

Jr. Food Science & Technology CDE

(rev. Nov 2022)

Purpose

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.

This event will be held during the Middle School CDE day of State Convention (*High School contest still occurs in June*)

Event Procedures

- A. **Team Make Up** – The team will consist of four members with all four members' scores being totaled for the team score.
- B. Official Dress is required for all participants.
- C. The middle school food science career development event will consist of three types of activities: an objective test taken as a team, a food safety and quality practicum, and a sensory evaluation practicum.
- D. All team members will participate in all of the activities. There will be a possible **560 points** per team. The team activity will be worth a maximum of **100 points**. Individually, each participant will earn a maximum of **115 points** on all practicums together. (*see score breakdown on next page*)
- E. **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.
- F. Observers will not be permitted in the event area while the event is in progress.
- G. All participants will be given an identification number by which they will be designated throughout the event.
- H. 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.

I. 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

Team Activity—100 Total Points

- 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)**

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)**

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 | |

ber 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 highest Sensory Evaluation practicum score as the second tiebreaker.

Awards

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

References

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

Scoring

Team Activity

Safety/Sanitation Report	60 Mins
<i>Total Points</i>	<i>100 Points</i>

Individual Activities

Safety & Quality Practicum	30 Mins
Customer Inquiry	25 Points
<i>Total Points</i>	<i>25 Points</i>

General Knowledge Exam	60 Mins
<i>Total Points</i>	<i>150 Points</i>

Sensory Evaluation	30 Mins
Triangle Tests	20 Points
Aromas	20 Points
<i>Total Points</i>	<i>40 Points</i>

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 num-

Food Science - Form #713-3

Team Name

Incorrect Marks Correct Mark



This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team #			
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Code

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Last Name										First Name										
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z

Objective Test											
1	A	B	C	D	E	26	A	B	C	D	E
2	A	B	C	D	E	27	A	B	C	D	E
3	A	B	C	D	E	28	A	B	C	D	E
4	A	B	C	D	E	29	A	B	C	D	E
5	A	B	C	D	E	30	A	B	C	D	E
6	A	B	C	D	E	31	A	B	C	D	E
7	A	B	C	D	E	32	A	B	C	D	E
8	A	B	C	D	E	33	A	B	C	D	E
9	A	B	C	D	E	34	A	B	C	D	E
10	A	B	C	D	E	35	A	B	C	D	E
11	A	B	C	D	E	36	A	B	C	D	E
12	A	B	C	D	E	37	A	B	C	D	E
13	A	B	C	D	E	38	A	B	C	D	E
14	A	B	C	D	E	39	A	B	C	D	E
15	A	B	C	D	E	40	A	B	C	D	E
16	A	B	C	D	E	41	A	B	C	D	E
17	A	B	C	D	E	42	A	B	C	D	E
18	A	B	C	D	E	43	A	B	C	D	E
19	A	B	C	D	E	44	A	B	C	D	E
20	A	B	C	D	E	45	A	B	C	D	E
21	A	B	C	D	E	46	A	B	C	D	E
22	A	B	C	D	E	47	A	B	C	D	E
23	A	B	C	D	E	48	A	B	C	D	E
24	A	B	C	D	E	49	A	B	C	D	E
25	A	B	C	D	E	50	A	B	C	D	E

Triangle Tests															
1				2				3				4			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

Aromas																	
1		2		3		4		5		6		7		8		9	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

Problem Solving / Math Practicum

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E

Food Safety and Quality Practicum

Scenario	Customer Inquiry		Is the concern or hazard primarily:
	The issue represented in this scenario is a:		
	Food Quality Issue	Food Safety Issue	
1	D	S	Biological Chemical Physical
2	D	S	B C P
3	D	S	B C P
4	D	S	B C P
5	Q	S	B C P

Product Specification Compliance

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E

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.			
				TOTAL		

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>
1	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor Major Critical	
2	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor Major Critical	
3	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor Major Critical	
4	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor Major Critical	
5	Improper Personal Hygiene Improper Sanitation Improper Food Handling Improper Chemical Use/Storage Improper Pest Management	Minor Major Critical	