Food Safety and Sanitation

# Culinary Arts 9-12

During this unit, students will learn about proper food safety, sanitation, and communication as well as chemical uses in food service kitchens that may impact safety and health. Students will have the opportunity to demonstrate their skills and knowledge through a variety of hands on and written activities including acting as a health inspector, developing guidelines and charts to support peers during operation hours, using the Safety Data Sheets binder and the principles of Hazard Analysis Critical Control Point to problem solve real world scenarios, and creating customized menus to keep specific/high risk populations safe.

These Model Curriculum Units are designed to exemplify the expectations outlined in the Vocational Technical Education Frameworks as well as the MA Curriculum Frameworks for English Language Arts/Literacy and Mathematics incorporating the Common Core State Standards. These units include lesson plans, Curriculum Embedded Performance Assessments, and resources. In using these units, it is important to consider the variability of learners in your class and make adaptations as necessary.

This document was prepared by the Massachusetts Department of Elementary and Secondary Education. Mitchell D. Chester, Ed.D., Commissioner

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| --- | --- | --- | --- | --- |
| **Stage 1 Desired Results** | | | | |
| **ESTABLISHED GOALS G**  *English Language Arts and Literacy*  RST.3 Follow precisely a complex multistep procedure when taking measurements or performing technical tasks; analyze the specific results based on explanations in the text.  RST.4 Determine the meaning of symbols, key terms, and other culinary arts specific words and phrases as they are used in specific technical context relevant to grade level texts.  WHST.9 Draw evidence from informational texts to support analysis, reflections, and research.  WHST.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline specific tasks, purposes, and audiences.  *CVTE*  2.A.01.01 – 2.A.01.16 Demonstrate proper food safety and sanitation.  2.A.02.01 – 2.A.02.03) Identify chemicals and uses in food services. | ***Transfer*** | | | |
| *Students will be able to independently use their learning to…* T  T1 (ELA) Communicate ideas effectively in discourse and oral presentations to suit various audiences and purposes.  T2 (CVTE) Implement safety principles into their personal and professional lives. | | | |
| ***Meaning*** | | | |
| **UNDERSTANDINGS U**  *Students will understand that…*  (U1) food safety is dependent on minimizing contaminants and ensuring a safe flow of food.  (U2) regular and clear communication among team members is essential to maintain the safety of all food service handlers and customers.  (U3) regularly accessing federal, state, and local resources for information to stay up-to-date with current industry practices is essential for safe food handling. | | | **ESSENTIAL QUESTIONS Q**  (Q1) How can you ensure safety and prevent serious illness or even death during the flow of food?  (Q2) Why is it important to communicate with your team throughout the flow of food?  (Q3) What is the difference between clean and sanitary? |
|  | ***Acquisition*** | | | |
| ***Students will know…* K**  (K1) Hazard Analysis Critical Control Point (HACCP) regulations.  (K2) Symptoms and characteristics of food borne illness and allergies.  (K3) Personal hygiene responsibilities.  (K4) Safety Data Sheet (S.D.S.) binder location. | | ***Students will be skilled at…* S**  (S1) Conducting a sanitation inspection of self, food, work area, and equipment.  (S2) Implementing appropriate modifications when necessary for compliance with HACCP standards throughout the flow of food.  (S3) Communicating with team members to monitor and keep records of how to prevent contamination.  (S4) Using the S.D.S. binder to identify all chemicals, potential hazards, and emergency procedures in case of mishandling. | |
| **Stage 2 – Evidence** | | | | |
| **Evaluative Criteria** | | **Assessment Evidence** | | |
| * Proper identification of usage/monitoring of temperatures. * Prescribe appropriate remedies for violations that include but are not limited to: pest control, sanitation schedule, cross contamination, and personal hygiene. * Synthesis of all safety and sanitation procedures in compliance with regulations (as listed below in other evidence). | | **CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT (PERFORMANCE TASKS) PT**  The goal of this task is for students to analyze procedures during the flow of food including, but not limited to: their actions, choice/storage of chemicals, time-temperature, hygiene, kitchen sanitation, and general safety. Students rotating through the roles of kitchen staff and of inspectors will use clear and concise communication in writing, reading, and speaking/listening. In the role of a fictitious town health inspector who has been assigned with his/her team to inspect a food service establishment, the students will provide the fictitious city with assurance and written documentation that there are no safety or sanitation violations. The inspectors will document all issues and resolutions for each problem. | | |
| 1. Identify foods and allergens that are high risk for specific populations. 2. Recognize dangerous chemicals in an industrial kitchen. 3. Quickly research information using required resources during an emergency situation 4. Follow and accurately document required safety procedures. 5. Demonstrate personal hygiene and reduce pathogens. 6. Outline requirements in keeping food safe during the flow of food. | | **OTHER EVIDENCE: OE**   1. Customized menu design activity for several high risk populations. 2. Activator/Summarizer daily activity that features safety scenarios that require use of the S.D.S binder. 3. CSI Sanitation Activity including self examination of personal hygiene, uniform, and hands using glow light demonstration to visually illustrate the need for proficiency in hand washing and sanitation. 4. As a class, create a flow chart for the class to use as a quick reference during the flow of food that highlights the principles Hazard Analysis Critical Control Point (HACCP). | | |
| **Stage 3 – Learning Plan** | | | | |
| ***Summary of Key Learning Events and Instruction***   1. Introduction to the unit and resources through group discussion and kitchen tour to demonstrate the difference between food/health safety (this unit) and hand tool/equipment operation safety (next unit). 2. Sanitation activity that literally highlights the pathogens on students’ hands, uniforms, and work areas to ensure that students can conduct a proper self examination and maintain personal hygiene throughout the flow of food. 3. As a class, students will develop a safety flow chart for display in the work area for quick reference. Students will now begin using the daily activators and summarizers that feature scenarios that require critical thinking, decision making, and selection of appropriate informational resources. 4. Customizing menus for several high risk populations including people who may have allergies. 5. Q and A with town health inspector to highlight the most common infractions in industrial kitchens in order for students to develop real world scenarios for their performance task. 6. Participate as a kitchen staff member highlighting a common violation, documenting both the violation and corrective action and conduct a mock Health inspection in the role of inspector, using appropriate documentation. | | | | |
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# Lesson 1: Food Safety and Sanitation –

# Not Your Grandma’s Kitchen

Brief Overview: This lesson is a basic introduction to personal and food safety and sanitation both for students new to the program and existing students. As you plan, consider the variability of learners in your class and make adaptations as necessary.

**Prior Knowledge Required:** None

**Estimated Time:** 90 minutes

Instructional Model: Jigsaw, Observation and Ticket to Leave

**Resources for Lesson:**

* Industrial kitchen
* Survey “This Isn’t Your Grandma’s Kitchen” (Lesson 1 Resource 1)
* Kitchen Walkthrough Jigsaw (Lesson 1 Resource 2)
* Kitchen/Food Service Observation (Lesson 1 Resource 3)
* This Isn’t Your Grandma’s Kitchen: Exit Ticket (Lesson 1, Resource 4)

**Content Area/Course:** CVTE/Culinary Arts

**Time (minutes):** 90 minutes

**Lesson 1:** Food Safety and Sanitation – Not Your Grandma’s Kitchen

**Overview:** This lesson is a basic introduction to personal and food safety and sanitation both for students new to the program and existing students.

Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):

2.A.02.01 Describe types of cleaners and sanitizers and their proper use.

2.A.02.02. Develop cleaning and sanitizing schedule and procedures for equipment and facilities.

Essential Question addressed in this lesson:

Q3 What is the difference between clean and sanitary?

**Objectives:** Students will know and be able to:

Identify key areas in the kitchen, know the general layout of operation including sanitation schedule, and identify the appropriate chemicals to use for specific areas/items.

**Anticipated Student Preconceptions/Misconceptions**

An industrial kitchen has much of the same equipment and sanitation schedule as their home kitchen.

**Lesson Sequence**

**Lesson Opening**

Introduction: “Welcome to Culinary Arts! During this unit, you will learn about proper food safety, sanitation, and communication as well as chemical uses in food service kitchens that may impact safety and health. You will have the opportunity to demonstrate your skills and knowledge through a variety of hands on and written activities including acting as a health inspector, developing guidelines and charts to support peers during operation hours, using the Safety Data Sheets binder and the principles of Hazard Analysis Critical Control Point to problem solve real world scenarios, and creating customized menus to keep specific/high risk populations safe.

Today, we will be doing a lesson called ‘Not Your Grandma’s Kitchen’. During this lesson you, you will learn some key observations that need to regularly be made in an industrial kitchen. You will take tours of each area of our shop, and you will become a part of a team of ‘safety experts’ on a specific area who will teach others our safety procedures and protocols. Before we take the pretest, raise your hands and tell me a few things you know that someone who cooks in your home does to keep food safe to eat (students give input).”

Activator/Pre-assessment (20 minutes)

* Ideally using an electronic survey device that gives students and teacher immediate feedback, students will participate in a survey that will determine if they have prior knowledge about an industrial kitchen or if their experience is based solely in a home kitchen. Guiding question is posted in the room for students: “What is our individual/group responsibility for creating a clean and safe kitchen environment?” (lesson 1 resource 1)
* Students who score very high in correct answers on the survey (maybe coming from a family who has a restaurant business) will be evenly divided among the groupings for the jigsaw teams.
* Students should put the results of their pretest into their vocational portfolio.

