

Culinary Math Management, an *individual* or *team event*, recognizes participants who use Family and Consumer Sciences skills to demonstrate the application of mathematical concepts in the culinary arts industry using the annual topic. Prior to competition, participants must prepare a **file folder**, **oral presentation**, and **visuals**. On site, participants take an **applied math test** and **respond to a case study**.

**2022 TOPIC: WEIGHT AND VOLUME MEASUREMENT CONVERSION**

**NEW JERSEY LEARNING STANDARDS**

NJSLSA.L6	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
SLSA.R4	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
SLSA.R7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
W.11-12.8	Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
SL.9-10.1	Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with peers, building on others' ideas and expressing their own clearly and persuasively.
SL.9-10.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English.
L.11-12.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
9.2.8.CAP.3	Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.
9.2.12.CAP.6:	Identify transferable skills in career choices and design alternative career plans based on those skills
9.2.8.CAP.9:	Analyze how a variety of activities related to career impacts postsecondary options
9.2.8.CAP.12:	Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.
9.2.8.CAP.16:	Research different ways workers/ employees improve their earning power through education and the acquisition of new knowledge and skills.
9.2.8.CAP.18	Explain how personal behavior, appearance, attitudes, and other choices may impact the job application process.
9.4.12.CI.3	Investigate new challenges / opportunities for personal growth, advancement, and transition.
9.4.8.CI.4:	Explore the role of creativity and innovation in career pathways and industries.
9.4.12.IML.8	Evaluate media sources for point of view, bias, and motivations.
9.4.8.IML.3	Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose.
1.2.12acc.Cr1b	Organize and design artistic ideas for media arts productions.
1.2.12prof.Cn10a	Access, evaluate and integrate personal and external resources to inform the creation of original media artworks, such as experiences, interests and cultural experiences.
9.3.HT-RFB.1	Describe ethical and legal responsibilities in Food and beverage service facilities.
9.3.HT-RFB.8	Implement standard operating procedures related to food and beverage production and guest service.
9.3.HT-RFB.10	Apply listening, reading, writing and speaking skills to enhance operations and customer service in food and beverage service facilities.
9.3.HT-RFB.5	Research costs, pricing, market demands and marketing strategies to manage profitability in food and beverage service facilities.

### **MATHEMATICAL PRACTICES**

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning

### **CAREER READY PRACTICES**

- ✓ Act as a responsible and contributing citizen and employee.
- ✓ Apply appropriate academic and technical skills
- ✓ Communicate clearly and effectively with reason
- ✓ Consider the environmental, social and economic impacts of a decision.
- ✓ Demonstrate creativity and innovation.
- ✓ Employ valid and reliable research strategies.
- ✓ Utilize critical thinking to make sense of problems and persevere in solving them.
- ✓ Model integrity, ethical leadership and effective management.
- ✓ Use technology to enhance productivity.
- ✓ Work productively in teams while using cultural global competencies.

### **NATIONAL STANDARDS FOR FAMILY AND CONSUMER SCIENCES**

- 8.4.7 Apply principles of Measurement, Portion control, Conversions, Food Cost Analysis and Control, Menu Terminology, and Menu Pricing to menu planning.
- 8.6.3 Apply pricing procedures in planning and forecasting profit and loss
- 8.7.2 Demonstrate quality service techniques and procedures that meet industry standards in the food service industry.
- 10.2. Explain the importance of safety, security and environmental issues related to the hospitality, tourism, and recreation industries.
- 10.3.1 Apply industry standards for service methods that meet expectations of guests or customers.
- 10.3.2 Analyze the relationship between employee attitude, appearance, and actions and guest or customer satisfaction.
- 10.4.2 Demonstrate accounting practices and financial transactions.

### **EVENT LEVELS**

**Level 3: Participants in grades 11 – 12**

### **ELIGIBILITY**

1. A chapter may register two (2) entries in level 3.
2. An entry is defined as one (1) participant or one (1) team comprised of a maximum of three (3) members.
3. An event level is determined by a member's grade in school and affiliation status.
4. Participation is open to any affiliated FCCLA member in grades 11 – 12.
5. Participants must be or have been enrolled in a Family and Consumer Sciences culinary arts industry training program. Programs which meet this requirement may be determined by the State Adviser. Students enrolled in general food and nutrition courses not preparing them for a career in Culinary Arts are **not** eligible.

### **PROCEDURES & REGULATIONS**

1. The Culinary Math Management project must be developed and completed within a one-year span beginning July 1 and ending June 30 of the school year before the National Leadership Conference.
2. The Culinary Math Management project must be planned and prepared by the participant(s) only. Supporting resources are acceptable as long as participants are coordinating their use and resources are cited appropriately verbally and/or in print during the presentation to avoid false credit for unoriginal or non-participant work.

