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CULINARY BOOT CAMP INSTRUCTOR MANUAL

Student workbook from the School Food Initiative Culinary Boot Camp.

School Food Initiative

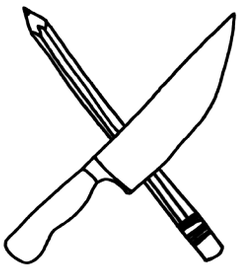
CULINARY BOOT CAMP INSTRUCTOR GUIDEBOOK

an Orfalea Initiative

SCHOOL FOOD

Our Food, Our Future

CULINARY BOOT CAMP INSTRUCTOR GUIDEBOOK



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Version 2.1

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CULINARY BOOT CAMP

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Lesson Objective: To convey the importance of understanding food safety guidelines in an institutional food service setting and how work practices prevent the occurrence of food borne illnesses.

Equipment Needed: Food safety matrix, whiteboard

Minutes Allotted: 30

Opening:

Ask: Why is Food Safety important?

Answer: We must follow proper procedures to keep food from becoming contaminated because contaminated food can make people sick.

Ask: Has anyone ever gotten sick or know someone who's gotten sick from what you ate? What kind of symptoms did you have? What do you think caused it? From these examples, ask: What is the definition of food borne illness?

Answer: food borne Illness: a disease that is transmitted to people through food. (Write it on the white board or flip chart).

Ask: Who is at most risk for food borne illness? Answer: Older people, young children, sick people, immune compromised, and pregnant women.

Ask: Do we serve food to any of these groups? Answer: Yes

Instructional Procedure:

Food Safety Matrix (FSM): Create FSM on whiteboard. Types of hazards are listed down the rows of this matrix and the categories of offenses are arranged across the columns. Notice that we speak of food safety violations in terms of types of hazards and categories of offenses.

Let's talk about the types of hazards first. Food preparation offenses can be grouped into three different types of hazards

Physical Hazards: Foreign objects that can contaminate food.

(Pass around examples of physical hazards in bags, i.e. steel wool, fingernails, hair, glove tip, etc.) Let's imagine how they might contaminate food.

Have any of you ever been served food that was physically contaminated? Have you ever worked in a kitchen that contaminated food in this way?

Chemical Hazards: Chemical hazards are any chemicals that can contaminate food. Look at a few examples of chemical hazards gathered from the kitchen. Would you store the stainless cleaner on the shelf below your work tables? Answer: No. All chemicals should be stored in a separate, designated storage area away from food products and food preparation areas. Why?

Biological Hazards: Biological hazards are microscopic organisms that can cause illness. These microscopic organisms that can cause illness are called pathogens. It is important to realize that some pathogens spoil food while others cause illness. Brainstorm examples of pathogens (bacteria, viruses, parasites, spores/fungi, i.e. mold)

Write on whiteboard: Definition of pathogens: microscopic organisms that can cause illness

What are the ideal conditions for pathogens to reproduce? Answer: pathogens multiply most rapidly in the temperature danger zone: 41˚-135˚F. (In the temperature danger zone, pathogens can double as often as every 20 minutes)

Introduce the acronym that will help us remember the things to control for trying to reduce the likelihood of pathogen growth

F-Food

A-Acid/Alkali balance

T-Time

T-Temperature

O-Oxygen

M-Moisture

<u>Categories of Offenses</u>

Now that we're familiar with the types of **hazards** that can contaminate food, let's move on and explore the categories of **offenses** that cause contamination.

The 4 categories of offenses are: Poor Personal hygiene, Cross Contamination, Improper Cleaning and Sanitizing and Time-Temperature Abuse

Brainstorm a few examples of each with the class

Define each of these:

Poor personal hygiene: Transferring pathogens from your body to food

Cross-contamination: The transferring of pathogens from one surface to another

Improper cleaning and sanitizing: Allowing contaminated food contact surfaces to touch food

Time-temperature abuse: Allowing food to remain too long at temperatures that promote pathogen growth

Food safety matrix exercise:

Have students choose partners. Pass out cards with pre-written offenses and ask students to brainstorm with their partner where assigned hazards would fit on the FSM. (Have at least 12 pre-written cards with offenses and give them three minutes to talk to their partner/team.

Let's review the **4 categories of offenses:**

1. Poor Personal Hygiene: Personal practices which can contaminate food

2. Cross Contamination: The transfer of pathogens from one food or contaminated surface to another

3. Improper Cleaning and Sanitizing:

Def: Cleaning: Removing dirt and food debris from a food contact surface

Def: Sanitizing: Reducing pathogens to a safe level on a food contact surface

4. Time and Temperature Abuse

WHAT IS PROPER PERSONAL HYGIENE? Being clean and ready for Work in professional attire, and with NO: nail polish, rings (except those with smooth bands), necklaces, bracelets, stud earrings, open toe shoes.

Being in Uniform = clean chef coat and apron/hair pulled back with hair restraint, sturdy closed shoes, short, clean nails.

Partial list of offenses: Dirty apron, shorts, tanks tops, flip flops, dangling earrings, fake nails, hair not restrained, cell phone usage, holster, torn glove with fingernail showing, etc. Have class cite more examples.

CROSS CONTAMINATION: Ask for examples of CC causes and list on white board: Working in our own personal street attire, i.e. aprons, sleeves, jeans, etc., dirty cutting boards, knives, carts, speed racks and equipment that have not been washed and sanitized between dissimilar tasks, particularly meat, poultry and other potentially hazardous foods, dirty hands (i.e. sorting poultry, then touching door handles, oven handles, equipment, etc. (Participants will come up with other specific incidents, acknowledge and move on)

WASHING AND SANITIZING: Show green (small amount of soapy water) and red (sanitizing solution) with two towels and appropriate test strips.

Definition of Washing: the removal of debris and visible food particles

Explain: we will teach you later this week to sanitize twice when handling poultry, for instance. We wash once and then sanitize and discard the towel, solution and sanitizing bucket and then, with a fresh bucket, towel and sanitizing solution sanitize again for good measure

Ask, "What do we do with the first bucket and towel after discarding the solution?" Answer: Wash and sanitize or get a fresh bucket and towel, communicating with the person in the dish station if the bucket needs to be sanitized

TIME AND TEMPERATURE ABUSE:

Definition: Food left in the time danger zone (between 41˚ and 135˚ F)

Discuss the two stage cooling method as taught by ServSafe: Cool to 70˚ F, within two hours (most critical because pathogens, bacteria proliferate most rapidly between 70 and 90˚ F) Then to below 40˚ F. in the next four hours (for a total of no more than 6 hours)

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

THE FOOD SAFETY GRID: Show how the grid works, with hazards (Review what they are) in one direction and the offense going in the other direction and where they meet is where the index card should be dropped (envelopes) or taped;

Give an example: Bandage found in food-a physical hazard and an example of poor personal hygiene but it also has chemical hazard ramifications (Neosporin, blood, etc.)

Pass out pre-written index cards (see above), Saying, “Take a card and then pass on to your neighbor,..”

Advise that in some instances, there may be more than one correct answer (the example the instructor uses)

HAND WASHING ACTIVITY: Ask for two volunteers to act out hand-washing (one volunteer to instruct the other volunteer how to wash hands and this volunteer silently mimes those instructions without any correction.)

Look for this procedure**:** Wet hands under hot running water, soap up hands and forearms and scrub hands and forearms vigorously for 20 seconds, scrub nails, Rinse hands and arms under the hottest comfortable running water, dry hands and arms with a single-use paper towel or air dryer.

Thank the two volunteers and Ask the rest of the class how well they think the two volunteers did? Brainstorm and discuss briefly. Ask the class, “How often should we wash our hands?” List class responses on white board.

Desired answers: At the start of the shift; after eating, drinking; between different prepping tasks in the kitchen; after handling money and taking out trash; after handling cell phones; after using the bathroom, (some facilities required washing hands in the kitchen after using the rest room even if hands were washed in bathroom.) After handling meat, poultry, potentially hazardous foods, After any dish washing or handling dirty durables including trays, cutlery and serving pieces. After taking off gloves and putting new gloves on for another task, after using any chemicals, after handling dirty towels, aprons, etc.

Brainstorm and briefly discuss the proper use of gloves: When handling read-to-eat foods, For personal comfort when handling sticky or messy foods.

Remember: Using gloves is not a substitute for frequent, proper hand-washing!

Lesson Objective: To convey the importance of understanding food safety guidelines in an institutional food service setting and how work practices prevent the occurrence of food borne illnesses.

Minutes Allotted: 20-25

Instructional Procedure:

Write on board: Proper personal hygiene in the professional kitchen

Brainstorm with class and write on whiteboard/flip chart examples of poor personal hygiene examples

Wardrobe: dirty apron, shorts, tank top, flip flops, large or dangling earrings, fake nails, etc.

Personal: hair down over shoulders, without chef hat or other restraining device, i.e. hair net

Work gear: torn glove with fingernail poking through, dirty towel hanging around waist (explain all towels are to be in sanitizing and/or cleaning buckets only) Cell phone holster attached to apron.

Explain that this is about training and/or retraining our staff!

Ask: What term do we use for the chef coat, closed-toe shoes, hat and other clothing that will help us be safe in the kitchen? Answer: Professional attire

Ask: Are we ready for work? I'd like you to turn and work with the person next to you to identify what each of you needs to change in order to be ready for work. Remind participants that this is an exercise and not something they should take personally or feel bad about but an opportunity to learn. Start by looking at each other's hands, what does your partner need to change in order to be ready for work? If you notice any offenses, let's be gentle and kind with each other; remember we're all in this together to improve our professional practice.

- Good personal hygiene Ask**:** so what we looking for in a chef who is ready for the professional kitchen?
- Short, clean nails and NO nail polish or fake fingernails
- No rings, except for smooth bands
- No watches, necklaces or dangling/large earrings
- Closed toe, sturdy shoes
- Chef coat
- Hair pulled back with hat on or hair restraint
- Clean apron

List by creating a T-chart as participants generate answers Good Not good

Proper Hand-washing: Introduce by asking participants to identify the most important personal hygiene practice in the kitchen. Write all acceptable answers on the whiteboard, but explain that hand washing is the number one answer

Pantomime: Ask for two volunteers who will pantomime proper handwashing techniques. Our hand washer will do *exactly* what our narrator says. Thank the participants. Ask the class: Did he/she wash his/her hands correctly? What would you change?

Let's review: what the key points for hand washing?

- Wet hands under warm or hot running water
- Soap hands and forearms, and scrub hands and forearms vigorously for 20-30 seconds
- Rinse hands and arms under hot running water
- Dry hands/arms with single use paper towel or air dryer
- Ask: what else? If towels need to be pulled out, do that first?
- If opening a door, use paper towel to touch the handle of the door?

Brainstorm: When should we wash our hands at work?

- Before starting work
- After using the rest room
- Touching hair, face or body of self or others
- After sneezing, coughing or using a tissue
- After eating, drinking, smoking, chewing gum or tobacco
- After handling chemicals that might affect food safety
- Taking out garbage
- Clearing tables or bussing dirty dishes or glasses
- Touching clothing or dirty towels or aprons
- After handling money
- After touching anything else that might contaminate hands
- Before and after handling potentially hazardous food . Ask for examples: (Raw meat or poultry, eggs)
- ALL THE TIME! You can never wash your hands too often!

Review: Who can define personal hygiene?

Who can re-cap what they've learned about personal hygiene and kitchen readiness?

What is professional attire, and when are times that I might add/change my professional attire or safety equipment (gloves, plastic apron.)

Lesson Objective: To understand when a thermometer must be calibrated and how to calibrate correctly. Temperature abuse is a key reason food becomes unsafe. If a thermometer is not calibrated there is no way of accurately knowing whether food is in the danger zone or has had temperatures properly checked.

Materials/Tools Needed: Crushed ice, water, 2-4 qt. Cambros, instant read thermometers with wrench cases.

Minutes Allotted: 20

Opening:

Can anyone tell me the food temperature danger zone? How about the proper cooking temps for chicken, ground beef, eggs and ready-to-eat foods?

It is not enough to know proper cooking temperatures, we also have to know our tools are giving us an accurate reading. If our thermometers are not accurate, the readings we get may not be correct. This can result in serving unsafe food.

A thermometer is an indispensable tool in the kitchen. But only if it is accurate. To ensure a thermometer's accuracy, calibrate at least once a week, or anytime it is dropped, banged or subjected to extreme temperatures.
Instructional Procedure, Ice Point:

First I will demonstrate how to calibrate your thermometer. Watch carefully and take notes in your notebooks.

1. Fill a large, clean container with crushed ice. Add cold tap water to fill and stir the mixture well.

2. Using your cases, put the stem/probe into the ice water without touching the bottom or sides of the container. Allow the probe to remain in the ice mixture for 30 seconds.

3. Using the built in wrench, hold the calibration nut tightly while rotating the thermometer head until the dial reads 32°F.

4. After calibrating, use an alcohol wipe to sanitize your thermometer.

5. It's a good idea to regularly sanitize your thermometer cases as well.

6. Thermometers should be calibrated at least weekly or if dropped or bumped.

Instructional Procedure, Boiling Point:

1. Place distilled water in a container and heat.

2. After the water in the container has reached a complete "rolling" boil, insert the instrument to the appropriate immersion depth.

3. Be sure there is at least a two-inch clearance between the stem or sensing element and the bottom and sides of the container.

4. If your thermometer is not accurate within +/- 2°F. of 212°F., adjust thermometer accordingly. The boiling point method permits calibration to within 1.0°F.