**During the Lesson**

Introduction to the industrial kitchen (30 minutes)

* Break students into predetermined groups (and adapted based on survey information) and assigned to the following areas:
  + Storage Temperature and Refuse/Pest Control
  + Food Storage
  + Food Preparation and Service
  + Dinnerware Sanitation and Storage and Equipment
* Guide each kitchen team to use the appropriate training sheet to document its specific area and prepare to give a tour of their area to the other kitchen teams as part of the jigsaw. (lesson 1 resources 2 and 3)
  + Each student will independently use the appropriate guide sheet to review the area and submit for their vocational portfolio.
  + Move from group to group to do demonstrations and explain procedures spending no more than 6 minutes with each group because the guide sheets are explicit enough for students to follow with general oversight.
  + Upon completion of the guide sheet, students will prepare a 5 minute presentation for classmates to teach them about their assigned area and provide information for the other students to make the rest of the guide sheets for their vocational portfolio.

Student presentations to complete jigsaw (30 minutes)

* Coach students through the presentations to ensure that all students have reference guides for each area of the Culinary Arts areas.
* Students will either be the presenters or be the active audience filling in their guide sheets at each area.

**Lesson Closing** (10 minutes)

Summarizer: Ticket to Leave: Each student will individually list at least one item/area that s/he did not expect to be so different from “his/her grandma’s kitchen” and will write a clear and concise paragraph to explain why s/he chose that item. (lesson 1 resource 4)

**Pre-Assessment**

Survey “This Isn’t Your Grandma’s Kitchen” (Lesson 1 Resource 1)

Resource 1 (Lesson 1)

This Isn’t Your Grandma’s Kitchen

Safety Awareness Culinary Pretest

| Chef: |  |
| --- | --- |

*Please circle the correct response for each item – True or False*

| 1. Bacteria and microorganisms are present on almost everything. | True | False |
| --- | --- | --- |
| 1. Bacteria and microorganisms are very harmful if they are digested by humans. | True | False |
| 1. Bacteria will remain on food in cold temperatures, but its growth will be slowed or stopped. | True | False |
| 1. High temperatures will kill bacteria, but proper cleaning and sanitation are still necessary. | True | False |
| 1. Sanitizing is the process of killing microorganisms. | True | False |
| 1. Food products should be used with the “first-in, first-out” principle. | True | False |
| 1. Flies carry as many as 6,000,000 germs. | True | False |
| 1. If you see evidence of pests or rodents, you should notify your supervisor immediately. | True | False |
| 1. Temperatures inside refrigerators and freezers should be monitored. | True | False |
| 1. Personal grooming and hygiene are important in keeping a sanitary work environment. | True | False |
| 1. Safety will always slow you down, but it is better for you in the long run. | True | False |
| 1. Most slips and falls can be prevented by good housekeeping and awareness of work areas. | True | False |
| 1. Knives should be kept sharp. | True | False |
| 1. All guards for equipment should be in place before equipment is turned on. | True | False |
| 1. Slicers and grinders should be turned off before cleaning, but unplugging is not necessary. | True | False |

| 1. Glasses or cups should only be filled with ice using a glass or plastic scoop. | True | False |
| --- | --- | --- |
| 1. Grease spills should immediately be cleaned-up with a mop and water. | True | False |
| 1. Keeping a clean and organized work area is an important part of safety. | True | False |
| 1. Fire exits should never be blocked. | True | False |
| 1. It is important to correct or report all unsafe conditions to your supervisor. | True | False |

*ANSWER KEY*

| 1. Bacteria and microorganisms are present on almost everything. | True | False |
| --- | --- | --- |
| 1. Bacteria and microorganisms are very harmful if they are digested by humans. | True | False |
| 1. Bacteria will remain on food in cold temperatures, but its growth will be slowed or stopped. | True | False |
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| 1. Grease spills should immediately be cleaned-up with a mop and water. | True | False |
| 1. Keeping a clean and organized work area is an important part of safety. | True | False |
| 1. Fire exits should never be blocked. | True | False |
| 1. It is important to correct or report all unsafe conditions to your supervisor. | True | False |

Resource 2 (Lesson 1)

Kitchen Walkthrough Jigsaw

*After an initial tour, each team of students is responsible for being a safety expert on one of the area of the kitchen. Please use the checklist as a guide and as a record of your observations and findings. Prepare to present them to your classmates so our team will be prepared for public service.*

**All teams are responsible for the “Initial Brief Tour of the Kitchen.”**

Your team’s assignment is the circled area below. Please use the checklist to complete BOTH the Initial Brief Tour of the Kitchen” and your specific area(s) assigned below:

* Storage Temperature and Refuse/Pest Control
* Food Storage
* Food Preparation and Service
* Dinnerware Sanitation and Storage and Equipment

Resource 3 (Lesson 1)

*Kitchen/Food Service Observation*

Department Of Health And Human Services, Centers For Medicare & Medicaid Services Form CM3-20055 (09/07)

| Facility Name: |  | Facility ID: |  | Date: |  |
| --- | --- | --- | --- | --- | --- |

| Surveyor Name: |  |
| --- | --- |

*Complete the initial kitchen tour upon arrival at the facility, with observations focused on practices that might indicate potential for food borne illness. Make additional observations throughout the survey process in order to gather all information needed. Mark any areas of concern identified under each General Category (e.g., storage temperatures, food storage, etc.). Enter additional documentation in the “Notes” section for all areas of concern. Enter finding from this review in the QIS DCT’s Stage II—Critical Element screen.*

| *Observations* | | *Notes* |
| --- | --- | --- |
| *Initial Brief Tour of the Kitchen* | | |
| The intent of this initial brief tour is to identify any practices that might indicate potential for food borne illness. Observations during this tour may also help identify additional areas of concern listed on this worksheet.  Observe for: | |  |
| 🗆 | Potential hazardous foods, such as beef, chicken, pork, etc. thawing at room temperature; |  |
| 🗆 | Food items in the refrigerator(s) that are unlabeled or undated and not scheduled to be served at the next meal; |  |
| 🗆 | Potentially hazardous foods like uncooked meat, poultry, fish and eggs that are not stored separately from other foods (e.g., meat is thawing so that juices are dripping on other foods); and |  |
| 🗆 | Appropriate hand washing facilities, with soap and water that are not convenient for dietary staff use. |  |
| 1. | Are foods stored under sanitary conditions? 🗆 Yes 🗆 No F371 |  |
| Observe for: | |  |
| 🗆 | Staff not practicing for hand washing when necessary during food preparation activities; |  |
| 🗆 | Cracked eggs that are used in foods that are not fully cooked (per observation and interview); |  |
| 🗆 | Food that is not prepared, cooked or stored under appropriate temperatures and with safe food handling techniques; |  |
| 🗆 | Staff not washing hands to prevent cross contamination (e.g., between handling raw meat and other foods); and |  |
| 🗆 | Staff not utilizing hygienic practices (e.g., touches hair, face, nose, etc., and then handles food). |  |
| 2. | Does the facility prohibit staff with open areas on their skin, signs of infection or other indications of illness, from handling food products?  🗆 Yes 🗆 No F443 |  |
| 3. | Are foods prepared under sanitary conditions? 🗆 Yes 🗆 No F371 |  |
| If staff is preparing food*: proceed with observations. If not, answer the remaining items in* future trips *to the kitchen (see related sections below).* | |  |
| *Follow-up Visit(s) to the Kitchen*  *Storage Temperatures* | | |
| Observe for: | |  |
| 🗆 | Refrigerator temperatures that are not between 32° - 41° Fahrenheit (check temperatures between meal service activities to allow for stable temperatures).\* |  |
| 🗆 | Freezer temperatures that are not at 0° Fahrenheit or lower (check temperatures between meal service activities to allow for stable temperatures).\* |  |

| *Observations* | | *Notes* |
| --- | --- | --- |
| *Follow-up Visit(s) to the Kitchen*  *Storage Temperatures* | | |
| 🗆 | Internal temperatures of potentially hazardous, refrigerated foods (e.g., meat, fish, milk, egg, poultry dishes) that are not within acceptable ranges of 41° Fahrenheit or lower.   * What are the temperatures * What foods are involved |  |
| *\*Cited food temperatures are target temperatures from the FDA Food Code.* | |  |
| 4. | Is the food stored at the appropriate temperatures? 🗆 Yes 🗆 No F371, F456 |  |
| *Food Storage* | | |
| Observe for: | |  |
| 🗆 | Frozen foods thawing at room temperature; |  |
| 🗆 | Foods in the refrigerator/freezer that are not covered, dated and shelved to allow circulation; |  |
| 🗆 | Foods stored in direct contact with soiled surfaces or rust; |  |
| 🗆 | Containers of food stored on the floor or on surfaces that are not clean; |  |
| 🗆 | Signs of water damage from sewer lines and/or pipelines; |  |
| 🗆 | Signs of negative outcome (i.e., freezer burn, foods dried out, foods with a change in color); |  |
| 🗆 | Raw meat stored so that juices are dripping onto other foods; and |  |
| 🗆 | The facility’s policy for food storage, including leftovers. Does staff follow the policy? |  |
| 5. | Are foods stored under sanitary conditions? 🗆 Yes 🗆 No F371 |  |

