTAL TEAM POINTS 960 Points

## **Tiebreakers**

Team: Should a tie occur in the overall team placing, the tie will be broken by the highest team activity score. If this score does not break the tie, then the highest number of total points earned by a team from the General Knowledge Exam will be used. Should a third tiebreaker be necessary, the total points earned by a team in the Sensory Evaluation portion of the contest will be used.

Individual: To identify the high individual for this even in case of a tie, the highest General Knowledge Exam score will be used as the first tiebreaker, followed by the aromas score as the second tiebreaker. Should a third tiebreaker be necessary, the scoring from the triangle test will be used.

## **Tiebreakers**

Awards will be presented to individuals and/or teams based upon their rankings at the Delaware FFA State Fair Breakfast award ceremony.

## **References**

References (See High School Food Science & Technology Handbook Chapter for a full list of references)

***ADD RUBRICS BELOW***



## Team Activity Preparation Rubric

20 POINTS

Chapter		State		Team Number	
Indicator	Very strong evidence of skill 5-4 points	Moderate evidence of skill 3-2 points	Weak evidence of skill 1-0 points	Points Earned	Total Score
Effective listening	Clearly evident that all team members are listening.	Listening occurs but distraction is evident.	Not listening to each other and/or talking over each other.		
Oral communication	Clearly evident that all team members are discussing the topic.	Communication occurs but side conversations are occurring or two to three are members dominating.	One member dominating conversation.		
Demonstrated cooperation	All team members clearly completing tasks, sharing written and oral solutions. All team members clearly respected the input of other team members.	Tasks primarily completed by two to three members, other members assist occasionally. Most team members respected the input of other team members.	Tasks primarily completed by one member, other members contributing only slightly. The team members did not respect the input of other team members.		
Participated in the team preparation	Clearly all team members are engaged, attentive, and making notes. Clearly all team members demonstrate efficient use of his/her time in comprising the plan.	Members are engaged and attentive with two to three making notes, participation fades over time. Most team members demonstrate efficient use of his/her time in comprising the plan.	One to two members form the primary team, other members occasionally participate early on but fade over time. One to two team members demonstrate efficient use of his/her time in comprising the plan.		
				<b>TOTAL</b>	

## ***Food Safety & Sanitation Report Form***

Team Number: \_\_\_\_\_

Photo Number	Observation <i>(please circle)</i>	Degree of Concern <i>(please circle)</i>	Recommendation or Corrective Action <i>(bulleted list)</i>
<b>1</b>	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor  Major  Critical	
<b>2</b>	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor  Major  Critical	
<b>3</b>	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor  Major  Critical	
<b>4</b>	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor  Major  Critical	
<b>5</b>	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor  Major  Critical	