For true accuracy, distilled water must be used. Tap water in unknown atmospheric conditions would probably not measure water boiling at 212 °F. Most likely it would boil at a lower temperature. Also remember that water boils at a lower temperature in a high altitude area

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Break the students up into groups of 3 or 4 and have each participant calibrate his or her thermometer. If possible de-adjust each thermometer prior to the exercise.

Closing Summary: (Review of key lesson points)

Even if the food thermometer cannot be calibrated, it should still be checked for accuracy using either method. Any inaccuracies can be taken into consideration when using the food thermometer, or, ideally, the food thermometer should be replaced.

For example, water boils at 212 °F. If the food thermometer reads 214 °F in boiling water, it is reading 2 degrees too high. Therefore 2 degrees must be subtracted from the temperature displayed when taking a reading in food to find out the true temperature. In another example, for safety, ground beef patties must reach 160 °F. If the thermometer is reading 2 degrees too high, 2 degrees would be added to the desired temperature, meaning hamburger patties must be cooked to 162 °F.

Lesson Objective: Students will have full understanding of appropriate temperatures, and be able to determine boundaries for prepping, cooking, serving, holding and storing hazardous foods, with regard to safe temperatures and time limits, and distinguish what the safe temperature or timetable for service is, according to the Danger Zone. Food service workers need these rules to safely serve scratch-cooked meals to their school population.

Materials/Tools Needed: Student Guidebook, Instructor book, pen, paper, thermometer

Minutes Allotted: 20

Opening:

Opening: Here we will discuss and evaluate rules for safe food preparation, cooking temperatures, holding temperatures, serving guidelines and the Danger Zone Diagram.

Instructional Procedure:

Ask: What tools do we use in our kitchens for monitoring the safety of the food we prepare and serve?

Answer: Thermometers, temperature logs. Write these on board as students answer.

Ask: Thermometers - How do thermometers help us in our kitchen?

Answer: They read and monitor the temperature of food, so we know if it is in a safe and required temperature zone.

Ask: Temperature Log: What does this tool do to protect us and our customer?

Answers:

a. It leaves a record of what our steps were as we prepared the food. This record is required and valuable to be able to prove that potentially hazardous food has been prepared in a safe way.

b. Creates a document that proves we have done our due diligence for temping and monitoring the food we prep and serve according to Food Safety standards.

Ask: What kind of equipment do we use to obtain the temperatures we need for Food Safety?

Answer: Ovens, warmers, refrigerators, freezers, Ice wands, ice, timer/clock.

Let's explore some of the reasons we need to use these measures to obtain and verify our safe practices in our kitchens.

Ask: What do we use this equipment for?

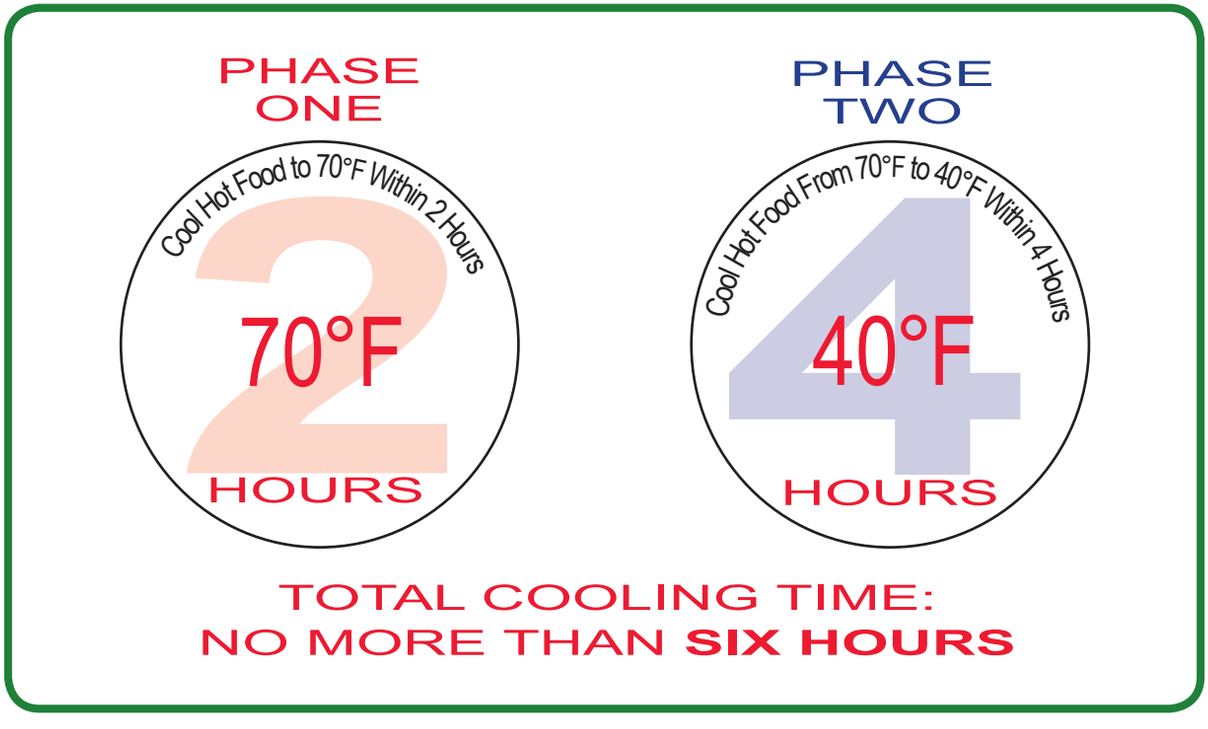
Answer: Heating, holding, storing, cooling, timing.

Ask: Why are all of these points important?

Answer: As we know from our previous discussion, all of these stages of food prep and service aid us in achieving our goal of serving safe scratch-cooked meals to our customers. All of these different points are called the flow of food. Knowing your flow of food is a great way to keep the pulse on how and when your inventory needs to be used, and also enables us to follow our flow of food so it stays safe for consumption.

- Ovens get our food item to the required and desired temperature.
- Warmers allow us to hold hot prepared food safely for a period of time before service occurs.
- Refrigerators allow us to hold cold food items at required and desired temperatures for a period of time.
- Freezers allow us to order ahead of time, for economies of scale and can aid in cooling down prepared food for safe storing.
- Ice wands and ice are tools that allow us to meet our deadline of required and desired time frame for food safety standards.

THE 2 PHASE COOLING METHOD FOR HOT FOODS



Lesson Concept: Deeper understanding of the Danger Zone range of temperature, how to monitor travelling through the Danger Zone, and determining types of hazardous foods. Students will be able to identify the three categories of food preparation, (No Cook, Same Day, and Complex cooking process.)

Materials/Tools Needed: Training Guidebook, Instructor book

Minutes Allotted: 15

Instructional Procedure:

For Food Safety purposes, familiarity with terms and techniques allows us to prepare potentially hazardous foods and be secure that they are safe for consumption.

Ask: Think about the word danger. Think about the at-risk group we feed every day at school. What types of danger have we learned about so far in this lesson, with regards to potentially hazardous foods?

Answers: Time Abuse - Temperature Abuse - Flow of Food

Instructional Procedure:

Let's take a deeper look into the Danger Zone.

Ask: Can you all tell me what the Danger Zone is? Encourage whole class to participate. Answer: 41°F.- 135°F

Ask: What happens in the Danger Zone? Answer: Pathogens multiply at an accelerated rate in this range.

Ask: What is our best practice and what tools do we use to ensure that our food stays out of the danger zone?

Answer: We use our thermometers, timers, temperature logs, ovens, warmers, refrigerators, freezers , ice wands and ice to bring our temperatures to required and desired temperatures.

Introduce the Time Management terms. State that frequent communication is the key to a successful kitchen team

On white board, recreate the graphic for travelling through the danger zone graphic from the workbook. Write cooking process off to side.

Explain how this graphic represents the food categories and their cooking processes, then encourage them to turn to it in their book and follow along. Point out each category and explain how each food group has a different trip through the danger zone.

Introduce the breakfast menu that was served.

- Smoothies
- Oatmeal
- Vegetable frittata

Ask: How many times did the smoothies go through the danger zone? Answer: None

Ask: Why?

Answer: Point out the graphic, and using the diagram to illustrate that smoothies do not make it through a complete trip, therefore making it a No Cook Process. Explain that all the ingredients were cold upon starting, and remain cold for service, no cooking required. Ingredients may have risen in temperature, but did not make a complete trip through the danger zone.

Ask: How many times did the oatmeal go through the danger zone?

Answer: One time. This establishes this food item as a Same Day Process. We were here early this morning to provide breakfast for you, and we measured and cooked the oatmeal this morning, so as to serve it to you hot and fresh. The oatmeal travelled one time through the Danger Zone because it was boiled and simmered until tender for service.

Ask: Does anyone know the temperature of boiling? Answer: 212°F

Ask: What is the Danger Zone? Answer: 41°F.-135°F

Ask: Does everyone see how the oatmeal had one complete trip through the danger zone?

Allow time for this information to click with participants. Repeat if necessary.

Introduce the Complex process, by first taking them through the graphic while explaining each trip though the Danger Zone.

Share the example that the vegetable frittata was prepared and baked to an internal temperature of 160°F on the afternoon before service. It was then cooled down in the walk-in refrigerator to an internal temperature of 40°F, within 4 hours. Today, we re-heated that same frittata in the oven to an internal temperature of 165° F and served it on our line.

Ask: How many times did that frittata travel through the Danger Zone?

Answer: 3 times. (Also offer that we have the option of serving an item that has been cooked and cooled properly, still categorizing it as a Complex Process, but only travelling through the Danger Zone 2 times. Illustrate and explain this concept using graphic on board.)

Ask class for a few other examples of

- No Cook
- Same Day
- Complex

Write on board and allow time for understanding.

Closing Summary: (Review of key lesson points)

Now that we have completely explained the Danger Zone and the three different Cooking Processes,, let's quickly review why the Danger Zone is important. What is the Danger Zone? What happens in the Danger Zone? What are the three different Cooking Processes? Ask class for examples of each process.

Lesson Objective: Discuss and demonstrate safe poultry handling. Discuss the appropriate internal temperature of appropriately cooked poultry (165˚ F.). Discuss and demonstrate the safe handling (in the kitchen production of poultry in every step of the flow of food up through service and re-heating.

Materials/Tools Needed: Easel, flip chart, markers, and equipment per Equipment Manager's Demo Chart Chicken pulled at appropriate time for each session by Product Manager (potentially using the PM's kitchen production group to assist.)

Minutes Allotted: 35

Opening: Today is an exciting day because we will be handling raw poultry.

In order to move away from processed (i.e. frozen, cooked products), school chefs need to build safe poultry handling skills, knowledge and confidence. As we discussed this morning in the Kitchen Essentials lecture poultry –specifically chicken– is probably the most commonly used source of animal protein in school lunch menus. We want to make sure that we give you the tools (and confidence) to handle raw chicken safely.

Instructional Procedure:

Ask for 3-5 ideas about safe poultry handling and list on flip chart (keep this brief) Look for answers involving cross-contamination, proper attire, cooking to an internal temperature of 165˚ F. Give positive reinforcement.

(If the issue of washing chicken comes up, bank the idea and let participants know that we will return to that issue.)

Pre-write on flip chart: The four areas in which poultry (and all foods) are handled: (the flow of foods)

1. RECEIVING AND STORAGE

a. Check cases/cartons for: intact packaging, no ice crystals or blood, no expiration dates

b. Mark date of receipt clearly and on front of cases

c. Practice FIFO (first in, first out)

d. Store in such a way that FIFO practices can be easily utilized

2. TRANSPORT THROUGH THE KITCHEN (OR FROM THE WAREHOUSE)

a. Use proper equipment to transport, i.e. speed racks, carts with sheet pans

b. Be mindful of the area of the kitchen (or building in cases of remote warehousing and/or walk-in refrigeration units.)

c. Be mindful of the flow of traffic in kitchen when transporting chicken

d. Appropriate uniform while transporting poultry and meats (plastic apron, plastic gloves)

e. Proper sanitizing (work that into the next item, using the same equipment)

3. THAWING

a. Best thawing practices: Under refrigeration, under cold potable water and as part of the cooking process

b. Under cold potable water; acceptable process but takes up space (sinks), expensive (water is not free) and time consuming.

4. PREPARING TO COOK

a. Time and Place, i.e. after lunch service, not next to lettuce washing, sandwich building, assembly of ready-to-eat foods, at a time when unlikely to be pulled away from poultry handling

b. How much to handle at a time, no more than can be handled in no more than two (2) hours

c. Proper uniform attire

d. Mise en Place equipment to minimize cross contamination challenges (including oven racks and pre-heating oven temperatures)

e. Here's the time to address washing poultry: USDA does not recommend the practice of washing poultry. Ask if anyone can think of why the USDA does not recommend washing chicken in a volume institutional setting? (Participants will tell you about their domestic home practices and what their moms did; gently re-direct the conversation to the school food setting) Desired Answer: Cross contamination (splashing in the washing process, the amount of chicken that needs to be handled, etc. Immediately segue into "The only way to reduce pathogens, bacteria to a safe level is to cook to an internal temperature of 165˚ F. Washing chicken in an institutional food service setting is not only detrimental to that environment (potential cross contamination) but also counter-productive in terms of time management…Perfect segue into:

5. COOKING, TEMP. LOGS

a. Poultry needs to be cooked to an internal temperature of 165˚ F

b. Ask what is the required food safety temperature of re-heated foods? (165˚ F.)

c. All foods served need to be temped, logged (samples kept, i.e. "Charlie" plates) as part of the HACCP procedures

6. PROPER COOLING AND RE-HEATING

a. Ask how cooked chicken should be properly chilled (Desired answer: remind them of two-step process (to 70˚ F in two hours and then to 40˚ F in another 4 hours)

b. Ask how we can achieve that? (Desired answers: increase air circulation, transfer to chilled metal containers in a single layer (i.e. sheet pans or hotel pans), under refrigeration (or freezer) or in a blast chiller.

c. Ask how long we have to reheat foods? Desired answer: within two hours

d. Ask to what temperature must food be re-heated to for food safety? Desired answer 165˚ F.