3. Chapters with multiple entries in this event must submit different projects for each entry.
4. At a specific time prior to the scheduled presentation, participant(s) will be given thirty (30) minutes to complete the twenty (20)-question written test portion of the event. The test results will be factored into the entry's final score. Check the State Leadership Conference Program for the time and location.
5. Following the test, the participant(s) will be given ten (10) minutes to complete the case study. A case study document will be provided. The completed case study will be given to evaluators prior to the oral presentation.
6. A table and blank Case Study Form for the preparation of the case study response will be provided. Participants must bring all other necessary supplies. Participants may bring a calculator, but not a mobile device with a calculator app, for the case study. Wall space, electrical outlets/equipment, and wireless internet connection will not be available.
7. Spectators may not observe any portion of this event.
8. Two (2) individuals/teams may be chosen from each event level to represent New Jersey at the National Leadership Conference.

Each entry must submit a digital file folder via Google Drive by March 15, 2022. The hard copy file folder must be submitted at the State Leadership Conference to the room location designated in the State Leadership Conference program during the specified time of the **Culinary Math Management Test and Case Study**.

5 minutes	Each entry will have 5 minutes to set up for the event. Other persons may not assist.
10 minutes	Each entry will have 10 minutes to set up for the case study.
5 minutes	The oral presentation <b>may be up to five (5) minutes</b> in length. If audio or audiovisual recordings are used, they are limited to one (1) minute playing time during the presentation.
Following the presentation, evaluators will have the opportunity to ask questions of the participant.	
Evaluators will use the rating sheet to score and write comments for each entry.	

#### General Information

Individual or Team Event	Prepare Ahead of Time	Participant Set Up/ Prep Time	Maximum Oral Presentation Time	Equipment Provided	Electrical Access
Individual or Team (1-3 participants)	File Folder, Visuals, Oral Presentation	5 minutes for set up/ 10 minutes for case study	5 minutes for oral presentation/	Table	Not provided

#### Presentation Elements Allowed

Audio	Costumes	Easel(s)	File Folder	Large Newsprint Chart(s)	Portfolio	Props/ Pointers	Skits	Presentation Equipment	Visuals
■		■	■	■		■		■	■

### APPLIED MATH FOR CULINARY MANAGEMENT SPECIFICATIONS

#### Test

All participants will take the Applied Math for Culinary Management Test prior to the oral presentation. Participants will have thirty (30) minutes to complete the twenty (20) question test. Test questions may include multiple choice, true/false, or multi-step *problem-solving*.

#### File Folder


Although, this is an in-person event, each entry will require a digital folder and hard copy folder.

An assigned digital folder to submit the project materials via Google Drive will be provided to the adviser upon competitive event registration. All digital materials must be submitted by **March 15, 2022** and privacy settings must be viewable to anyone with the link.

Each entry must submit a digital file with the following information:

- A. Project Identification Page
  - Name(s) of Participant(s)
  - School Name
  - Chapter Name
  - City & State
  - Event Name (Culinary Math Management)
  - Event Level
  - Project Title
- B. FCCLA Planning Process Summary Page
- C. Evidence of Online Project Summary Submission
- D. 5 Pictures of the display of visuals/props. One full page picture of the entire display and 4 detailed pictures of visuals/props. Note: If visual/prop is in digital form (i.e. slides, presentation software, video, etc.) the digital files may be uploaded instead of providing pictures.
- E. Works Cited

Participant(s) will submit one (1) letter-size hard copy *file folder* containing one set, stapled, of the items listed below to the designated Culinary Math Management Test location at the State Leadership Conference. The hard copy *file folder* must be labeled (typed or handwritten) in the top left corner with participant's name, school name, chapter name, event name (Culinary Math Management), and event level.

1- 8½" x 11" page	<i>Project Identification Page</i>	<i>Plain paper</i> , with no graphics or decorations; must include participant's name(s), school, chapter name, city, state, event name, event level and title of project.
1- 8½" x 11" page	<i>FCCLA Planning Process Summary Page</i>	Summarize how each step of the <i>Planning Process</i> was used to develop the Culinary Math Management project. Each step is fully explained.
1 	Evidence of Online Project Summary Submission	Complete the online project summary form located on the "Surveys" tab of the FCCLA Portal and include signed proof of submission in the <i>portfolio</i> .
1- 8½" x 11" page	<i>Works Cited/ Bibliography</i>	Use MLA or APA citation style to cite all references. Resources should be <i>reliable</i> and <i>current</i> .