| *Observations* | | *Notes* |
| --- | --- | --- |
| *Food Preparation and Service* | | |
| Observe for: | |  |
| 🗆 | Hot foods not held at 140° Fahrenheit or higher on the steam table;\* |  |
| 🗆 | Food service that is not started within 30 minutes after food is placed on the steam table; |  |
| 🗆 | Cold foods that are not held at 41° Fahrenheit or lower; and\* |  |
| 🗆 | Food surfaces that are not thoroughly cleaned after preparation of fish, meat or fowl. |  |
| 🗆 | Cutting surfaces that are not sanitized between uses; |  |
| 🗆 | Meats that are not cooked to correct internal temperatures:\*   * Ground meat 155° Fahrenheit for 15 seconds; * Meats 145° Fahrenheit; and * Poultry 165° Fahrenheit. |  |
| 🗆 | Food items that are not heated to the proper temperatures; |  |
| 🗆 | Food that is not covered during transportation and distribution to residents; |  |
| 🗆 | Food that is not cooked in a manner to conserve nutritive value, flavor, appearance and texture; |  |
| 🗆 | Nourishments and snacks held at room temperature and not served within 4 hours of delivery. Potentially hazardous foods (e.g., milk, milk products, eggs) must be held at appropriate temperatures. |  |
| 🗆 | Staff that do not wash hands to prevent cross contamination (i.e., between handling raw meat and other foods); |  |
| 🗆 | Staff who does not utilize hygienic practices (e.g., not touch hair, face, nose, etc and then handle food); |  |
| 🗆 | Leftovers that are not cooled quickly and promptly in shallow pans in the refrigerator or freezer; |  |
| 🗆 | Potentially hazardous foods that are not cooled from 140° Fahrenheit to 70° Fahrenheit within 2 hours; from 70° Fahrenheit to 41° Fahrenheit within 4 hours\* |  |
| 🗆 | Food that is not procured from vendors that meet federal, state or local approval; |  |
| 🗆 | The time food is put on the steam table and when meal service starts. If unable to observe, determine per interview with the cook; |  |
| 🗆 | How staff routinely monitors food temperatures on the steam table (review temperature logs); |  |
| 🗆 | When staff starts cooking the food. If unable to observe, determine per interview with the cook; and |  |
| 🗆 | What cooking methods are available and used (e.g., steamer, batch-style cooking)? |  |
| *\*Cited food temperatures are target temperatures from the FDA Food Code.* | |  |
| 6. | Does the facility prohibit staff with open areas on their skin, signs of infection or other indications of illness, from handling food products?  🗆 Yes 🗆 No F443 |  |
| 7. | Was food prepared and served under sanitary conditions and in a manner that conserves nutritive value, flavor and appearance? 🗆 Yes 🗆 No F364, F370, F371 |  |

| *Observations* | | *Notes* |
| --- | --- | --- |
| *Dinnerware Sanitization and Storage* | | |
| Observe for: | |  |
| 🗆 | Dishwasher temperatures that are not at 140° Fahrenheit wash, 180° Fahrenheit rinse OR 120° Fahrenheit wash + 25 ppm (parts per million) Hypochlorite; |  |
| 🗆 | The manual met5hod that is not at 75° Fahrenheit + 50 ppm Hypochlorite OR 12.5 ppm iodine with hot water immersion at 170° Fahrenheit for at least 30 seconds. |  |
| 🗆 | Dishes that are not allowed to air dry; |  |
| 🗆 | Clean and soiled work areas that are not separated; and |  |
| 🗆 | Dishware that is not stored to prevent contamination. (In a clean, dry location, not exposed to splash, dust o other contamination and covered or inverted.) |  |
| *Dinnerware Sanitization and Storage* | | |
| Ask staff: | |  |
| 🗆 | How do they test for proper chemical sanitization (observe them performing the test)? |  |
| 🗆 | How do they monitor equipment to ensure that it is functioning properly? (Review temperature/chemical logs.) |  |
| 8. | Were the dishes and utensils cleaned and stored under sanitary conditions? 🗆 Yes 🗆 No F371 |  |
| *Equipment Safe/Clean* | | |
| Observe for: | |  |
| 🗆 | Refrigerators and freezers that are not clean and in safe operating condition; |  |
| 🗆 | Fans in food prep areas that are not clean; |  |
| *Equipment Safe/Clean* | | |
| 🗆 | Utensils/equipment that are not cleaned and maintained to prevent food borne illness; and |  |
| 🗆 | Food trays, dinnerware and utensils that are not clean and in good condition (e.g., not cracked or chipped, etc.). |  |
| Ask staff: | |  |
| 🗆 | When did routine cleaning of equipment last occur? |  |
| 🗆 | Is there a cleaning schedule in place and is it followed? |  |
| 🗆 | When was the equipment last checked? |  |
| 9. | Is food preparation equipment clean and in safe operating condition? 🗆 Yes 🗆 No F456 |  |
| *Refuse/Pest Control* | | |
| 10. | Was garbage and refuse disposed of properly? 🗆 Yes 🗆 No F372 |  |
| 11. | Food storage, preparation and service areas are free of visible signs of insects and/or rodents?  🗆 Yes 🗆 No F469 |  |
| If Questions 10 or 11 are marked ‘No’: | |  |
| 🗆 | Is there documentation of pest control services that have been provided? |  |
| 🗆 | Is the facility aware of the current problem? |  |
| 🗆 | If the facility is aware of the current problem, what steps have been taken to eradicate the problem? |  |
| 🗆 | Notify team of observations and review other areas of the environment for post concerns. |  |

Resource 4 (Lesson 1)

*This Isn’t Your Grandma’s Kitchen*

Ticket to Leave

| Chef: |  |
| --- | --- |

*Today, you learned that an industrial kitchen is not, in fact, the same as a household kitchen because of the increased danger and our intensive responsibility as food service specialists to keep our customers safe. Identify one area or item that surprised you most as being VERY different from your “grandma’s kitchen”.*

*In a clear and concise paragraph, identify this item/area and explain what you had anticipated and what you now know is different. Use observations from your own tour and from your classmate’s presentations as evidence to support your claim.*

# Lesson 2: How Clean is Clean?

Brief Overview: This lesson introduces how pathogens are easily transferred onto hands, food, uniforms, and work areas and introduces to students why they need to be thorough during regular self-examinations. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required: Familiarity with food safety in each culinary arts area; the location of the Safety Data Sheet yellow and red binders; the difference between food/health safety (this unit) and hand tool/equipment operation safety (next unit).

Estimated Time:90 minutes (approximately one block)

Instructional Model: Direct inquiry and group investigation approach

Resources for Lesson:

* Uniform
* Hand-washing kit with ultraviolet light, soap, hand towels
* Hand-washing sink (ideally with pedals)
* Safety Data Sheet binder with holder
* Sanitizing bucket, sanitizing tablets, and side towels.
* Hygiene Score Card (Resources for Lesson 2, Resource 1)
* When do I need to wash my hands again?, etc (Resources for Lesson 2, Resource 2)

Content Area/Course: CVTE/Culinary Arts

Unit:Food Safety and Sanitation

Time: approximately 90 minutes

**Lesson 2**

Overview: This lesson introduces how pathogens are easily transferred onto hands, food, uniforms, and work areas and why students need to be thorough during regular self examinations. Students will actively do a self examination and see the pathogens that may affect health/safety through ultraviolet light. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):

2.A.01.04 Conduct a sanitation self inspection and identify modifications for compliance with standards.

2.A.01.05 Outline compliance requirements of sanitation and health inspections.

2.A.01.06 Show exemplary appearance and hygiene.

2.A.02.03 Identify the location of the S.D.S binder. Identify all chemicals used in the facility, located in the S.D.S binder, their potential hazards and emergency procedures in case of mishandling.

RST.3 Follow precisely a complex multistep procedure when taking measurements or performing technical tasks; analyze the specific results based on explanations in the text.

Essential Question addressed in this lesson:

Q3 What is the difference between clean and sanitary?

Objective: Students will know and be able to:

Conduct a sanitation inspection of self, food, work area, and equipment.

**Anticipated Student Preconceptions/Misconceptions**

* Students may think that because they cannot see dirt that their body/work area/tool is sanitary and not consider that the pathogens that are not visible to the naked eye are present and dangerous.
* Students may think that a thorough shower once per day is sanitary for food service and not consider the frequency with which hand washing and self examinations are necessary throughout the day.

**Pre-Assessment:** Initial hand washing activity upon arrival and hygiene self assessment score.

Lesson Sequence

Lesson Opening

Introduction: “Yesterday, during our first lesson in our safety unit, many of you asked ‘When can I cook?!’ and today, I would like you to decide who can and who is prepared to cook. By the time we are done with today’s lesson, you will know how to self evaluate and support co-workers in personal hygiene practices. How many of you are qualified according to industry sanitation and safety standards to cook now? Please use this scorecard to do a self-evaluation, so we can make today’s staffing decisions.”

Activator/Pre-Assessment (20 minutes)

* After the teacher reads the lesson introduction, all students should fill out the hygiene scorecard #1 upon entering (lesson 2 resource 1)
* Take the students who rated themselves with the highest hygiene rating, powder their hands with powder from the kit and puts them under ultraviolet light illustrating the pathogens that make their hands unsanitary for food service, focusing on the following high risk areas:
  + Jewelry, specifically rings and watches
  + Fingernail beds
  + Scratches/Wounds
  + Loose hair
* Footwear, specifically no open toed shoes and always nonslip shoes
* Loose clothing and exposed skin
* After this review and demonstration, all students should fill out hygiene scorecard #2.