Lesson Objective: Familiarize the participants with the host kitchen site: key work areas including; EM and PM's work areas, large equipment, ovens, walk-in freezer and cooler, reach-in refrigeration, hand-sinks, dish area, work stations and introduce to dishwashers; Introduce briefly (30 seconds) the white boards the kitchen production teams will work with all week

Materials/Tools Needed: Chart paper with the Pre-Kitchen Routine listed near or by the kitchen entry; Aprons, Hand washing, sanitizer buckets, HAACP temperature logs posted on freezer, walk-in, reach-in coolers and work stations; General MEP kits on each work station; Pre-determine the order and flow of the walk-through for most efficiency and utilization of time

Minutes Allotted: 20

Instructional Procedure:

Meet in an area near the most commonly used entry-way into the kitchen and briefly go over the Pre-Kitchen routine as listed on flip chart paper

Explain**:** Kitchen tour is necessary so participants know where things are located for effective, efficient and timely production; The Pre-Kitchen routine is needed so that participants are dressed to work, have clean hands and stations are set up with sanitizing buckets, solutions and towels

Lead a walk-through of the kitchen covering the following areas:

- Breakfast cart
- Breakfast reach-in cooler
- Tilt Skillet
- Ovens-talk about cooperation and teamwork during production, show that ovens are marked with temperature labels
- Burners
- Steam Kettle
- Slicer (if applicable)
- Hobart mixer
- Demo table(s)
- Steamers (if applicable)
- Exit doors (for emergency exits)
- First Aid Kit
- Fire Extinguisher

- "Return" cart for returning refrigerated products to the PM after production
- Spend a little more time covering the following areas in more detail:
- Hand Sinks
- Dish area, introduce the dishwashers and show the hotel pan marked for knives
- Sanitizer buckets and sanitizing solution, test strips
- Cleaning supply area: brooms, dust pans, mops, mop bucket
- Equipment Manager and his/her area
- Product Manager and his/her area
- Work Stations with food temp. logs and General MEP kits; participants are to restock General MEP kits as needed
- Clean aprons and towels
- Dirty laundry return (Indicate if towels need to be separated from aprons)
- Freezer and Walk-in cooler, indicated where SFI foods are stored—spend time on how shelves are labeled and where raw proteins (potentially hazardous foods) are stored

Show where thermometers are in/on the freezer and walk-in coolers and demo the HAACP temperature assignment by taking the temperature and logging it.

If the host kitchen is in actual production during boot camp, indicate to participants any traffic flows they should observe and/or off-limit areas.

Remind participants where the demo tables are and their work stations; Advise participants that they will gather at the beginning of the kitchen session daily after doing their pre-kitchen routine in front of the demo table(s)

Review the Pre-Kitchen routine

Lesson Objective: Provide an overview of the anatomy of a French chef's knife; Station set-up; Knife Grips, proper cutting motion and the movement of the knife in your hand; The guide hand; Making corrections during the Practicum; A sharp knife; Posture. Demonstrate the proper knife grips and guide hand positioning; Demonstrate proper movement and cutting motion of the knife; Define the different parts of the knife

Materials/Tools Needed: Visual: Anatomy of a knife

Minutes Allotted: 15

Opening:

"Welcome to the Knife Skills Overview, we will go over some of the things that you will be practicing in the practicum that follows. We've already talked about safety. We start with safety because safe knife handling practices will ensure success and proficiency."

Instructional Procedure:

Anatomy of a French chef's knife

Use the visual to show: Handle, blade, cutting edge, heel, tip, bolster tang, spine and rivets and discuss each part and what it is used for.

Station set-up demonstration:

Slip mat, cutting board, steel, chef's knife, paring knife, product in container, compost container, finished product container, usable trim container, bench scraper, and sanitizing bucket with solution and towel

Discuss MEP of equipment to maximize efficiency and economies of motion (maximizing efficiency by minimizing the number of steps required)

Knife Grips, proper cutting motion demonstration:

3 approved knife grips: demonstrate the two grips plus the "butcher's grip"

2 unacceptable knife grips: demonstrate the "inch-worm" and the "swashbuckler"

- The “Inch-worm” is unacceptable because it can lead to carpel tunnel syndrome and loss of knife control.
- The “swashbuckler” is unacceptable because it’s dangerous, safety first!

The proper cutting motion involves:

- The tip of the blade is always lower than the heel of the knife.
- The cutting motion moves forward, using as much of the blade as possible, “push it forward, rock the boat”
- The knife is designed to move in a rocking motion, from the front end of the blade’s cutting edge to the back
- The more you utilize of the cutting edge, the more effective you will be and it will become effortless and you will gain speed
- Let the knife do the work- a French chef’s knife is balanced so let it rock and roll; do not push down straight through your product and then push forward
- When you are using the proper technique, you will hear a very gentle “whoosh” as opposed to repetitive staccato cutting sounds

The Guide hand

- Demonstrate the “claw,” “anti-claw.
- Ask participants to demonstrate the claw (using their guide hand, not their cutting hand) and then lower it so they can look at their hand from above; they should not be able to see their fingernails)

(Now is a good time to do a quick inventory of fingernails for length and nail polish)

Making corrections during the practicum:

During the Knife Skills practicum, we will make gentle corrections when we see the “inch-worm” appear, please know that we make the correction because we care about your well-being and safety

A sharp knife:

Is most effective and we will show you during the Knife practicum how to refresh your knife’s sharpness with a steel; it is not sharpening, but using a steel will realign the molecules of the metal as well as eliminate microscopic pieces of food debris

Posture:

For those of you too tall for your prep table, consider lowering your center of gravity by spreading your legs apart and getting closer to the table instead of scrunching your shoulders over the table. Adjust the position of your product instead of realigning your body to accommodate a bias or difficult cut

Lesson Objective: Safety first! To minimize knife handling and cutting accidents; To maximize cutting proficiency and efficiency through safe knife handling.

Materials/Tools Needed: Flip Chart with Knife Safety Protocols listed (hidden), see below list; Blank Flip Chart sheet so participants can create safe knife protocols; Marker

Minutes Allotted: 10

Opening:

"Welcome to Knife Skills, in the first part of our kitchen session we will cover an overview of knife handling and ensure that everyone understands safe knife handling. When you use safe knife handling practices, you will become more proficient at you knife cutting skills and technique"

Instructional Procedure:

Review the definition of the word, "Protocol"

(A set of systems, methodology or etiquette that a group agrees upon for doing things)

Ask, "What are some do's and don't's or protocols for safe knife handling?" Then write these on the blank flip chart as the group offers suggestions.

Add to the student generated list:

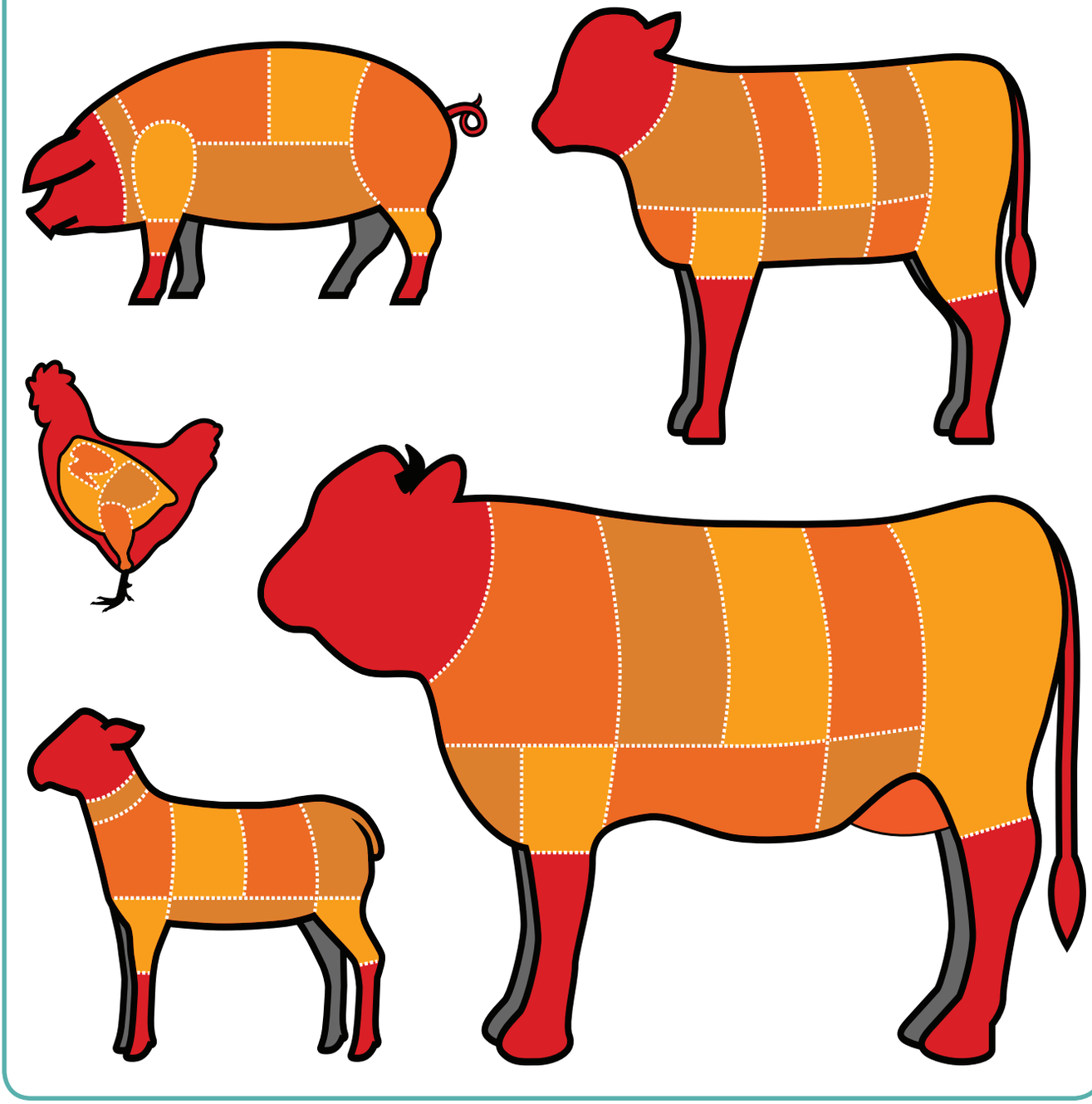
- How to carry and walk with a knife (Ask a participant to demonstrate)
- How to pass a knife (ask a participant to demonstrate)
- Use a cutting board
- Don't cut on metal
- Never soak or put in dishwasher
- Never leave a knife in a sink of soapy water
- Safe drying (Ask a participant to demonstrate)
- Proper storage, (Ask participants what they do or have seen)
- Safe cutting techniques
- Be aware of where your knife is, keep work area organized (don't cover knife with other equipment or towel)
- Don't try to catch a falling knife
- Wear proper foot protection (covered toes)
- Always pick up a knife by the handle

Check the list that was created against what the students have offered and review any items that they did not submit.

Lesson Objective: Define both dry and moist cooking methods; Categorize the different types of moist cooking methods; by temperature and by appearance; State and demonstrate the best/most appropriate cooking methods for plant-based foods, specifically legumes and grains.

Materials/Tools Needed: White board, dry board erasers and markers; Optional: flip chart and markers

Minutes Allotted: 30



Opening:

Legumes and grains are economical products to serve in school meals for protein, fiber, minerals and vitamins. Understanding best cooking methods for them ensures efficient and tasty delivery of these products to children (vs. overcooked and unseasoned products.)

Introduction: The two Cooking Techniques and Moist Heat Cooking for Plant Foods. Pre-write or be prepared to write definitions of Moist and Dry Cooking Methods:

- Moist Cooking Method: Heat applied to food by water, steam or water based liquids
- Dry Cooking Method: Heat applied to food by metal, radiant heat, air or fat

Instructional Procedure:

Examples of moist cooking methods: temps and what can be assessed visually (the amount of agitation in the liquid, size and rate of bubbles)

Steaming (212˚ F. +) Cooking by direct contact with steam (ask for examples, i.e. vegetables)

Boiling (212˚F. at sea level) cooking in liquid that is bubbling rapidly and producing big bubbles ("rolling boil")

Simmering (180˚ to 200˚ F) cooking in liquid that is bubbling gently, producing small bubbles (ask for examples, i.e. grains, legumes)

Poaching (160˚ to 180˚ F.), cooking in liquid that while hot, is not bubbling (ask for examples :i.e. fish, eggs, fruit)

Blanching (and shocking) quickly submerging foods in boiling water, then quickly submerging them in ice-cold eater to set color and stop the cooking process (Ask for examples, i.e. vegetables such as broccoli, asparagus, cauliflower)

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Q & A at end of this portion of the lecture—keep it to 3 mins.