### Case Study

Participants will be given a written case study, based on the annual topic, to evaluate their understanding of the application of mathematical concepts in culinary arts management. The case study will be a common issue in the area of culinary arts management. Each individual or team will complete one (1) Culinary Math Management Case Study Form, which will be turned in to the evaluators prior to the oral presentation. Work will take place within the case study room/station with no spectators. No pre-written material is allowed. Participant(s) will be provided blank Case Study Forms that should be used to respond and relay the developed solution(s). After oral presentation, evaluators have the opportunity to ask participants questions about the case study responses.

Knowledge of Subject	Show evidence of knowledge and subject.
Appropriate Solution(s)	Present solution(s) which are feasible and suitable for the situation.

### Oral Presentation

The oral presentation **may be up to five (5) minutes** in length and is delivered to evaluators. The presentation should illustrate the use of mathematics in culinary arts and **must be based on the annual topic** as listed below. This is not based on a project, but serves as an illustration/demonstration of participant's knowledge of the annual topic and it's application to the field.

Organization/Delivery	Deliver oral presentation in an organized, sequential manner; concisely and thoroughly summarize research.
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Knowledge of Subject Matter	Demonstrate thorough knowledge of culinary arts mathematics concepts.
Voice	Speak clearly with appropriate pitch, tempo and volume.
Body Language / Clothing Choice	Use appropriate body language including gestures, posture, mannerisms, eye contact, and appropriate handling of <i>visuals</i> or notecards if used. Wear appropriate business clothing for the nature of the presentation.
Grammar / Word Usage / Pronunciation	Use proper grammar, word usage, and pronunciation.
Responses to Evaluators' Questions	Provide clear and concise answers to evaluators' questions regarding the case study and presentation. Questions are asked after the presentation.

**Visuals/Props**

*Visuals/props* may include posters, charts, slides, presentation software, video, etc. and may be used to illustrate or demonstrate *content*. Audio/visual recordings are limited to one (1) minute playing time.

Effectively Illustrate Content	The <i>visuals</i> chosen to present the culinary arts mathematics concepts are clear, concise, and visually appealing.
Use of <i>Visuals</i>	<i>Visuals</i> support, illustrate, or complement presentation.

**2022 TOPIC****Weight and Volume Measurements and Conversions**

**Culinary Math Management Rating Sheet**

Name of Participant(s) \_\_\_\_\_

School \_\_\_\_\_ Event Level 3

**INSTRUCTIONS:**

1. Before student presentation, evaluators must check the participants' portfolio using the criteria and standards in the guidelines. If there is a discrepancy over or under the required number of items, please complete the Point Deduction sheet as necessary.
2. Write the appropriate rating in the "Score" column. Points given may range between 0 and the maximum number indicated. Total the points and enter under "TOTAL SCORE". Make comments to help participants identify their strengths and areas for improvement. Use the back of the sheet if necessary.

Evaluation Criteria	Poor	Fair	Good	Very Good	Excellent	Score	Comments
<b>TEST</b>							
Test Results	0				20		
<b>FILE FOLDER</b>							
FCCLA Planning Process Summary	0-1	2	3	4	5		
Works Cited/Bibliography – Complete use of appropriate resources	0-1	2	3	4	5		
<b>ORAL PRESENTATION</b>							
Organization/Delivery	0-2	3-4	5-6	7-8	9-10		
Knowledge of Subject Matter – Evident and incorporated throughout the presentation	0-2	3-4	5-6	7-8	9-10		
Voice, Body Language, Grammar and Pronunciation	0-1	2	3	4	5		
Responses to Evaluators' Questions	0-1	2	3	4	5		
<b>VISUALS</b>							
Effectively Illustrates Content – Support and compliment the presentation	0-2	3-4	5-6	7-8	9-10		
Use of Visuals During Presentation – Presentation moves seamlessly between oral presentation and visuals	0-1	2	3	4	5		
<b>CASE STUDY</b>							
Knowledge of Subject Matter – Using extensive amount of current data and knowledge	0-3	4-6	7-9	10-12	13-15		
Appropriate Solutions – Feasible with each action apparent and well communicated	0-2	3-4	5-6	7-8	9-10		

**Total Score** \_\_\_\_\_

**Verification of Total Score** (please initial)

Evaluator \_\_\_\_\_

Room Consultant \_\_\_\_\_

Lead Consultant \_\_\_\_\_

**Circle Rating Achieved:**

Gold: 90-100

Silver: 79-89

Bronze: 70-78