**During the Lesson**

Proper hand-washing procedures (50 minutes)

* Demonstrate proper hand-washing including:
  + Appropriate soap
  + Water temperature
  + Vigorousness of washing
  + Area to be washed (up to elbows)
  + Length of time
  + Single use towel for drying
* All students follow procedures and wash their hands and review the CDC hand washing resources. (lesson 2 resource 3)
* All students should fill out hygiene scorecard #3 upon completion.
* Take the same students who rated themselves with the highest hygiene rating in the pre-assessment and at least one student who did not remove jewelry on hands, cover their hands with powder from the kit, and put them under ultraviolet light illustrating the pathogens that still remain, making them unsanitary for food service.

**Lesson Closing**

Frequency Summarizer with Student Brainstorming (20 minutes)

* “What actions does a chef need to take throughout the day to stay sanitary and hygienic?”
  + Lead students in brainstorming, with one student making an idea web on the board.
  + Show the Power Point of possible scenarios (lesson 2 resource 2 includes sample photos, including one with an intentional spelling error).
  + During the PPT review, to keep engagement, run a students vs teacher competition: Students earn a point for all items you do not have; you earn a point for all items students do not have. (Recommendation for seniors: produce the PPT and insert their own photos in action for the following year’s sanitation PPT and also identify literacy/communication/language issues on the slides for points in the competition.)
  + Students should think about both language accuracy and content accuracy.

Resource 1 (Lesson 2)

*Hygiene Score Card*

Please rate yourself on each of the following items using the guide below.

| **0**  **Are You Serious?** | **1**  **Pig Pen Filthy** | **2**  **Downright Dirty** | **3**  **Lightly Rinsed** | **4**  **Soft Scrub** | **5**  **Surgically Clean** |
| --- | --- | --- | --- | --- | --- |
| **Rate Your Hygiene** | | | **Check #1** | **Check #2** | **Check #3** |
| Hands to Elbows | | |  |  |  |
| Clothing | | |  |  |  |
| Hair | | |  |  |  |
| Shoes | | |  |  |  |
| Overall Score (Total) | | |  |  |  |

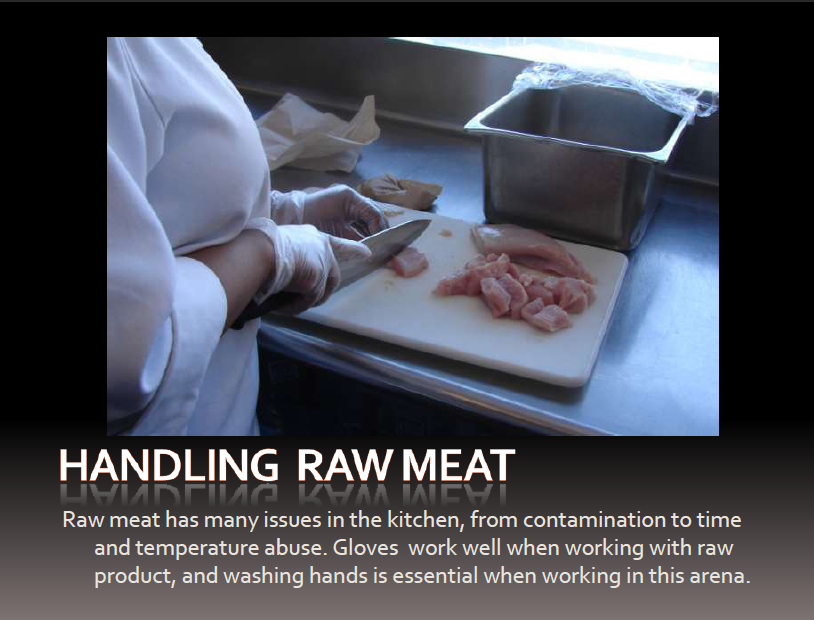
| Check #1: Comments on Overall Rating: |  |
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| Check #2: Comments on Overall Rating: |  |
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| Check #3: Comments on Overall Rating: |  |
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Resource 2 (Lesson 2)

six activities that necessitate hand washing before handling food:

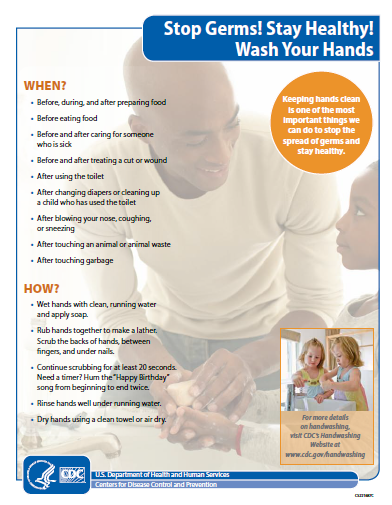
1.  Touching your hair
2.  Handling the trash
3.  Using the restroom
4.  Sneezing  
5.  Using cleaning chemicals
6.  Handing raw food 

Check off items that your group has already identified, keep a list of sanitation hygiene issues, and correct language and spelling (grammar/mechanics)





| Other examples of when to wash your hands include: | |
| --- | --- |
| **Touching hair** | If you touch your hair at anytime during the food preparation, you MUST re-wash your hands. |
| **Handling chemicals**  **(Might affect food safety)** | Chemical hazards cause contamination which is a presence of harmful substances in food. |
| **Touching your face then stirring soup** | When you’re working with food, that is the only task you MUST do, it’s human nature to touch your face, but if you do, wash those hands. |
| **Starting a task with large equipment** | Each piece of equipment has its own bacteria. Make sure the equipment in use is cleaned and sanitized. All hands away from your exposed skin (face). |
| **Sneezing, coughing or using a tissue** | We all at times have to sneeze or cough. To protect your kitchen, cover your nose and mouth if you can. Then always wash your hands after. |
| **Washing dirty dishes** | Washing dishes in the kitchen is very important. Each dish brings its own bacteria to the area. After your shift or between tasks, always wash your hands. |
| **Leaving your station to get a drink** | Saliva plays an important part in bacteria moving around the kitchen. When leaving your station to get a drink, never return until you’ve washed your hands. |

Source: <http://www.cdc.gov/handwashing/resources.html#videos>

# Lesson 3: The Flow of Food

Brief Overview: Students will learn the cycle of the flow of food and develop a quick reference chart for real world application. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required: Mastery of the standards in Lessons 1 and 2

Estimated Time: 90-100 minutes over 4 days

**Instructional Model:** Performance Assessment, Quick Writes, and Direct Observation

Resources for Lesson:

* Chart The Flow of Food (Lesson 3, Resource 1)
* Chart: Purchasing and Receiving (Lesson 3, Resource 2)
* Chart: Cooking and Cooling (Lesson 3,Resource 3)
* Chart: Reheating, Holding and Serving (Lesson 3, Resource 4)
* Chart: Processed Food Time, Temperature & Log Chart (Lesson 3, Resource 5)
* Ice paddle (assorted sizes)
* Labels
* Plastic wrap and/or aluminum foil
* Sanitizing strips; sanitizing buckets (red); sanitizer
* Thermometers (assorted and calibrated)
* Washing buckets (green)

Lesson 3

Time: approximately 90 minutes

Overview: Students will learn the cycle of the flow of food and develop a quick reference chart for real world application. Students will apply their knowledge of the safe flow of food by working through each of the nine steps: purchasing, receiving, storing, preparing, cooking, holding, cooling, reheating, and serving. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):

RST.4 Determine the meaning of symbols, key terms, and other culinary arts specific words and phrases as they are used in specific technical context relevant to grade level texts.

WHST10.Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline specific tasks, purposes, and audiences.

2.A.01.01 Identify the Hazard Analysis Critical Control Point (HACCP) during all food handling processes as a method for minimizing the risk of food borne illness.

2.A.01.07 Describe cross contamination and use of acceptable procedures when preparing and storing potentially hazardous foods.

2.A.01.08 List the reasons for and recognize the signs of food spoilage and raw and prepared foods.

2.A.01.09 Outline the requirements for receiving and storage of raw and prepared foods.

2.A.01.11 Recognize what foods are most likely to become unsafe.

2.A.01.13 Demonstrate how to prevent time temperature abuse throughout the flow of food.

2.A.01.14 Demonstrate the proper usage of thermometers in receiving, storing, preparing, cooking, reheating foods; how to calibrate a thermometer; and logging temperatures.

2.A.01.15 Demonstrate how to prevent contamination in food, hot holding foods, cold holding foods, self service areas, and serving customers.

Essential Question addressed in this lesson:

Q2 How can you ensure safety and prevent serious illness or even death during the flow of food?

Objectives:

Students will know the information in the standards of this lesson.

Anticipated Student Preconceptions/Misconceptions

* Only visible mold or strong odors make food unsafe to eat.
* The “three second rule” is a real measure of food safety.

Lesson Sequence

***Day 1***

Lesson Opening

Introduction: “During the past two lessons, you have explored the concept that what is clean is not always sanitary in our work areas as well as our personal hygiene. Now that we know the industry hygiene and sanitation standards for our shop for ourselves, we are going to learn an essential sequence of all food service establishments: The Flow of Food. It is crucial that we as professionals protect the Flow of Food through all nine steps in order to ensure the safety of the people we serve by preventing food borne illness.”

Activator/Pre-assessment (20 minutes)

* Students fill out an empty flow of food chart and refrigerator graphic organizer. (lesson 3 resource 1)
* Students begin first response for reflection log for vocational portfolio using the following prompt. Say: “Please think about a time that you chose not to eat or serve a food item. Explain the specific reasons that you made this choice in relation to sight, smell, touch, hearing, taste, or other reason. Please write one concise paragraph for each scenario.”
  + For students having trouble starting the prompt the teacher may ask the following:
    - Have you ever poured a glass of milk, and it came out chunky? Did it smell bad? What did it look like? Did you drink it?
    - Have you ever dropped something on the floor and decided to eat it or not eat it? Why?
    - Have you ever seen mold on bread or cheese? What did it look like? Did it smell bad? Did you eat it?