1. Why is steaming a preferable way of cooking? (Frequently a quick process, retains nutritional values, preserves moisture in the food and attractive

2. Ask if there is any reason why in volume cooking we might want to keep the temperature for poaching at the high end of the temperature range?

Answer: If cooking lots of product, temperature drops every time product is dropped into the poaching liquid.

Lesson Objective: Review Moist Cooking Techniques. Define and discuss dry cooking methods; discuss dry-heat versus moist-heat cooking or a combination technique as different methods to cook food; Identify which of the three above is most appropriate for specific products; Identify the best/most appropriate dry-heat cooking methods for cooking different cuts of meat

Materials/Tools Needed: White Board, white board eraser and dry erase markers; Pre-write or be prepared to write definitions of Dry and Moist Cooking Techniques; Pre-write or be prepared to write the different moist cooking techniques

Minutes Allotted: 30

Opening:

Recipes often include directions and/or methodology without imparting knowledge: i.e. students can benefit from knowing that a roast utilizes searing and roasting techniques while a pot roast utilizes a combination of dry (searing) and moist (simmering) techniques = braising (same for stewing)

Quick review: ask for moist heat definition and examples

Instructional Procedure:

Ask for dry heat definition and ask for examples (new material):

- Baking – Cook by surrounding with hot, dry air (breads, pastries, desserts, vegetables and fish)
- Broiling – Cook by hot, dry radiant heat from above
- Deep Frying – Cook by submerging in hot oil, usually oil temperature is between 350˚ to 375˚ F
- Grilling – Cook by using hot, dry radiant heat from below
- Pan Frying –Cook food in hot oil, usually in a pan where oil should come 1/3 to ½ way up the sides of the food
- Roasting – Cook food uncovered and surrounded by hot, dry air (meat, poultry and vegetables and occasionally fish)
- Sautéing – Cook quickly in a small amount of fat, sometimes includes browning. In French, sauté means “to jump”
- Searing – Cook by browning the surface of a food at a high temperature, usually refers to meat where searing can be achieved in an oven at high temperature or in a pan with a small amount of fat, again at high temperature
- Stir frying – Cook quickly in a small amount of fat, similar to sautéing, usually in a wok (rounded bottom, high sided pan); the technique usually involves moving food quickly and frequently to cook frequently (i.e. small cuts of meats and vegetables), incorporating a sauce at the end

- Sweating – – Cook slowly in fat without browning, usually pertains to mirepoix, in French refers to aromatic vegetables, i.e. onions, carrots, celery and sometimes leeks and garlic; usually the foundation of a soup, a long braise meat dish or a reduced sauce
- Combination Techniques: Braising and Stewing (if time permits, Ask participants to define, keep it short and sweet)
- Braise: To cook cuts of meat covered in a small amount of liquid after browning
- Stew: to cool cuts of meat covered in a small amount of liquid after browning (the liquid usually becomes sauce for the dish)

So, what's the difference? (the size of the cuts of meat)

Ask: why browning? Answer: It creates flavor

Browning produces a "fond", or the browned bits of meat and vegetables that stick to the bottom of the pan after browning. The official definition of "yumminess"

If time allows, discuss:

- Combination Cooking techniques
- Browning-Enzymatic-Sugars (caramel)
- Proteins (Maillard Reaction)
- Non-enzymatic browning (apples, potatoes, etc.)

Plus: Meat as Food. What is the definition of meat? Muscles of animals as food considered socially appropriate-culturally, socially and in historical context.

Lesson Objective: Participants will be gaining an understanding of the comparative qualities of grains and legumes. After this session, participants will be able to: Define grains and all the parts of a whole grain and what nutritional elements each part offers. Define the difference between whole and refined grains. Define and identify various legumes and their different forms and Define the nutritional elements that legumes offer.

Materials/Tools Needed:

1. Legume and grain kit: 1-2 Tbs. of at least 6-7 each of grains and dried legumes, packed in either small clear plastic bags or clear 2-oz. Soufflé cups with lids on a tray or half sheet pan
2. Visual of a whole grain showing the hull, bran, germ and endosperm (durable or drawn on WB or FC) with nutritional info of each part
3. Definitions of grains and legumes written on white board and/or flip chart. Either option should allow the instructor to add drawings and info during the course of the lesson
4. 1-2 examples (2-3 pieces of each) of immature and matured legumes, i.e. snap peas, snow peas, fresh garbanzos, fresh soy beans,(edamame), green beans, etc. Basic bean cookery visual or hand-out (or reference to the website where recipes live?)

Minutes Allotted: 20

Opening: With the new regulations regarding whole grains in school meals all food service professionals need familiarity with grains and legumes so they can define and identify them. The ability to distinguish between grains and legumes may determine best cooking method (i.e. orzo vs. rice). Grains and legumes served together offer protein values that equal meat and are less expensive than meat (which makes it a great school menu item.)

Instructional Procedure, Presentation of Material:

Define Grains: The hard seeds of cereal grasses, originally wild that people have cultivated to feed themselves (Pre-written on WB or FC before the lesson)

Define Legumes: A plant or the fruit of a plant that produces a pod with two seams with a single row of seeds inside (pre-written on WB or FC) Legumes come in three shapes: round, oval and disk-shaped (Draw the shapes on the WB or FC)

Legumes also come in three different forms of maturity: (Show an example of each)

1. Immature (do not mature on the plant), commonly referred to as vegetables and the pods as well as the seeds are eaten, found in the produce section of the market.
2. Fresh (mature) are seeds that are shelled from the pod and usually, depending on the area, appear in late spring through fall and are more tender and sweeter than dry beans.
3. Mature (dried) are usually found in the bulk or dry goods part of markets and are the dried seeds found

in the pods that hang from the plants. They can be stored for long periods if stored in dry and airtight containers.

Why serve legumes in schools? (Ask the question and see what you get…)

Look for these answers:

- Legumes are high in fiber and protein, vitamins and minerals
- Legumes are low in fat
- When served with whole grains offer protein values that equal meat
- Inexpensive and are therefore a great protein source for school menus

Then add the following info to their arsenal of knowledge

1. Legumes are one of the oldest crops known to man and can be traced back to our earliest known cultures and civilizations
2. Over seventy five per cent of our diets in the world are made up of grains and legumes as the primary source of protein, because meat is either unavailable or too expensive
3. A legume is actually a fruit and when they grow naturally; the pods dry out and split, releasing the seeds into the soil to become the next generation of the crop
4. The great thing about legumes is that they are easy to cook (Review visual showing basic bean cookery) Cross reference moist cooking techniques used for cooking dry beans (Boil and simmer) Omit if time becomes an issue and just post the visual in the kitchen

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Ask for two volunteers to work together to separate the grains and legumes from each other with no input from the rest of the group; As they work, reference and reiterate the definition of both grains and legumes as that might assist in their decisions; Ask the rest of the group to validate the choices and to correct as needed. If there are any inaccuracies, the instructor makes the correction(s)

Make a determination about the group as to whether it's a vocal and volunteering group or a shy and reluctant one.

Based on that determination (if its vocal) ask the group as a whole to identify the various grains and legumes or ask for two volunteers (if the instructor believes that the shy members will not be overly embarrassed)

Pick one of the grains and/or legumes and talk about it……the most likely and pertinent one will probably be oats: Discuss differences among: Groats, Old fashioned oats, Quick cooking oats and Instant oats.

Lesson Objective: Understand the definition and concept of Time Management, as well as be familiar with each Time Management term and definition, in relationship to a kitchen/food system setting.

Materials/Tools Needed: Flip chart or dry erase board/markers and or dry erase markers, 4 classroom white boards/dry erase pens for 4 groups. 4 scenarios for Prioritization exercise.

Minutes Allotted: 45

Opening:

We create this common language, using these terms in communication and in practice throughout the week.

Start by asking the class if anyone ever feels like they need more hours in the day.

Instructional Procedure:

- Share a definition of the word time and also a definition of the word management.
- Time = measurement
- Management = take care of
- Ask if anyone in the class thinks they are especially good at time management
- Encourage the class to take notes.
- Then, on a white board or flip chart, join the two words and give a short anecdote about your own time management experiences or needs. (A good time to share that an exercise will be in their near future).
- Spend a moment asking class to share an instance they might use time management in their school kitchen. Introduce the terms, on a flip chart or pre-written on a white board.
- Depending on audience, either read through each term with definition, or ask for a volunteer to read the first three terms/definitions. Move through the class, having volunteers read aloud. Then go back to the beginning, and walk through each term, adding an example of how this works in a kitchen.

Closing Summary: (Review of key lesson points)

As you can see, all of these terms and definitions will allow us to create a common language this week. We will put the definitions into practical application and experience. Learning and using these terms will help you to understand how they are important for communication in the kitchen setting, and for problem-solving.

How many of you knew you would be learning a new language this week? We are excited to watch these terms become part of your daily communication.

At this time, I would like to announce a friendly competition. Each of you have a small note pad with you at all times, whether in the kitchen or in the classroom. We will split into cooking groups, and please choose one

person to be the tally master. As a group, all day this week, you will listen for anyone in our boot camp to use a Time Management term, and quietly tally in your own notebook.

On Friday, before graduation, your tally master will take all of your totals and sum them up. We will then announce the winning team. This is a friendly, honor-based competition. Have fun!

Lesson Objective: Students should begin to be familiar and have some context for 18 time management terms with specific definitions, and how toapply in both kitchen setting and personal setting.

Materials/Tools Needed: Pre written White Board with terms and definitions (or Flip Chart), and chart with only definitions (no terms).

Minutes Allotted: 10

Opening:

Throughout the week of training, a common language is introduced and used. This vocabulary supports the development of communication and understanding of the application of each of these terms. The chef team will constantly use these terms, and encourage the use of terms in both kitchen and classroom. (Cross pollination

is desired whenever possible by using these terms as applicable.)

Instructional Procedure:

Ask the class, “Do any of you ever feel like you could use more hours in the day?” Pause and let them respond.

Ask the class, “Has anyone heard the term Time Management?” Call on someone to offer an explanation of this term. Encourage the response by showing agreement, even if it is described in a different way than you expect. It is the first day, and encouraging participation is key here.

Introduce Time Management by pointing to the fact that it is a compound word, or two words put together.

Break it into two words, on a white board or flip chart, and define Time and Management separately.

Time: An opportune or suitable moment during which an action, process or condition exists.

Management: Control, care, charge, direction, regulation or supervision.

Explain how these two words interact to become the practice of Time Management. Check for understanding. Ask for an example of time management from class. Ask class to turn to the Training Guidebook.

Show the pre-written chart or board with terms and definitions, and begin to read through each one. Complete the list. Depending upon the class comfort, you may ask for class members to read a term/definition out loud, and go through the class that way. Repeat, if necessary, adding information/additional words/anecdotes, if necessary.

Turn chart or erase terms, and add the chart/board that has only definitions. Let class use their book, and fill in terms to match definitions, in organic or popcorn style of communication. End result, your definition list is complete with terms matched up.

Lesson Objective: Using hypothetical scenarios and teamwork, participants will gain practical application experience prioritizing and solving problems employing time management techniques and food safety rules. Students will learn to match a time management term to a specific task, and see the value of prioritizing and sequencing tasks for completion.

Materials/Tools Needed: Guidebook, pens, white board or flip chart, Food Legend Laminate

Minutes Allotted: 25

Opening:

Ask: How many of you have ever come to work and had something happen/not happen that you didn't plan on? Ask for some examples (looking for: someone called in sick, Someone gets hurt, someone forgot to prep something, something goes wrong with refrigeration, etc,pizza shows up too late or burnt, etc)

Instructional Procedure:

Introduce prioritization exercise by describing how a typical day in a school kitchen can be challenging to prioritize.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Describe the exercise:

- Break into 4 equal groups
- Assign a scenario (in guidebook) to each group
- Explain the Food Legend poster
- Each group is responsible for creating a 'plan of action"

Practice: Allow 15 minutes for groups to read and determine what needs to be done with their scenario. Repeat that the desired outcome is to match time management terms with tasks, and to write out the plan of action on the white board.

Scenario 1

Time frame: 8:30-11:30 (3 hours)

2 staff from 8:30-10:30, 1 staff from 10:30-11:30

Lunch served starting at 11:30 am

One oven down (of four)

Frozen chicken was not taken out of freezer in time to thaw, chicken as one of three entrees on menu for lunch

Garden GEM brings in a box of radishes

100 Breakfast burritos with beans, rice and cheese wrapped and done by 9:30

Breakfast served at one window 9:35-950

Salad bar set-up by 10:45

Potato salad for 50 made, mayo in pantry,(unopened), eggs, celery

Salsa made by 10:30

40 sack lunches made up for field trip, teacher forgot to order, by 9:15

Scenario 2

Time frame 7:30-noon (3.5 hours)

1 staff 7:30-11, 1 staff 8:30-11, 1 staff 10:30-11:30, 1 staff (2.5 hour) out sick

Lunched served starting at 11:35

Spaghetti sauce forgotten to thaw for lunch

Produce supplier brought wrong order, but manager kept the produce. Cauliflower instead of broccoli, 25 pounds for lunch service

125 bagels with cream cheese spread and placed in wax bag for breakfast service, 2 stations from 8:55-9:10

75 Deli sandwiches, with mayo, mustard, lettuce pickle, wrapped in was paper

Bar-b-que sauce prepped and made for next day service, appropriate cooling and storing

Mandatory emergency meeting for all present staff called by Food Service Director, 15 minutes

Reach -in refrigerator reads 43° on thermometer at log time

Protein prepared for salad bar, your choice

Scenario 3

Time frame 9-12 (3 hours)

2 staff 9-10:30, 1 staff 10:30-12:30, 1 staff 11-1 pm

Fire drill, takes everyone present out of building for 15 minutes

Orange cranberry bread stored in refrigerator, has been on bottom walk-in shelf & has some sort of liquid pooled on top of loose saran wrapping

125 Breakfast sandwiches, egg and cheese , made and in warmer by 10:15

Salad bar refrigeration is not working

200 Chicken Caesar salads assembled for grab and go, by noon

Roast pork BRTs (3) for pozole tomorrow

2 dressings made from scratch, 1 quart each for service today

Carrots ordered for salad bar do not arrive

Staff member cuts finger, draws blood

Working manager called out for meeting, 20 minutes

Lesson Objective: Students will learn which types of measuring tools are appropriate for specific tasks by practicing measuring volume and weight, using kitchen tools to measure in customary units. They will practice performing calculations using measurements and convert a measurement from one unit of measure to another.

Materials/Tools Needed: Teaspoon, tablespoon, dry measuring cups, liquid measures (pint, quart, gallon), portion scoops, ladles, mechanical, digital, and balance scales, various sizes of steam table (hotel), pans, calculator, timer

Minutes Allotted: 20

Opening:

Accurate measurement of ingredients used in recipes is key to maintaining consistency. Consistency is necessary in school food service because: 1. Children like it 2. Reimbursement depends on it

Understanding the standard measures used in a kitchen setting will be beneficial in all aspects of recipe development, food production, purchasing and cost control.

We will be using common kitchen tools to demonstrate the measurement of ingredients.

You will be calculating measurement equivalents by using multiplication and division along with simple arithmetic

Instructional Procedure:

CULINARY BOOT CAMP

Display all measuring tools and equipment. Arrange equipment by liquid measure, dry measure, and weight measure

Ask:

- Why are these tools arranged like this?
- What types of food products would we measure with each device? Why?
- Regarding liquid measures, can you distinguish smaller to larger volumes?
- Can you determine volume equivalents
- Dry Measure vs. Liquid . Discuss differences
- Weight (scaled) measures (pounds/ounces)

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Demonstrate proper use of all measurement tools

Turn to page 98 – quick culinary conversions

Give quick 5 question pre-test

Lesson Objective: Student understanding that for volume cooking and school food production, understanding the importance of specialty scoops, spoons, tray sizes, cutting and portioning can encourage efficiency and make the work day easier.

Materials/Tools Needed: Workbooks, scoops, sheet pan, hotel pans, NFSMI Basics at a Glance Chart.

Minutes Allotted: 10

Opening:

Can anyone explain why accurate serving sizes are such a big deal in school food?

Answers: nutrition, reimbursement, not running out or creating needless waste, etc.

One tool for familiarity is the NFSMI Basics at a Glance Chart you all have in your workbooks.

Instructional Procedure:

Everyone turn to pages 36-37 and let's review some of the tools we have at our disposal for accurate portioning.

On the upper left side there is a chart with dishers or scoops. Can anyone tell me what the number on the scoop means?

- Answer: How many LEVEL scoopfuls equals 1 quart.

If you are using a number 8 scoop, how many cups are you serving? (1/2) Ounces? (4)

Who knows what a 2 pan, 4 pan and 6 pan mean? (2.5", 4", 6") Each has an approximate capacity. Now take a look the chart and discuss the capacity of each. Get familiar with the other pan sizes on the right as well.

Now that we know scoop sizes and pan capacities lets do some math:

- 100 kids need to be served a 4-oz portion of veg how many ounces do we need? (400-oz)
- How many gallons would that come to? How do you figure that out? 400/128=3.125 gallons (AKA 3-1/8th gal)
- You started with a 4" hotel pan. Will that be enough? (a 4" hotel pan holds 3.5 gallons)
- What would happen if you accidentally used a #6 scoop?
- What would happen if you accidentally used a #12 scoop?

Finally, take a look at and familiarize yourself with some sample cutting diagrams in the basics chart. These will be a big help when you are in the kitchen later this week

Scoops (Dishers)

Size/No.[1]	Level Measure	Color Code[2]
6	2/3 cup	
8	1/2 cup	
10	3/8 cup	
12	1/3 cup	
16	1/4 cup	
20	3-1/3 Tbsp	
24	2-2/3 Tbsp	
30	2 Tbsp	
40	1-2/3 Tbsp	
50	3-3/4 tsp	
60	3-1/4 tsp	
70	2-3/4 tsp	
100	2 tsp	

[1] Scoops are left or right hand or squeeze type that can be used for both hands. Number on the scoop indicates how many level scoopfuls make one quart. For example, eight No. 8 scoops = 1 quart.

[2] Use colored dots matching the brand-specific color coding of scoop sizes.

Ladles Portion Servers

Ladle fl oz	Approx. Measure	Portion Server fl oz
1 oz	1/8 cup	1 oz
2 oz	1/4 cup	2 oz
3 oz	3/8 cup	3 oz
4 oz	1/2 cup	4 oz
6 oz	3/4 cup	6 oz
8 oz	1 cup	8 oz
12 oz	1-1/2 cups	—

Ladles and portion servers (measuring-serving spoons that are volume-standardized) are labeled “oz.” “Fl oz” would be more accurate since they measure volume, not weight.

Use ladles for serving soups, stews, creamed dishes, sauces, gravies, and other liquid products.

Use portion servers (solid or perforated) for portioning solids and semi-solids such as fruits and vegetables, and condiments.

Cooking or Serving Spoons

Solid Spoons

Perforated Spoons

Slotted Spoons

Spoons vary in length (11", 13", 15", 18", 21") for ease of use in cooking or serving. Spoons can have plastic handles that are heat-resistant. Level scoops, ladles, and portion servers provide more accurate portion control than serving spoons that are not volume-standardized measure.

Specialty Spoons

A thumb notch on a server or spoon handle prevents the spoon from slipping into the pan and prevents hands from sliding into the food. Triple-edge (solid or perforated) spoons have a flat edge that increases the area where the spoon touches the bottom of the pan when stirring.

Lesson Objective: For students to achieve a working familiarity with the QCC chart and understand its use.

Materials/Tools Needed: Workbook chart , calculators, white boards

Minutes Allotted: 10

Opening:

A little later on today we will be learning to take a standardized recipe and scale it up or down (i.e. change the recipe to make a fewer number or greater number of portions.)

Before we do what it is important that everyone:

a) Understands abbreviations of standard units, i.e. teaspoons,tablespoon, cups, quarts, etc. (Look on the right side). If you are accustomed to using the metric system this can be doubly difficult.

b) Understands the difference between volume measurements (like an 8-oz cup which is a volume measurement) and weight measurements (like 1/2 pound, also 8-oz.) Many recipes use both of these and this can be very confusing

c) Begins to work towards a familiarity with the relationships among measurements. (E.g. 1 tablespoon = 3 teaspoons)

Future recipe conversion lessons and exercises will be faster and easier using this chart.

Instructional Procedure:

The best way to get started is to start on the left hand side of the top row and begin reading from left to right. All of the measurements on each row are equivalent, meaning that they are the same.

Somebody begin reading from left to right beginning with “3 teaspoons”. We can easily see that 3 teaspoons is the equivalent of 1 tablespoon and that 1 tablespoon is the equivalent of 1/2 fluid ounce (remember that fluid ounce is a measurement of volume)

The best way to get familiar with the chart is for me to call out a measurement and you respond with it’s equivalent.

For example: If I say “How many ounces in a cup? You look to the row with “cup” and then you can see what the equivalent number of ounces are.

You also see that there are ____tablespoons in a cup. Now grab your calculators and tell me how many teaspoons are in a cup. Since we know that there are 3 teaspoons in a tablespoons, how would you arrive at the answer?

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

How many: tablespoons in a cup? Cups in a pint, Pints in a quart, Quarts in a gallon, Pints in a gallon, Fluid ounces in a quart, Tablespoons in a quart? Teaspoons in a quart, etc.

Continue this for as long as needed.

Closing Summary: (Review of key lesson points)

Did anyone here have to memorize Times Tables?

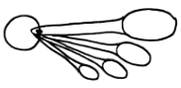
If you did then you know the value of just "knowing" that 6x6=36. You don't have to think about it or use a calculator.

That same value exists in just "knowing" that there are

- 3 teaspoons in a tablespoon
- 2 tablespoons in a fluid ounce
- 8 fluid ounces in a cup
- 2 cups in a pint
- 16 fluid ounces in a pint
- 2 pints in a quart
- 32 fluid ounces in a quart
- 4 quarts in a gallon
- 128 fluid ounces in a gallon

Quick Culinary Conversions

SCHOOL FOOD
Our Food, Our Future




3 t	1 T	1/2 fl oz	1/32 lb
2 T	1/8 c	1 fl oz	1/16 lb
4 T	1/4 c	2 fl oz	1/8 lb
8 T	1/2 c	4 fl oz	1/4 lb
16 T	1 c or 1/2 pt	8 fl oz	1/2 lb
32 T	2 c or 1pt	16 fl oz	1 lb
64 T	4 c or 1 qt	32 fl oz	2 lb
128 T	8 c or 1/2 gal	64 fl oz	4 lb
256 T	16 c or 1 gal	128 fl oz	8 lb

Abbreviations

Teaspoon = t, tsp
Tablespoon = T, tbs, tbsp
Ounce = oz
Pound = lb, #
Cup = c
Pint = pt
Quart = qt
Gallon = gal
Package = pkg
Each = ea

Metric Equivalents

1 kilo = 2.2 lbs
1 fl. oz = 28 grams
1 lb = 454 grams
1 liter = 34 fl. oz.

CULINARY BOOT CAMP

Lesson Objective: Participants will learn to take an existing recipe and change the yield to a larger or smaller number using a formula and conversion factor.

Materials/Tools Needed: Calculator, Training Guide Book, White board/Flip chart (pre written with the Conversion formula- New yield over Old yield =Conversion Factor), appropriate pens

Minutes Allotted: 25

Opening:

In the school kitchen, participation numbers fluctuate on a daily basis. A working knowledge of recipe conversions allows for accurate yields and accuracy in ordering.

Scaling a recipe from its existing yield is necessary when working with varying participation numbers/meal needs, and when adding new recipes.

Ask class, “Have they ever had to make a recipe for a party for more people than they normally feed at home?” Pick one of the people that answer, and ask them what the recipe was. Write that recipe down on board.

Ask, “How many people that recipe is usually made for?”

Reply, “That is the yield of the recipe. Yield is how many portions are in the recipe makes as it is written.” Write that number down on board.

Explain how the yield can go up or down, with just a bit of math, and something called a Conversion Factor.

Instructional Procedure:

Write Conversion Factor on board. Define conversion as change, and factor as number. Explain that a conversion factor is nothing scary, it is just a number that allows us to change the yield of a recipe.

Offer the pre-written conversion formula and walk class through it, reading slowly, and explaining, if necessary, what a yield is, etc. Use the recipe from previous and its yield to plug those numbers into the formula. Class should have their calculators available. Assess the group, and if necessary, walk through how to turn on a calculator, and how to clear, add, subtract, etc..

Take class through the existing recipe yield and divide it by the old recipe yield, leaving them with a new number, the conversion factor. Show class that making the dividing line between the new and old yield (the line that creates the fraction) into a division sign, by adding two dots-one below and one above (÷), will act as a reminder of what step comes next. Point out the written version of the equation on board/flip chart. Explain that this is the only formula you need to change the yield of a recipe.

Walk class through another recipe conversion. Use a recipe from a class member, for participation, and write out the formula. Assume the recipe serves 8 and you want to scale the recipe to serve 64.

Ask, “Where do you put the new, or desired yield?” Answer- on the top.

Ask, “Where do I put the old, or existing yield?” Answer-on the bottom.

Define the fraction you have just created. As with any fraction, to change it you must divide the top (numerator) by the bottom (denominator) . This answer becomes the Conversion Factor, or changing number we need to change a recipe.

Move to a different area of board. Illustrate a rectangle, and write some ingredients in it, including ingredient measurements:

For example (but not limited to)

2 cups Carrots

4 cups Chicken Broth

1 cup, diced onions

8 ounces milk

1 Tbs. chopped fresh fennel

1 tsp salt

1 tsp pepper

1 Tbs. olive oil, for sautéeing

Walk class through the process of taking each ingredient and multiplying it by the conversion factor. Explain that the number you get becomes the measurement for the new yield of the same recipe.

Lesson Objective: Participants will learn to take an existing recipe and change the yield to a larger or smaller number using a formula and conversion factor.

Materials/Tools Needed: Calculator, Training Guide Book, White board/Flip chart (pre written with the Conversion formula- New yield over Old yield =Conversion Factor), appropriate pens

Minutes Allotted: 25

Opening:

- Ask, “Are you feeling secure in your ability to scale a recipe?”. Be prepared to go back to basics if anyone needs more practice.
- Ask students to turn to page 41 in training guidebook. Explain that the page is a practice worksheet Request that they now practice the formula on their own. Give them 15 minutes to do this.
- Walk around the room, and offer assistance, check for understanding, and answer questions.
- Go over the worksheet, ask students to share their process/answers, making sure everyone got the correct answers.
- Always be ready to repeat formula if necessary.
- Ask for three volunteers.
- Invite them to come to board, and practice the recipe conversion.
- Use the resource chapter in Instructor Guide for recipe ideas.
- Encourage their learning!