**During the Lesson**

Purchasing, Receiving and Storing (50 minutes)

* Using the note sheet as a guide, introduce the key elements of purchasing, receiving and storing. Ask students to take a photo and write a caption for each of these three steps (lesson 3 resource 2). Students will identify new knowledge in writing and with visuals to clearly communicate new knowledge to a classmate or to the class.
* Ask students to share either their own or a classmate’s “new knowledge” to give them an opportunity to experience why writing, speaking and listening are crucial skills in industry.

**Lesson Closing**

Summarizer Quick Write Reflection (14 minutes)

* Say: “Using your new knowledge in a paragraph or two, please explain a common practice in your home that you want to change and explain why you want to change it citing at least three specific pieces of evidence from your guide sheets or from your classmate’s evidence.”

***Day 2***

**Lesson Opening**

Activator (10 minutes)

* Upon entering the room, students should see the following directions posted or on a handout “Write a list of ingredients for chicken soup and equipment to prepare for mise en place.”
* Regardless of the ingredients lists and equipment lists, the prep for the soup should be completed before students arrive (ideally, with the winner of yesterday’s scavenger hunt) and a list of the actual ingredients should be provided on Day 3 (tomorrow), but today students should receive a list of the actual equipment to be used and all items on mise en place: 3 pounds of chicken, 2 gallons of chicken stock, 1 yellow Spanish onion, ½ of a bunch of celery, and 4 carrots.

**During the Lesson**

Preparation and Sanitation (64 minutes)

* With yesterday’s “winner” as the sous chef, s/he should explain what is on the mise en place, while students identify crucial practices (with coaching as necessary). Ensure that the following practices are highlighted:
  + Equipment: Workstations, cutting boards, knives, and other tools must be clean and have been sanitized.
  + Quantity: Only remove necessary portions to ensure that food is kept out of temperature danger zones.
  + Storage: Cook as soon as possible or return to the correct storage area with packaging labeled with the name of the person who prepped the food, the name of the food, and the date.

**Lesson Closing**

Summarizer Quick Write Reflection (10 minutes)

* Say: “Using your new knowledge in a paragraph or two, please explain a common practice in your home that you want to change and explain why you want to change it citing at least two specific pieces of evidence from your experience today.”

***Day 3***

**Lesson Opening**

Activator (10 minutes)

* Students collect pre-prepared mise en place, ensure all items are accounted for using the list provided on day 2 (yesterday). Ensuring proper sanitation protocol, students bring mise en place to their work station.

**During the Lesson**

Cooking, Cooling (64 minutes)

* Make one pot of soup as a cooking and cooling demonstration and ask questions while students review the guide sheets.
  + To prepare for the next day’s lesson, label, date, and store the soup with students.
  + Students should assist with cleanup according to industry standards.
* During the demonstration, teacher should ask the following and students should answer using their guide sheet (optionally photograph for portfolio):
  + After the chicken is cooked, in what part of the chicken do we insert the calibrated thermometer? (the thickest part)
  + How many degrees does it need to register to be safe? (165°F)
  + Since we are serving the soup tomorrow, when should we begin the cooling process, and how should we do it? (Immediately, by dividing the soup into smaller storage containers and using the most appropriate cooling technique available.)
  + What is the total window of time that we have to get the food to 41°F for storage and what other industry standards should we closely watch to be aware if a corrective action needs to be taken? (The total window is six hours. However, we should watch closely to ensure that the food is cooled to 70°F within two hours or the food needs to be thrown out because it is not safe for consumption.)

**Lesson Closing**

Summarizer: Quick Write Reflection (10 minutes)

* Say: “Using your new knowledge in a paragraph or two, please explain a common practice in your home that you want to change and explain why you want to change it citing at least two specific pieces of evidence from your guide sheets, from the demonstration, or from our discussion.”

***Day 4***

Pre-Assessment: Empty flow chart for flow of food

**Lesson Opening**

Activator (10 minutes)

* Students read the Reheating, Holding and Serving guide. (lesson 3 resource 4)
* While students are completing the activator, the teacher will bring the soup to the work area ensuring proper sanitation protocol.

**During the Lesson**

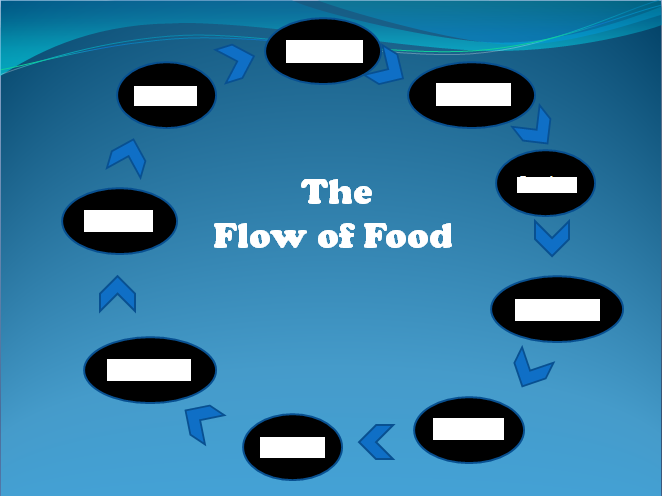
Reheating, Holding and Serving (64 minutes)

* Tell students how to reheat, hold and serve one pot of soup as a demonstration.
  + Students should each calibrate their thermometer to take an accurate temperature of the soup using the guide and upon completion submit for vocational portfolio (lesson 3 resource 5)
  + Students should assist with cleanup according to industry standards.

**Lesson Closing** (10 minutes)

* Students will sanitize thermometers and return them to their proper location for their ticket to eat.
* Summarize the lesson by using the time while students eat to prompt discussion that synthesizes the lesson. Say: “Now that you know the facts about the Flow of Food, you understand how important your job is in the food industry when it comes to the safety and well-being of your patrons. Although the soup IS delicious, I would like each of you to explain a step that illustrates one of the important aspects of the flow of food to get you to a place where food not only looks and tastes good but is also safe.”

Resource 1(Lesson 3)

**

Resource 2 (Lesson 3)

| Chef: |  |
| --- | --- |

*Your goal as a chef is to provide the highest quality food in all aspects at the best price. Please review the bullets below and take 3 photos for Purchasing and 3 photos for Receiving that best summarize the purchasing and receiving process. Write a simple caption in your own words to train a co-worker. Email the photos to your school email account from your phone or use one of the shop cameras so that you may put these into a PowerPoint or Prezi to save for future training. The chef who completes the additional Storing Scavenger Hunt will be the sous chef for tomorrow’s lesson!*

Purchasing

* Purchase only from approved vendors.
* Be precise and consistent when ordering products.
* Use vendors that specialize in restaurants as they will have the best pack size.
* Keep good inventory records and update inventory weekly. This will help to avoid food spoilage.
* Do your homework when choosing a vendor. You need to research and compare quality, price, and consistency.
* Never buy any products from someone showing up at the back door with a great price. The price you pay for that may be larger than what you save.
* When purchasing shellfish, be sure to purchase from a reputable vendor that supplies tags of when and where the shellfish were harvested. Always save tags. It is highly recommended that the tags be photocopied and saved in the accounts receivable book/file. Whenever possible, save the tags themselves for at least 90 days.

Receiving

* Always receive food from a reputable vendor.
* Always inspect the food and the packaging to make sure that the food is delivered in good condition.
* Check the exact [*temperature*](http://kpcompass.com/#type=page&id=thermometers&parent=receive_and_verify_orders&up=ordering_and_receiving), quality, and freshness of every product that comes through the door to accept or reject the products.
* Know your temperatures:
  + - Receive frozen food at 0°F or lower.
    - Receive meat, poultry, fish, dairy, produce, and modified atmosphere packaging (MAP) 41°F or lower.
    - Receive shell eggs and live shellfish at 45°F or lower.
    - Receive whole citrus, hard rind squash, eggplant, and root vegetables at 60-70°F.

**Storing Scavenger Hunt Exploration:** Go into the walk-in cooler and take three photos of changes you think we need to make in order to keep food safely stored. Caption these photos with what is wrong, why it is wrong, and what corrective action you need to take.

Resource 3 (Lesson 3)

| Chef: |  |
| --- | --- |

*Please use this sheet as a reference during the preparation and cooling of our chicken soup. The sous chef and instructor will be asking the kitchen team specific questions about temperature, processes, and other industry standards.*

Cooking

* Check the temperature in the thickest part of the food.
* Take at least two readings in different spots.
* Poultry, stuffing, stuffed meat, stuffed seafood, stuffed poultry, and stuffed pasta should be heated to 165 degrees F.
* Ground meat, injected meat (brined ham and flavor injected roasts), mechanically tenderized meat, and ground seafood should be 155 degrees F.
* Seafood, steaks, chops of pork, beef, veal, lamb, roasts of pork and eggs that are served immediately should be 145 degrees F.
* Commercially processed, ready-to-eat food should be 135 degrees F.
* Fruit, vegetables, grains, and legumes (beans, refried beans) should be 135 degrees F.
* Meat, seafood, poultry, and eggs that are cooked in the microwave must be cooked to 165 degrees F.
* Cool the food immediately after initial cooking.
* Freeze or refrigerate the food after cooling. If refrigerating, make sure the food is held at 41 degrees F or lower.
* Heat the food to at least 165 degrees before serving it.
* Cool the food if it will not be served immediately or held for service.