CULINARY BOOT CAMP

Lesson Objective: To give participants a greater awareness of the amounts of sugar we all consume. Participants will understand how to read and locate nutrient labels, determine portion size, caloric information, sugar content of item.

Materials/Tools Needed: Flip Chart, white board, pens, pre measured sugar props: 1 tsp. (4.2 grams), 6 Tbs. + 1 tsp., 1 Cup +2 Tbs., +1 ½ tsp., 1 pound sugar, 13 pounds sugar.

Participants: Training Guide book, pens, calculators, quick culinary conversion chart.

Minutes Allotted: 30

Opening:

Sugar intake has risen to unhealthy levels in our society. Diabetes and obesity are on an historical rise. This lesson will walk you through a self discovery of your own (or your family's) sugar intake and habits.

We are so accustomed to consuming sweeteners in our beverages that we may not be fully aware just how much sugar they contain. Today we are going to learn how to read a label and calculate how much sugar we actually consume daily. Greater awareness of just how much sweetener we are consuming affords us the knowledge that can motivate a change in behavior/habit.

Instructional Procedure:

How many of you consider yourselves to have a sweet tooth?

Do any of you ever see kids you know from school drinking those big ice teas? Write Ice tea on board

Does your school still serve chocolate milk? Write chocolate milk on other side of board.

Introduce the importance of reading labels. Ask for a show of hands to see how many people do already read labels. Ask them what kind of information they find. (Nutrient information, vitamin %, calories, portions, fat %, sugar content)

Turn to page 44 in Training Guidebook. Read the top portion sugar at a glance), and rewrite on board, with plenty of room around it.

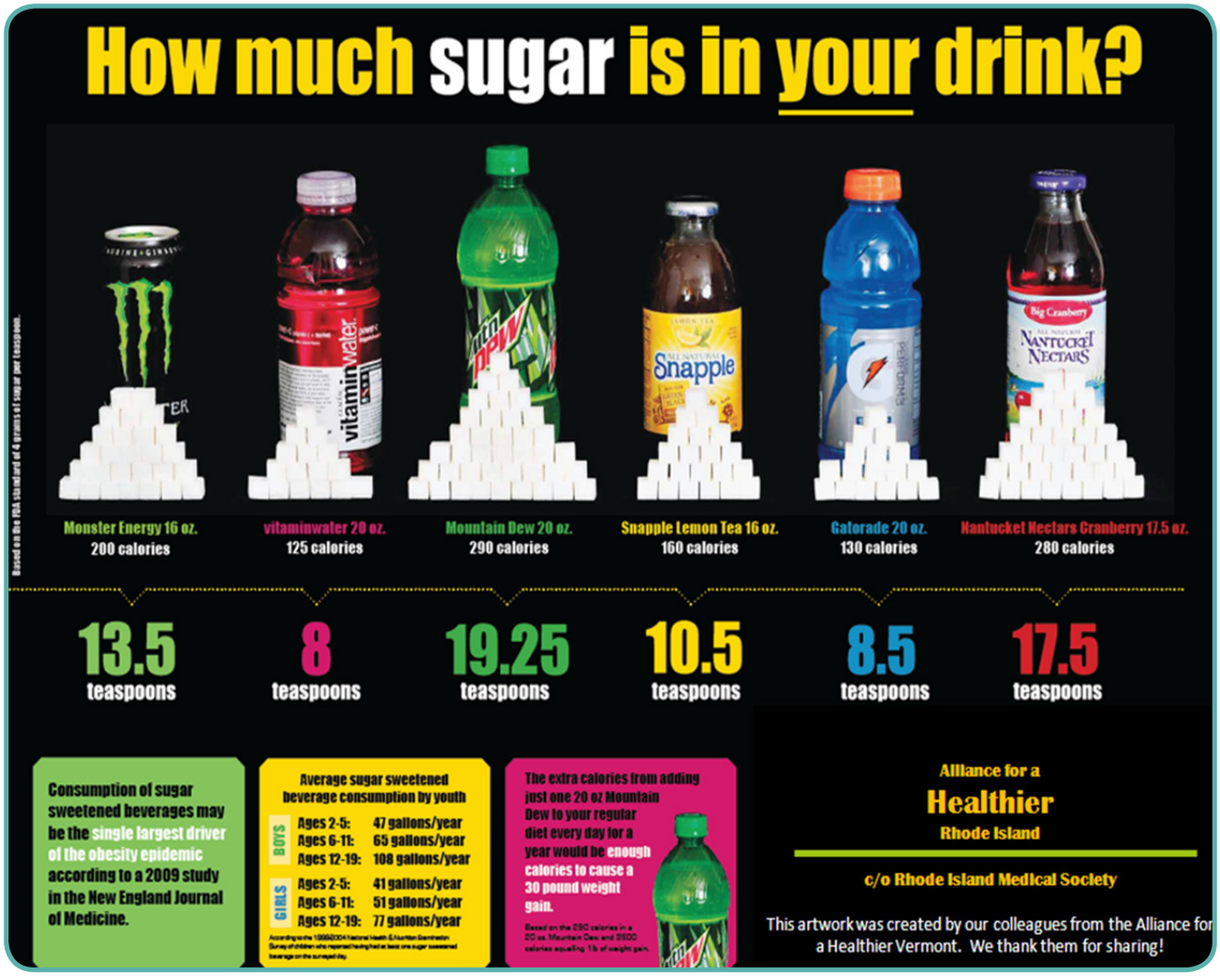
Ask," If we know 1 teaspoon of sugar = 4.2 grams, how can we find out how many grams are in 10 teaspoons?"

Answer: multiply!

10 teaspoons of sugar is how many grams?

Answer: 10 teaspoons.

Encourage questions. Go though the first half of page 44, and have students do the first three equations.



Check for understanding.

Use flip chart with chocolate milk versus white milk details. Go through the equations on flip chart, passing around the sugar props at appropriate intervals. Save the 13 pound prop for later.

Take them through the second portion, doing the problems yourself on the board, reading aloud as you go. Check for understanding.

Go to page 45. State that in this lesson, we want to show just how much sugar can be consumed without really even thinking about it. Ask for input or guesses regarding where extra sugar can be hiding. Write on board

Go to the Training Book page 45

Do all questions with class on page 45.

Lesson Objective: Students will gain the ability to navigate using the Book of Yields, to use math for comparison of savings and understand the monetary savings when making scratch beans vs. canned.

Materials/Tools Needed: Flip chart, Book of Yields, calculators, #10 can of dry beans, dried equivalent of one can of beans

Participants: Training Guide book, pens, calculators, quick Culinary conversion chart.

Minutes Allotted: 30

Opening:

How many people have ever cooked dried beans at home? Why? (Because it's more cost effective, tastes better, healthier (less salt, no preservatives).

All F.S. employees regardless of position should be cognizant of cost controls and savings strategies in the kitchen. Buying and cooking legumes in bulk is an important tool in our cost control toolbox.

Instructional Procedure:

Have participants do work in their notes page and have calculators.

Show enlargement of Book of Yields chart. Point out:

1. Cost of a case of canned beans (24.85)
2. Have participants divide 24.85 by 6 cans/case (4.14 per can)
3. Point out: Drained weight of #10 can (68 oz.)
4. Have participants divide 4.14 by 68 oz. to get price per oz. of canned beans (.0608 cents per oz.) Remember that number!
5. Point out: Price per pound of dried beans (1.09 lb.)
6. Point out: 1 lb dry beans = 7.5 cups cooked and that 1 cup is 6 oz.
7. Have participants multiply 7.5 cups times 6 oz. per cup (45 oz. yield per lb.)
8. Have participants divide 1.09 (price per lb) by 45 = (.024 cents per oz.) Remember that number!
9. If a serving of beans is 3 oz. and a district serves beans 2X per week for 15,000 students how many oz. are served per week? (3 X 2 X 15,000 = 90,000 oz.)
10. How much per week for dried beans? (90,000 X 02.42 = $2,178)
11. How much per week for canned beans? (90,000 X $06.08 = $5,472)
12. What is the savings if dried beans are served? 5,472 - 2,178 = 3,294 per week!
13. If a school year consists of 40 weeks, and beans are served twice a week, what is the savings? (3,294 X 2 = 6588) x 40 = $263,520

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

By following along using calculators and taking notes in manual

Closing Summary: (Review of key lesson points)

This exercise can be done with any recipes

Can you think of any other food that can offer a savings when cooked from scratch? (at home or at school)

Hamburger patties

Grated cheese

Salad dressings

Others…

Lesson Concept: Historical and present perspective on our nation's Food System.

Lesson Objective: Participants should have a clear perspective on how our food system works, with regard to farmer, harvester, processor, packaging, transportation, storage, warehouse, wholesaler, retailer etc...all the way to consumer.

Lesson Rationale: Materials/Tools Needed: Instructor: Pre written flip chart/white board, pens, easel ,2 Nourish laminated posters on wall. Participants: Training Guidebook, pen

Minutes Allotted: 45 **Workbook Page:**

Opening:

It is important that those working within the NSLP have a working knowledge of the nation's food systems to gain more understanding and motivation to cook from scratch.

Instructional Procedure:

- Ask, "Has anyone in this group ever known someone in the farming industry? ", or "Does anyone have a relative or ancestry in the farming industry? "
- Let group answer, and pay attention to who volunteers information.
- Tell a story of how our historical relationship with food and each other was much simpler. Include details of how it looked a hundred years ago:
- We knew our neighbors (and who was growing our food) (relationship)
- We had a sense of community (we relied on each other)
- We had trust (communities were small and trust was built by relationship)
- We shared the bounty (neighbors/farmers shared grown food with each other) (even shared seeds)
- We ate what was in season (seasonality)
- Ask for a volunteer to come join you up in front of classroom. Explain to volunteer and class that you and they will act out a skit, depicting a conversation that would have happened when life was simple, relational and food was fresh!
- Encourage the volunteer to 'follow your lead'.
- Greet the person with a hello and how are you?
- Volunteer responds. Say things like, "How are you doing? How is the family?"
- The purpose of this exercise/skit is to illustrate how the relationship with our food and community was before our food system changed into what is our present day food system..

- Make the lesson your own. Use your own experiences or family history to create a conversation that includes the above points.
- Ask how their family, especially their new baby, is doing? Volunteer responds.
- Offer a basket of freshly picked tomatoes, sharing that you have more than you can eat right now, and they are beautiful. Would they like some for their family? Volunteer responds.
- Thank volunteer for their participation.
- Next, ask for 7 more volunteers, and hand out the food system cards, from Grower to Disposal.
- Each volunteer gets a card, and the class needs to put them in sequential order. As this unfolds, be ready to take the exercise to the next point. How many cards are necessary in our present food system? Talk about each one briefly.
- Then ask the class how many cards (9 processes) could be removed if we shopped at a farmer's market, or grew our own? Have those identified card holders step away from line. This shows the complexity of our food system today, and is extremely effective in setting the tone for the rest of the lesson.
- This exercise leads class into a discussion period, where participants lead the discussion, and teacher

INDUSTRIAL FOOD SYSTEM

GROWING	HARVESTING	TRANSPORTING	PROCESSING	PACKAGING	WHOLESALING	RETAILING	EATING	DISPOSING
Growers use heavy equipment to prepare soil, and plant and maintain crops on huge farms of single "monocrops." →	Farm workers gather the ripened crop from the field using large machinery, harvesting great quantities at once. →	Transportation workers move the food by air, truck, train, ship, or barge. Transporting may happen at many steps and for very long hauls. →	Food processors use factory equipment to chop, grind, dry, boil, can, or freeze food to preserve it or to make it more convenient. Processed food is often greatly altered from its natural state. →	Workers operate machinery to put food into cans, bags, boxes, or other containers for sale. The packaging protects food and helps sell it. →	Wholesalers sell and distribute large quantities of foods to stores. →	Retailers sell foods to customers, usually in supermarkets, grocery stores, or other stores. →	People buy, prepare, and eat the food. →	People discard leftover food and packaging. While most is recyclable or compostable, much of it ends up in landfills. X

Lesson Objective: To create awareness of the economic impact of purchasing goods and services in one's own community

Materials/Tools Needed: Whiteboard, flip chart, student workbooks

Minutes Allotted: 20

Opening:

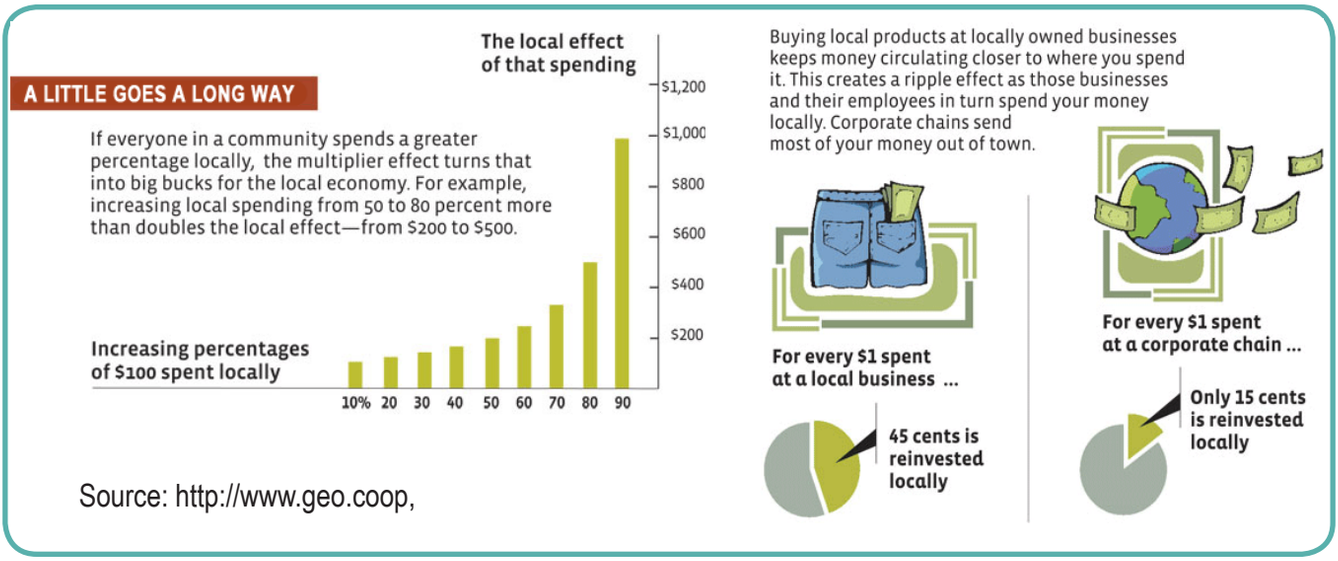
Every dollar we spend has the power to influence our community. Whether we realize it or not, we are shaping the world we live in each time we make a purchase or pay for services. Economic growth resulting from a strong local economy increases our standard of living by improving city services such as parks, police, and fire protection

The Local Multiplier Effect (LME) is a very valuable, hidden feature of our economies. The term refers to how many times dollars are recirculated within a local economy before leaving through the purchase of an import.