Cooling

* You have a window of two hours to get cooked food from the highest temperature to 70°F.
* Once the food is at 70°F, you have another four hours to reduce the temperature to 41°F.
* If the food did not reach 70° F within two hours, the food has to be thrown out or reheated to 165°F and cooled again.
* After dividing food into smaller containers, place them in an ice-bath.
* You may also stir the food with an ice paddle.
* You may also use blast chillers to blast cold air across the food at high speeds to remove heat.
* You may also use a tumble chiller to tumble bags of hot food in cold water. They work well on thick food such as mashed potatoes.

Resource 4 (Lesson 3)

| Chef: |  |
| --- | --- |

*After reading this guide for reheating, holding, and serving, be prepared to give your instructor specific directions using items from this list to support your directions so that you and your classmates may enjoy your SAFE soup.*

Reheating Food

* You must heat the food to an internal temperature of 165 degrees F within two hours.
* Make sure that the food stays at that temperature for at least 15 seconds.
* You can reheat food that will be served immediately, like beef for a beef sandwich, to any temperature, but you have to make sure that it was cooked and cooled correctly.

Holding Food

* Hot food is held at 135 degrees or higher.
* Cold food is held at 41 degrees or lower.

Serving Food

* Use separate serving utensils for each item.
* Be sure that the handles of all serving utensils are above the top of the container.
* Be sure that the utensil is kept on a sanitized food contact area (like a sizzle platter but NOT like the ledge of the stove or counter).

Resource 5 (Lesson 3)

| Chef: |  |
| --- | --- |

| Code: | SHT - Smokehouse Temp.  C - Cooker  IT - Internal Temp.  O - Start Time | **Processed Food Time, Temperature & Log Chart (Form MI-802)** |
| --- | --- | --- |

Establishment

| **Date** | **Product Name** | **Green**  **Wt.** | **Start Time** | **0 + Hours** | **Sht**  **It** | **0 +**  **Hours** | **Sht**  **It** |  |  | **Finish**  **It Temp** | **Date & Time** | **Init.** |
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# Lesson 4: High Risk is Not Low Stakes

Brief Overview: Kitchen teams will be formally trained in EpiPen use and will customize menus for several high risk populations including people who may have allergies. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required: The following standards: RST.3, RST.4, WHST.9, and WHST.10

Estimated Time: approximately three 84-minute blocks over three days

Resources for Lesson:

* Anaphalaxis: Resources 1
* Allergen charts: Resource 2
* True or False: Resource 3
* Customer Statement cards: Resource 4
* Labels/markers
* Purple Cutting Board
* Content Area Text for Reference
* Nurse/EpiPen Training with test and demo EpiPen (no needle)
* My Plate public resources: <http://www.choosemyplate.gov/print-materials-ordering/graphic-resources.html>
* Material for Menu Design

**Content Area/Course:** CVTE/Culinary Arts

Time (minutes): 240 minutes (approx. 3 days of 84 minute blocks)

Lesson 4

Overview:Kitchen teams will be EpiPen trained and will customize menus for several high risk populations including people who may have allergies. As you plan, consider the variability of learners in your class and make adaptations as necessary.

**Standard(s)/Unit Goal(s) to be addressed in this lesson (type each standard/goal exactly as written in the framework):**

2.A.01.02 Identify microorganisms related to food spoilage and illnesses; and describe their requirements and methods for growth.

2.A.01.03 Describe symptoms common to food borne illnesses and how illness can be prevented.

2.A.01.10 Identify risks associated with high risk populations.

2.A.01.12 Define the major food-borne illnesses and their characteristics.

2.A.01.16 Identify common food allergens in food and ways to control production of allergen safe food for customers.

Essential Question addressed in this lesson:

Q1 How can you ensure safety and prevent serious illness or even death during the flow of food?

Q2 Why is it important to communicate with your team throughout the flow of food?

Anticipated Student Preconceptions/Misconceptions

* Students may think that anyone can eat anything even in small amounts.
* Cross contamination protocols are not connected to allergens.
* You can’t die from eating an almond.

**Lesson Sequence**

***Day 1***

Lesson Opening

Introduction:“By the end of this lesson, you will be a more desirable employee for food service establishments because you will be able to customize menus that are safe for a variety of high risk populations, and you will be EpiPen trained so that you may help a colleague or a patron in an allergy emergency.

Activator/Pre-assessment (10 minutes)

* Upon entering, students respond to the following prompt that should be posted on the board: “What do you know about food allergies?” The responses should be given to the school nurse who is about to give a presentation so that she may clarify misconceptions.

**During the Lesson**

EpiPen Training (40 minutes)

* School Nurse or other qualified adult conducts regular epi-pen safety training for students.

**Lesson Closing**

Assessment/Summarizer (34 minutes)

* Students take the EpiPen post test provided by the trainer.
* Students put the EpiPen handout (lesson 4 resource 1) in their safety portfolio for future reference.
* Students who have passed and completed the test will begin brainstorming what to find on labels for the eight major allergens on a spider web graphic organizer. (lesson 4 resource 2)

***Day 2***

**Lesson Opening**

Activator (20 minutes)

* Share yesterday’s graphic organizers.
* Conduct the allergy pre-assessment (lesson 4 resource 3):
  + Instruct students to move to one area of the classroom or another representing their answer, true or false.
  + Remind students to move to each area to “stand for” what they believe is the correct answer.
  + After each item is read, one student from each side will make a 60 second statement as to why they believe their side is correct using content specific details to support their answers.
  + Use a class roster to quickly tally the number of correct answers of each student to identify which students will be leaders for other students in this unit because of their prior knowledge.
  + Dramatically reveal the correct answer after each group presents its case.

Finding Allergens in Foods (30 minutes)

* Review the allergen graphic for students to compare to their graphic organizer previously made. (lesson 4 resource 2)

Nutritional label for garlic breadsticks








* Kitchen teams (ideally 4 or 8 teams) will be assigned a small stack of numbered food labels you provide, such as the following sample:
* Teams then receive flashcards with a customer statement with allergy related issue, e.g., “I am allergic to peanuts.” (lesson 4 resource 4) Teams separate the labels into two piles of safe and unsafe for customer. Circulate among the groups to provide guidance and review.

Review: Safe/Unsafe Competition (30 minutes)

* By label number, teams will announce to the class whether they decided it was safe or unsafe for their particular allergen and explain why.
* Students earn points by identifying a specific label as safe or unsafe, but another team may “steal” the point if an incorrect answer is provided and that team can identify *why* that answer is incorrect, e.g., Label #2: Food should not be used for someone who is allergic to tree nuts because it has “almond oil” in it).
* Score and provide incentive.

**Lesson Closing**

Summarizer Quick Write Reflection for Ticket to Eat (10 minutes)

* Reflecting on what you learned today, explain why the communication between the customer, server, and the kitchen is crucial for safety.

***Day 3***

**Lesson Opening**

Pre-Assessment: Students will do the EpiPen training test for baseline score and complete allergen graphic organizer.

Activator (15 minutes)

* Identify high risk populations and common food risks/foods to avoid.
* Review the up-to-date food groups according to FDA standards; My Plate public resources should be used as a guide (<http://www.choosemyplate.gov/print-materials-ordering/graphic-resources.html>).

**During the Lesson**

Custom Menu Design (60 minutes)

* Each kitchen team will use their prior knowledge, available content resources and text, and the customer profile to customize a menu provided for a specific patron. The following examples may be included: pregnant; diabetic; toddler; elderly; immune compromised; allergic to gluten, shellfish, dairy or peanuts; any combination.
* Walk around the room to guide teams.
* Students who complete content of customized menu will move to computers/art materials available. The menu will be reviewed by teacher and classmates to ensure that all items are safe for the intended patron.

**Lesson Closing**

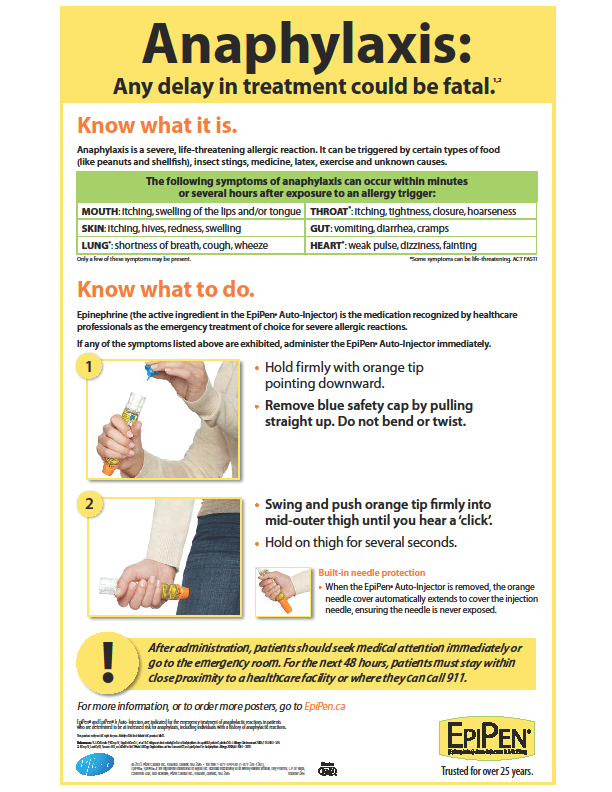
Summarizer: Quick Write Reflection for Ticket to Leave (15 minutes)

* Say: “Please review your classmate’s menu’s and write any corrective action steps that they need to take based on their patron. You will receive bonus points on YOUR menu for keeping your teammate’s patron’s safe.”