Instructional Procedure:

Famed economist John Maynard Keynes first coined the term "Local Multiplier Effect" in his 1936 book The General Theory of Employment, Interest and Money.

The Local Multiplier Effect is the economic term used to describe how many times a dollar recirculates within the local economy before leaving. The beauty of this system is that we all have the power to improve our local economy because each new round a dollar makes has the same impact as a new dollar coming into the community.



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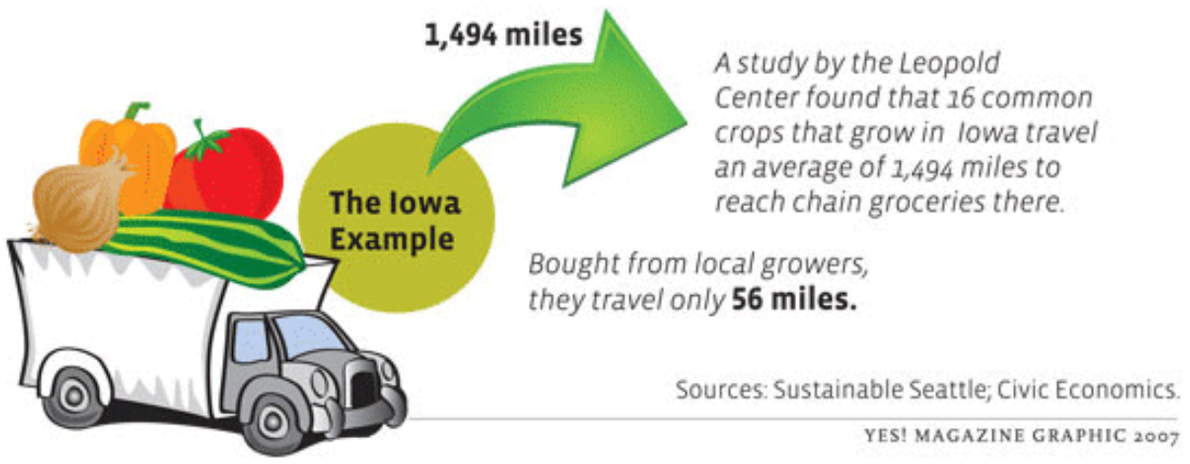
CULINARY BOOT CAMP



100% of our dollar is lost from the local economy each time we spend money outside of our community (on-line purchases, shopping in a bigger city, using services from out of town).

Imagine a hypothetical influx of money, say one million dollars, entering a local economy. Now imagine these dollars are spent on local goods and services. Imagine that each of the local vendors who earned those dollars then re-spends that money on more local goods and services. Envision this cycle happening several times before this money is finally spent on imports – goods or services from outside the region.

In this case, those one million dollars recirculating eight times would act much like eight million dollars by increasing revenue and income opportunities for local producers.

Now another scenario: picture that same amount of money being spent immediately at stores (or online) with businesses headquartered in other regions on imported goods. These transactions would add very little or no value to the local economy; one million dollars would act just like one million dollars instead of several million dollars.

Two studies comparing locally owned businesses with nationally owned bookstores in Texas and Maine showed that $100 spent at a national retailer yielded a return of about $15 to the local economy while the same amount spent at a locally owned business yielded a return of about $45. The reason for this difference is that local retailers are much more likely to use local services such as accountants, banks, bookkeepers, and advertising. These businesses are also more likely to purchase office supplies or other materials they need locally.

It is inevitable that some of our money is going to leave the area eventually, but the longer we keep it here the more good it does for our local economy. Not only are you getting the freshest, tastiest tomatoes available when you shop at the farmers' market. You are also supporting our local economy by giving your dollar another chance to travel through town.

Lesson Objective: Understanding what to look for when reading a label. Familiarization with the information available on a food label and how to interpret the information.

Materials/Tools Needed: Whiteboard, flip chart, student workbooks, various products/packaging

Minutes Allotted: 20

Opening:

It can be overwhelming to look at a label and see unpronounceable ingredients and nutritional analyses but with a little practice, labels can help us make wise choices. If we know how to read and decipher food labels, we can start to "do the math." Remember, reading labels and knowing what we are putting into our bodies (and our family's bodies) are a valuable source of empowerment.

- If we can incorporate this activity as a habit in our daily lives, we can nourish ourselves and our loved ones by making informed choices.
- On a product label, the ingredients are listed in order of predominance, with the ingredients used in the greatest amount first, followed in descending order by those in smaller amounts.
- The first place to start when you look at the Nutrition Facts label is the serving size and the number of servings in the package.
- Serving sizes are standardized to make it easier to compare similar foods. They are provided in familiar units, such as cups or pieces, followed by the metric amount, e.g., the number of grams.
- The size of the serving on the food package influences the number of calories and all the nutrient amounts listed on the top part of the label.
- Pay attention to the serving size, especially how many servings there are in the food package.
- Then ask yourself, "How many servings am I consuming or serving?"
- % Daily Value (DV) defined: the daily value is the FDA's recommended amount of a given nutrient that a person should intake each day based upon a 2,000 calorie diet. An individual's age, height, weight, sex and other factors will determine his or her actual daily requirements of any given nutrient.
- When you see Daily Value on a food label, it will be listed as a percentage (%) of daily value, which means that one is receiving this % of the recommended amount in each serving.
- Eat *at least* the daily value of other nutrients such as protein, vitamins, minerals and dietary fiber.
- Nutrients like fat, sodium, sugar and cholesterol should be limited to *no more* than 100% of the daily value. Think of it as a daily limit.

Serving Size

This number is at the top for a reason: The nutritional information on the rest of the label applies to one serving. The FDA sets serving sizes for all foods—they are measurements, not recommendations. Total calories are calculated per serving, as are total calories from fat, so be sure to look at the servings per container. A bag of potato chips might say it has 150 calories per serving, but the entire bag might be three servings, or 450 calories.

Percent of Daily Value

This is calculated for a moderately active woman, or a fairly sedentary man, who eats 2,000 calories a day. (Highly active women, moderately active men, and growing teen boys may need closer to 2,500 calories a day.) A serving of Cheerios with ½ cup of skim milk gives the average adult just 3 percent of the daily value of fat intake and 11 percent of the daily value of fiber intake recommended by the U.S. Department of Agriculture (USDA).

Protein

In general, .45 gram of protein daily per pound of body weight (that's 68 grams for a 150-pound person) is plenty of protein, even if you're breast-feeding or physically active. Most Americans get enough protein effortlessly (unless they're vegetarians). And it's rare for people eating a normal diet to get too much.

Fat

More important than total fat are the numbers for saturated, polyunsaturated, monounsaturated, and trans fats. You want to see that the food contains relatively little saturated fat and trans fat, and relatively more polyunsaturated and monounsaturated. Keep in mind that "fat-free" doesn't equal "calorie-free." Many fat-free and low-fat foods have added sugar.

Cholesterol

This is a fatlike chemical that's an essential component of cell membranes, a covering for nerve-cell fibers, and a building block of hormones. Only animal products contain cholesterol. Adults are advised to limit their daily intake to 300 milligrams. Too much can elevate your blood cholesterol, raising your heart-disease risk.

Sodium

The recommended daily limit for an average adult is 2,300 milligrams; too much sodium can cause high blood pressure. By the USDA's reckoning, a food is low in sodium if it contains no more than 140 milligrams. (A serving of Cheerios has 210 milligrams and is therefore not low in sodium.) A single serving of soup or a frozen dinner may contain 1,000 milligrams or more of sodium, which is nearly half the daily limit.

Exchange

This information, listed voluntarily by the manufacturer, is for people with diabetes. The food-exchange system categorizes foods into food groups. A nutritionist may counsel a diabetic person to eat eight exchanges of starch per day, for example. A bowl of Cheerios would take up 1½ of those exchanges in a 1,600- to 2,000-calorie-a-day diet.

Lesson Objective: Have a general understanding of why the NSLP was created, its challenges and current direction.

Lesson Rationale: Materials/Tools Needed: Whiteboard

Minutes Allotted: 15

Opening:

Having a general knowledge of the history NSLP helps put our current status and challenges in perspective

Write on board: Over 31 million meals a day, 6 Billion lunches a year. Since program began: over 219 Billion (48% Under 10 years old.)

All schools that participate in these programs are required to offer free and reduced-price meals to low-income children, adhere to federal nutrition standards, and to implement wellness policies that promote healthy school environments. Although the CNA has permanent authorization, it is reauthorized on a rolling basis every five years, giving Congress the opportunity to review and amend it. The last reauthorization was in 2010 when the CNA was reauthorized under a new name, the Healthy Hunger-Free Kids Act. Changes to both nutritional standards and funding were included in this.

Instructional Procedure:

- As early as the 1850's some schools began serving food to kids through the children's' aid society as an inducement to get children to attend school.
- During World War II, at least 40% of rejected U.S. military recruits were turned away for reasons related to poor nutrition. Stunted growth and muscle weakness were among the most common problems. In 1946,

military leadership urged Congress to pass the NSLP to improve the health and well-being of our nation's children.

- Although federal support for school lunches began in the 1930s Congress formally created the National School Lunch Program in 1946 as "a measure of national security, to safeguard the health and well-being of the Nation's children and to encourage the domestic consumption of nutritious agricultural commodities and other food."
- For the first two decades of its history, the program primarily functioned as an outlet for surplus commodities from America's farms, rather than a child nutrition or welfare program. The commodity program was developed to provide low or no-cost food items to the NSLP while also providing a guaranteed market for agricultural products.
- The Department of Agriculture, farm lobbies and Southern Democrats believed that government price supports were essential for the prosperity of American farmers, and school lunches would serve as a market for government-purchased, surplus agricultural commodities. The political pull of these farming interests was central in the National School Lunch Act's passage.
- During the late 1960s, a series of legislative changes amended the National School Lunch Program:
- On October 11, 1966, President Lyndon B. Johnson signed the Child Nutrition Act of 1966 which established the School Breakfast Program (SBP).
- The Child Nutrition Act of 1966 also authorized the Special Milk Program that provided milk free of charge or at a low cost to children in schools and child care institutions
- Since the 60's the NSLP has come to the nation's attention a few times:
- In 1971 amendments to the Child Nutrition Act made it possible to provide Free and Reduced meals to all needy students.
- Reagan's FY1981 budget cut $1 billion from the school lunch program and tasked the USDA with coming up with a solution that maintained nutritional requirements for school lunches in spite of the lower funding
- On September 3, 1981, the Secretary of Agriculture proposed classifying ketchup and pickle relish as vegetables to save money on school lunch programs. (On the day the proposal to classify ketchup as a vegetable was announced, the White House purchased $209,508 worth of new china.)
- 2010, Healthy Hunger Free Kids Act. Will make sure students are offered both fruits and vegetables every day of the week – and increase opportunities to eat whole grains. Substantially reduce the amount of saturated fat, trans-fats and salt in meals. And they'll ensure appropriate portion size, limiting calories based on how old a child is. To drink, kids will be offered fat-free or low-fat milk.
- Starting in the 2012-2013 school year, schools implemented new USDA school meal standards, based on 2009 recommendations from the Institute of Medicine (IOM). As part of the new rule, fruit and vegetables must be categorized separately and the amount of each served in schools will be doubled.
- Federal guidelines governing what and how much kids are served at school are being phased in gradually over 3 years. These updates, the first in fifteen years and based on strong recommendations from the Institute of Medicine - based on the best-known dietary science - include more fruits, more vegetables, more whole grains, low-fat and no-fat dairy and calorie limits.