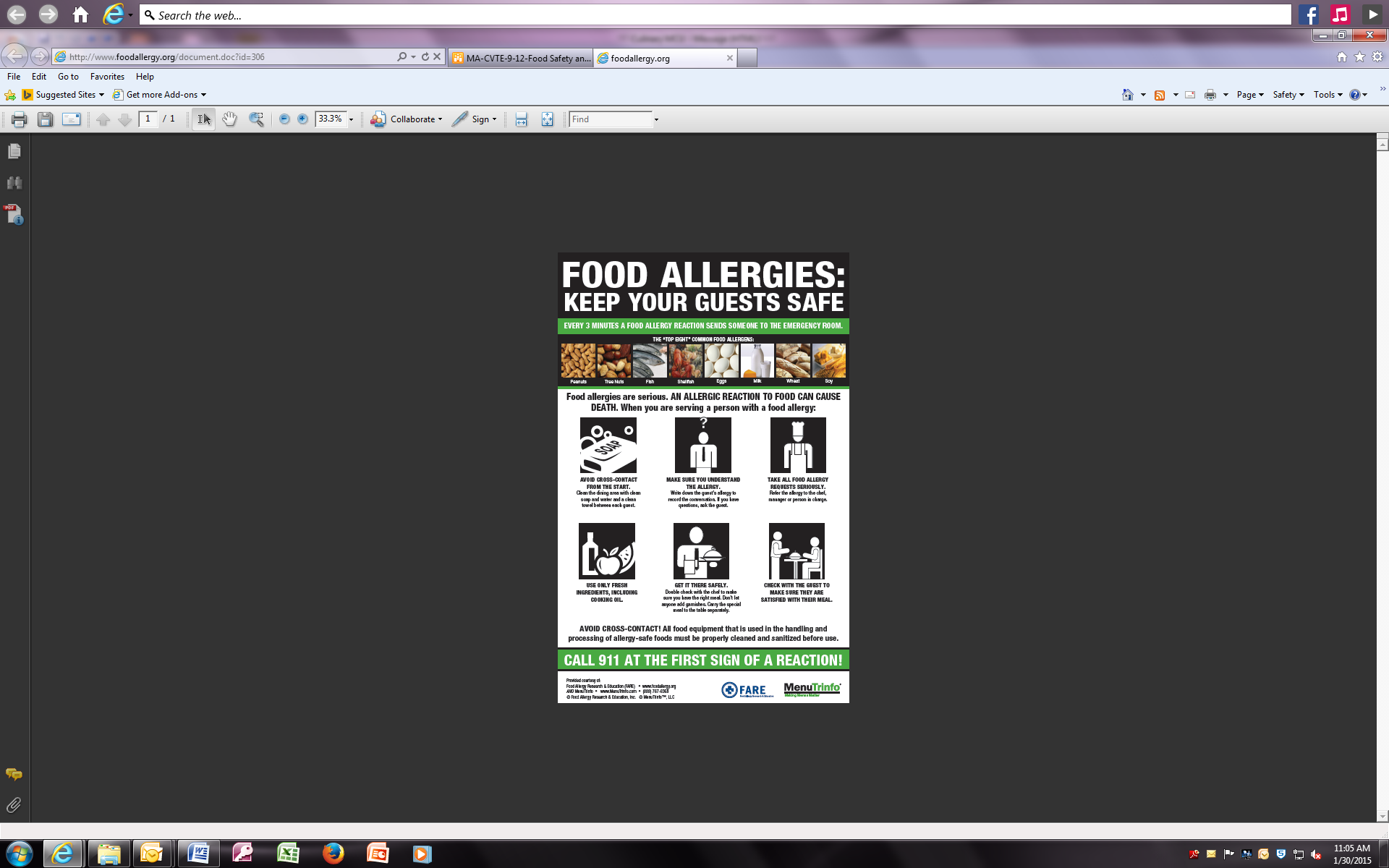
Resources for Lesson 4 (Resource 1)

Epinephrine stops anaphylaxis quickly. Anaphylaxis can be fatal if not treated quickly and properly. Epinephrine is the first line of defense. Many patients of anaphylaxis carry automatic injectors of epinephrine -- the most common brand is an EpiPen -- in case of an anaphylactic reaction.

Depending on laws in your state and the level of training a first aid provider has, it may be permissible for a first aid provider to administer an EpiPen to a victim of anaphylaxis. The EpiPen must already be prescribed to the patient in order for it to be used.



Resources for Lesson 4 (Resource 2)

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Resource 3 (Lesson 4)

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| False  Food allergies are an immune response to a food while food intolerances do not involve the immune system. |  | False  Food allergies affect a very small portion of the American population (<1%). |
| True  An individual could be allergic to any kind of food. |  | True  The Federal Allergen Labeling Law requires that the major food allergens be listed in simple language on ALL packaged food. |
| True  It is a State Law that an allergy poster is visible in the kitchen at all times for the staff. |  | True  Limiting the amounts of an allergy-causing food is one of the ways to avoid an allergic reaction. |
| True  The best time to discuss a food allergy that you are made aware of by a customer is prior to any type of food preparation or service. |  | False  Cross-contact occurs in the “back-of-the house” only, so serving staff do not need to be trained. |

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| False  If a customer or guest states they are allergic to nuts, it is ok to serve them the Pesto Shrimp with Linguine entrée. |  | True  Some of the signs of an allergic reaction are: trouble swallowing, shortness of breath, hives, swelling, nausea, vomiting, and/or drop in blood pressure. |
| True  The best way to ensure that the customer does not receive the allergen is to verify with the Chef and/or Manager. |  | False  The best way to wash away trace amounts of protein that could potentially lead to an allergic reaction on dishes, silverware, countertops, and hands is to wash with soapy water. |
| False  If the food item does not contain soy, but was made in a facility that processed soy, it is ok to serve the item. |  | False  Eggs are the leading cause of a severe allergic reaction. |

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| True  The best way to find out if a product has a food allergen is to read the product label. |  | False  Since food allergies are more common in children, adults do not need to worry about food allergies. |
| True  The best way to avoid cross-contact of food allergens is to prepare the entrée (entire meal) separately. |  | True  An example of cross-contact is an employee grabbing a peanut butter cookie with gloves and then grabbing a sugar cookie the same gloves. The sugar cookies are then served to a customer with a peanut allergy. |
| True  You can be allergic to any type of food, not just nuts (peanuts), shellfish, soy, wheat, eggs, fish, and milk. |  | False  If a customer tells you they are allergic to eggs, but it is not on the dinner menu you do not need to tell the Manager/Chef. |

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| False  Celiac disease (gluten-free) is a food intolerance, not a food allergy, so you do not need to be concerned if there is some cross-contact. |  | True  There is no cure for a food allergy. |
| True  The only way to manage a food allergy is strict avoidance. |  | False  If a customer is allergic to milk and you accidentally put cheese on their hamburger, it is ok to just scrape it off and heat it on the grill for a few minutes. |
| False  It takes several hours for an allergic reaction to occur. |  | False  The number of people suffering from food allergies is decreasing. |

Resource 4 (Lesson 4)

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| Once I ordered a grande soy caramel macchiato with a shot of raspberry, and it was delicious, but it made my throat close, and I found out that I am allergic to SOY PRODUCTS. What can I eat here? | |  | | I know I can’t eat cashews because my face will swell to the size of an elephant, but I want to try all of your desserts. What can I eat here? |
| I would like to order your chocolate pie, but my mom says I am allergic to MILK PRODUCTS. What can I eat here? | |  | | I would love to try the tuna melt, but I am allergic to fish. What can I eat here? |
| I am allergic to PEANUTS. Does that mean your pea soup is off limits? What can I eat here? | |  | | If you take the shells off of the clams, may I order the clams casino? I am allergic to SHELLFISH. What can I eat here? |
| I would really like your Touch Down Omelet because my team needs to win today. I am allergic to EGGS though. What can I eat here? | |  | | Yummmm, your Green Monstah’ Panini looks delicious. It shouldn’t be a problem that I am allergic to WHEAT PRODUCTS, right? What can I eat here? |
| I can smell your chowder from the parking lot. It smells like summer. You may want to know that I am allergic to CORN PRODUCTS, but I’m sure that won’t matter. What can I eat here? | |  | | I am a glutton for pasta, but I am allergic to GLUTEN. What can I eat here? | |

# Lesson 5: The Inspection

Brief Overview: During this lesson, students will meet with a town inspector who will highlight statistics of the most common violations and review the actual local safety inspection form and process. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Prior Knowledge Required: Standards: 2.A.01 (01 – 16); RST.3; RST.4; WHST.9 WHST.10

Estimated Time: 84 minutes

Instructional Model: Modeling and Group Investigation Approach

Resources for Lesson:

* Inspector with kit
* Copies of the inspection report form
* Model completed inspection report form including consequences and resolutions

Lesson 5

Time: 90 minutes

Overview:During this lesson, students will meet with a town inspector who will highlight statistics of the most common violations and review an actual safety inspection form and process. Note: If it is not possible to schedule time with an actual health inspector, a senior chef or experienced food service manager from another organization (i.e. not someone who works at your school) who has gone through multiple inspections could play the role of the inspector. As you plan, consider the variability of learners in your class and make adaptations as necessary.

Standard(s)/Unit Goal(s) to be addressed in this lesson

2.A.01 (01 – 16) Demonstrate proper food safety and sanitation.

2.A.02 (01 – 03) Identify chemicals and uses in food service.

Essential Question addressed in this lesson:

Q1 How can you ensure safety and prevent serious illness or even death during the flow of food?

Q2 Why is it important to communicate with your team throughout the flow of food?

Q3 What is the difference between clean and sanitary?

Objective

Students will know and be able to act accurately the role of a local health inspector to ensure safe practices in their own area/kitchen/place of business.

Anticipated Student Preconceptions/Misconceptions

* A health inspector’s job is to “catch” people.
* There couldn’t be any violations in *my* kitchen.

**Lesson Sequence**

**Lesson Opening**

Pre-Assessment: Survey and brainstorming questions

Introduction: “Today, you will learn about a job in your field that you may consider: health inspector. Today, [name of actual health inspector or colleague in the role] is going to review the processes and forms that are necessary to help food service establishments keep routines of safe production. Pay close attention because for our culminating assessment in this unit, each of you will be on a kitchen team who is inspected and who will be acting as the inspector. ”

Activator/Pre-assessment: Brief survey: “Why do Towns/Cities Need Health Inspectors?” and write anonymous questions for the guest. (10 minutes)

* Provide students with this activator as a “do now” when they arrive so that the presentation can begin right away.
* Scan the anonymous questions before giving them to the guest to ensure that there are no duplicate questions.
* Redistribute the questions selected to a variety of students for them to ask the guest aloud.

**During the Lesson**

Exploring Career Pathways: Health Inspector (60 minutes)

* Topics to be covered by the Inspector:
  + investigation process
  + appropriate documentation/paperwork (as provided by town and lesson 5 resource 1)
  + review of violation statistics
  + how to issue and write a citation, assign corrective action, and conduct follow-up

**Lesson Closing**

* Summarizer: Student/Inspector open Q & A (14 minutes)

Lesson 6: Curriculum Embedded Performance Assessments (CEPA): Teacher Instructions

The goal of this task is for students to analyze procedures during the flow of food including, but not limited to their actions, choice in chemicals, time-temperature, hygiene, kitchen sanitation, and general safety. The student’s role is that of a town health inspector who has been assigned with his/her team to inspect a food service establishment. The city wants assurance that there are no safety or sanitation violations, and the inspectors will document all issues and resolutions for each problem. Students will rotate through the role of inspectors and kitchen staff.

Before students arrive, divide them into approximately five teams of four each. When students arrive, give each a name tag with their name and the name of a fictitious food service establishment. Students should wear their name tags, and sit with their teams.

Enthusiastically introduce today’s culminating activity/assessment:

I would like to welcome the staff of Cleanville Calzones, Sanitary Sally’s, Billy’s Bodacious Burgers, Pammy’s Pizza Plus, Betty’s Breakfast Boutique. The staff for each restaurant will find their tasks in their assigned area. Today, each of your establishments will be visited by a team of health inspectors. Each establishment’s staff will take a leave from their restaurant to act as a member of the health inspection team. Your goals are to analyze safety procedures during the flow of food including, but not limited to: actions, choice in chemicals, time-temperature, hygiene, kitchen sanitation, and general safety.

The city wants assurance that there are no safety or sanitation violations, and the inspectors will document all issues and implement corrective action for each problem. All restaurants will have one staged infraction that must be caught by the inspector. If additional infractions are found a demerit will be issued to that restaurant and a merit will be issued to the inspection team. If a staged infraction is not found by an inspection team, that team will be issued a demerit.

The restaurant team with the most merits at the end of the activity will be deemed the city’s premier “five star restaurant.”

**Preparation**: Cut out the secret guide for each group’s establishment separately (see CEPA Student Instructions).

**During Lesson 6/CEPA: Walkthroughs**

* Using the forms provided in Lesson 5, each team will do a 5 minute walkthrough of the four *other* restaurants and take notes for infractions.
* The team will then have 10 minutes (or as long as you designate) to compile corrective action plans. \
* When these are delivered to you, act as “Town Hall.”
* Give notice of when groups will rotate.
* Once all groups have conducted inspections, tally merits/demerits and review the violation forms as a whole group.

CEPA resources:

* Lesson 5 Resource 1: Checklist
* CEPA Rubric
* Chicken in the walk-in cooler
* Vegetables
* Clipboards for Inspectors
* Small wares
* Food delivery/invoices (one for each group)
* Uncalibrated thermometers
* Ice
* Food storage/ice containers
* Labels and sharpies
* Area outside of industrial kitchen for investigators to write corrective action plans

CEPA Student Instructions

*Please use this* ***secret*** *guide to ensure that your food service establishment is prepared to complete as many kitchen tasks as possible (one merit for each completed task), to stage your infraction, and to rotate into another area as inspectors.*

| **Cleanville Calzones**   * Infraction: Hazardous material too close to the food * Accept food delivery upon arrival * Store food properly * Calibrate and sanitize thermometers * Make one gallon of chicken soup * Cool soup and store for reserving tomorrow | |  | **Billy’s Bodacious Burgers**   * Infraction: Meat temperature – time/temperature abuse * Accept food delivery upon arrival * Store food properly * Calibrate and sanitize thermometers * Make one gallon of chicken soup * Cool soup and store for reserving tomorrow |
| --- | --- | --- | --- |
|  | |  |  |
| **Sanitary Sally’s**   * Infraction: Mouse (fake) on the floor * Accept food delivery upon arrival * Store food properly * Calibrate and sanitize thermometers * Make one gallon of chicken soup * Cool soup and store for reserving tomorrow | |  | **Pammy’s Pizza Plus**   * Infraction: Cooler door open – temperature abuse * Accept food delivery upon arrival * Store food properly * Calibrate and sanitize thermometers * Make one gallon of chicken soup * Cool soup and store for reserving tomorrow |
|  | |  |  |
| **Betty’s Breakfast Boutique** | | | |
| * Infraction: Cross contamination * Accept food delivery upon arrival * Store food properly | * Calibrate and sanitize thermometers * Make one gallon of chicken soup * Cool soup and store for reserving tomorrow | | |

CEPA Rubric

|  |  |
| --- | --- |
| **A: Clear communication and model industry standards** | * Identified all four staged infractions. * Wrote appropriate corrective action steps, clearly and concisely. * Did not receive demerits for additional infractions. * Earned merits for all tasks on the checklist. * Correctly identified all potential hazardous menu items. |
| **B: Adequate communication and industry standards** | * Identified all four staged infractions. * Wrote appropriate corrective action steps that had minor errors that did not interfere with communication. * Received one demerit for additional infraction. * Earned merits for most tasks on the checklist. * Correctly identified most potential hazardous menu items. |
| **C: Weak communication and industry standards** | * Identified all four staged infractions. * Wrote appropriate corrective action steps in writing that had some errors that interfered with communication. * Received one demerit for additional infraction. * Earned merits for some tasks on the checklist for successful completion and attempted all tasks. * Correctly identified most potential hazardous menu items. |
| **D: Inadequate communication and did not meet industry standards** | * Identified all four staged infractions. * Written corrective action steps had many errors that interfered with communication and/or incorrect or missing elements. * Received one or more demerits for additional infractions. * Earned merits for some tasks for successful completion but did not attempt all tasks. * Correctly identified most potential hazardous menu items. |
| **F: Too brief to evaluate and/or did not meet industry standards** | * Did not identify all four staged infractions. * Did not complete corrective action steps for all identified infractions. * Did not demonstrate knowledge of the flow of food and industry safety standards by earning merits for completing tasks on the checklist. |

Unit Resources

**Lesson 1**

* Industrial kitchen
* Survey “This Isn’t Your Grandma’s Kitchen” (Lesson 1 Resource 1)
* Kitchen Walkthrough Jigsaw (Lesson 1 Resource 2)
* Kitchen/Food Service Observation (Lesson 1 Resource 3)
* This Isn’t Your Grandma’s Kitchen: Exit Ticket (Lesson 1, Resource 4)

**Lesson 2**

* Uniform
* Hand-washing kit with ultraviolet light, soap, hand towels
* Hand-washing sink (ideally with pedals)
* Safety Data Sheet binder with holder
* Sanitizing bucket, sanitizing tablets, and side towels.
* Hygiene Score Card (Resources for Lesson 2, Resource 1)
* When do I need to wash my hands again?, etc (Resources for Lesson 2, Resource 2)

**Lesson 3**

* Chart The Flow of Food (Lesson 3, Resource 1)
* Chart: Purchasing and Receiving (Lesson 3, Resource 2)
* Chart: Cooking and Cooling (Lesson 3,Resource 3)
* Chart: Reheating, Holding and Serving (Lesson 3, Resource 4)
* Chart: Processed Food Time, Temperature & Log Chart (Lesson 3, Resource 5)
* Ice paddle (assorted sizes)
* Labels
* Plastic wrap and/or aluminum foil
* Sanitizing strips; sanitizing buckets (red); sanitizer
* Thermometers (assorted and calibrated)
* Washing buckets (green)

**Lesson 4**

* Anaphalaxis: Resources 1
* Allergen charts: Resource 2
* True or False: Resource 3
* Customer Statement cards: Resource 4
* Labels/markers
* Purple Cutting Board
* Content Area Text for Reference
* Nurse/EpiPen Training with test and demo EpiPen (no needle)
* My Plate public resources: <http://www.choosemyplate.gov/print-materials-ordering/graphic-resources.html>
* Material for Menu Design

**Lesson 5**

* Inspector with kit
* Copies of the inspection report form
* Model completed inspection report form including consequences and resolutions

**Lesson 6/CEPA**

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