Lesson Objective: Introduction to the concept of commodity diversion. Demonstration of how much extra money is unnecessarily spent in diverting commodity foods. Demonstrate how diversion reduces food quality. Demonstrate that by not diverting kitchens can control food and ingredients.

Materials/Tools Needed: Whiteboard

Minutes Allotted: 15

Opening:

In order to make the shift to healthy, minimally processed foods and scratch cooked meals school food cooks need to be familiar with how to order and prepare undiverted, whole foods.

Let's talk about something called Direct Diversion. We can break down this phrase by understanding that Direct means "straight" and divert means "not straight". That can be a little confusing, and this lesson will demonstrate just how "crooked" the direct diversion system can be and its economic ramifications and the affect on the quality of the food we serve to our kids.

Instructional Procedure:

Write DIRECT DIVERSION on board with room below. Have the class generate a list of products they use at home or in their schools that have been processed. (chicken nuggets, fajita meat, frozen hamburger patties, frozen pizza, etc.) Write these products down.

•Explain that a direct diversion applies to USDA commodity products. For example, we can ask the USDA to take our order of brown box raw proteins that are free to us and send them directly to an approved vendor for processing. This allows this product to be processed, coated, battered, spiced, ground, formed…well, you get the picture. This processing facility then sends us the finished product, such as a frozen pizza, and all we have

to do pop it in the oven. How wonderful!

Let's think about that. Do you know that anytime you take something that is "free" and send it somewhere to be modified, there is going to be a charge. What would the charge be? Let's examine some facts:

•Processing through a direct diversion facility costs approximately $2.75? a pound. Set aside.

Engage participants to use their calculators and supply you with the answers.

In a new area on board, record the following:

•How many pounds of fajita meat (or hamburger patties, nuggets, etc) does your school go through a day? Note answer on board. * Note, if there is a FSD, use District numbers, not individual school numbers.

•How many days a week do you serve that item? Multiply this answer by previous number.

•How many weeks in a school year? Based on a 180 day school year, there are 36 weeks in a school year. Answer on board. Multiply this number by previous number.

This new number represents the amount of pounds of what would be free product (brown box). Let's multiply this by the charge incurred by the direct diversion facility and what do we get?

This is the $ amount being paid out for processed, rolled, breaded, salted, formed, cooked, sometimes fried, preserved food items.

Ask: How many of your districts have warehouse storage fees for diverted products?

Remember, that charge would also have to be factored in. How about transportation services to get that product from the diversion facility to our warehouse? Another factor. These are hidden costs. Remember when we did the exercise with the Food System process?

Write that dollar amount on board.

Ask: What could be done with this dollar amount in our own schools? Could we perhaps hire someone to help in our kitchen, thus creating a new job opportunity and keeping valuable income in our own community?

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Q and A time for participants

Closing Summary: (Review of key lesson points)

As you can see from this information, there are many facets of how we can order, and how we plan for feeding our kids. As we learned on Tuesday in Culinary Math, numbers don't lie. Dollars are spent one place or another.

Let's use this valuable information to help us shift the mentality that easier is cheaper or somehow better. When it comes to scratch cooking, we know that "easier" may not in fact be any cheaper or really that much easier.

We also know that product diversion causes us to lose control over the quality of the food we serve.

Lesson Objective: To understand why breakfast is important and what components constitute mindful choices

Materials/Tools Needed: White erase board, marker, eraser to create list of breakfast items generated by students

Minutes Allotted: 15

Opening:

"What did our mothers always tell us about breakfast?" It is the most important meal of the day!

Mom was right. We now know that a good breakfast can set the students up for success and provide them much needed nourishment

The term breakfast literally means "break the fast" from the prior night.

We want our students to "break the fast" so that they are not distracted by their hunger and they are ready to be productive and engaged learners.

Instructional Procedure:

Let's look at the components of a reimbursable breakfast meal:

Whole grains, fruit and milk

- The first component is whole grains

Whole grains are more dense in nutrients than refined grains

Because of the fiber content in whole grains, our body digests them more slowly and gives us more balanced energy throughout the entire day

When serving whole grains, including cereals and baked goods, we want to consider what the sugar content is in the product. When possible it is best to serve less than 6 grams.

Consider this: "How would a teacher feel if all 30 of their students came to school on a breakfast that included a Twinkie?" "How would the students' energy level be?" "What would the students' attention span look like?" "How might this high-in-sugar breakfast affect their behavior in class?"

- The second component is milk

Milk contains protein, calcium and vitamin D. Although we can get protein from other sources, it is hard to get all the calcium and vitamin D your body needs without drinking milk. Milk may be the main source of protein in a reimbursable breakfast meal.

- The third component is fruit

A daily serving must be offered at breakfast. As with the whole grain component, we want to consider the

amount of sugar that we are offering. When possible, it is best to offer whole fresh fruit because of the nutrient content, and the fact that there is no added sugar.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Mini-Lecture in the kitchen prior to group production

Ask for examples of good items to be served at breakfast, including the (3) different components and combination of.

Closing Summary: (Review of key lesson points)

Breakfast can help prepare the students to be successful and engaged learners and sets them up for their day with food for their brains and bodies.

Notes and Amendments for Improvement:

Lesson Objective: .Be able to articulate the pros and cons behind Universal Breakfast in the Classroom, The principle behind UBIC, commonly cited reasons why it won't work and the experience and success rates of schools that have adopted it.

Materials/Tools Needed: White Board

Minutes Allotted: 15

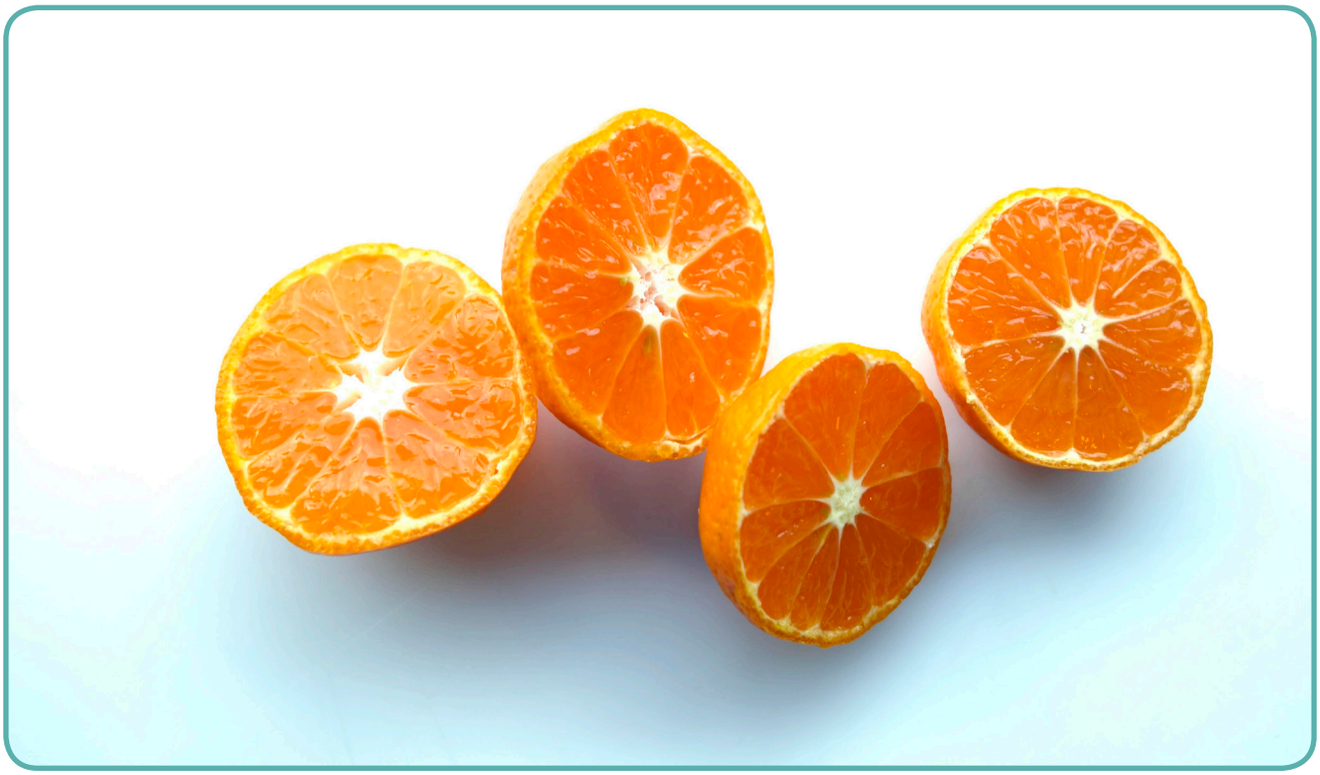
Opening:

Many of you may someday be asked to participate in executing UBIC in your own school. By having knowledge of the program, its pros and cons you may more successfully implement this valuable program.

Ask these questions and conduct a discussion:

- What is the most important meal of the day? Why?
- What happens when kids don't eat in the morning?
- What are some of the reasons kids don't have breakfast?
- What is Food Insecurity?

- Food insecurity is often invisible. (1 in 5 Kids in SB County Don't always know where the next meal is coming from.) Does this statistic surprise you?
- School Breakfast has been available for a long time but in districts where 70% of the kids participate in F & R Lunches, commonly fewer than 30% participate in the breakfast program. Why do you think that is? STIGMA
- It used to be that F&R lunch participants had to present special tickets (Like food stamps). Many kids did not participate fearing being singled out. Now that kids use cards and the stigma isn't there.
- Just free offering breakfast in the cafeteria doesn't always reach hungry children. Often the kids who eat breakfast at school are singled out as kids with home issues, poverty, etc.
- One way to reduce the stigma is to offer all kids breakfast in the classroom. This gives kids an opportunity to eat while attendance is taken, homework is reviewed, announcements read, etc. Takes 10-15 minutes. This time is offset by alert participation and fewer behavioral problems.
- Cite some districts that have done this Maryland, Chicago, LA, etc…as early as 1998 schools in Maryland found that students who ate breakfast in the classroom had better grades, better attendance, less disciplinary problems, etc.
- Specifically: On large district reported 66% less tardiness, school nurse trips down 75%
- One teacher said, " When one student acts out due to hunger all teaching stops. When all children have eaten I can teach for the entire morning.



Lesson Objective: Knowledge of the existence of wellness policies in general, and specifically that each attendants' own district has a policy crafted with input from teachers, public, food service workers, etc.

Materials/Tools Needed: Guidebook, pen, dry erase board or flip chart, appropriate pens.

Minutes Allotted: 20

Opening:

The Healthy Hunger Free Kids Act of 2010 requires the development of a Wellness Policy for School Districts. It is a requirement. Are you familiar with your district's wellness policy?

A community's familiarity and involvement with their own district Wellness Policy is an important way of giving input shaping the policy that dictates health and wellness priorities in a school district.

It may very well make your jobs easier if school culture is not working against your schools food service objectives.

Has anyone here ever seen his or her district wellness policy?

Instructional Procedure:

Local wellness policies are an important tool for parents and school districts to promote student wellness, prevent and reduce childhood obesity, and provide assurance that school meal nutrition guidelines meet the minimum Federal school meal standards.

As was previously required, local wellness policies must include, at a minimum, goals for nutrition education, physical activity, and other school-based activities that promote student wellness, as well as nutrition guidelines to promote student health and reduce childhood obesity for all foods available on each school campus. Many districts have charged ahead with goals for parent education opportunities, emotional well being and technology wellness goals.

Districts are now required to permit teachers of physical education and school health professionals as well as parents, students, and representatives of the school food authority, the school board, school administrators, and the public to participate in the development of wellness policies.

The law requires that these policies must, at a minimum:

1. Include goals for nutrition education, physical activity, and other school-based activities that promote student wellness.

2. Establish nutrition guidelines for all foods available on campus during the school day with the objectives of promoting student health and reducing childhood obesity.

3. Provide assurance that guidelines for reimbursable school meals shall not be less restrictive than regulations and guidance issued by the Secretary of Agriculture.

4. Establish a plan for measuring the impact and implementation of the local wellness policy.

5. Form a Wellness Committee. Involve parents, students, and representatives of the school authority, school board, school administrators, and the public in development of the local wellness policy. Be transparent in this process. Create a team that illustrates a diverse group of members. Involving stakeholders from many facets of your community is the key to a successful endeavor. This process allows the committee to let the wellness policy reflect the values of the community and needs of the district.

6. This document remains a 'living document', and has to be revisited and/or revised every two years. It establishes a baseline for the growth of the district, and acts as a framework and support for many departments.

7. Read the wellness policy for your district and get involved!

8. Allow time for discussion.

Resource: http://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act

Lesson Objective: Students will have a basic understanding of what customer service is, and how it can affect the profitability and reputation of the cafeteria.

Materials/Tools Needed: Guidebook, pen, dry erase board or flipchart, appropriate pens.

Minutes Allotted: 15

Opening:

Customer service is often overlooked in a school setting, and is a big portion of customer satisfaction.

In this lesson we are going to explore and explain why customer service is a necessity in the school kitchen.

We know from studies done in the business world that customer service is a key component in the success of a business. We experience many customer service skills or opportunities (or lack of!) every, single day of our lives.

Ask: Who has a favorite restaurant?

Wait for some answers.

Ask: Why is it a favorite?

Wait for answer (examples of; great food, atmosphere, how I feel while I am there, how I am treated like I am important, or known…etc..)

Ask: How many of you have stopped going to a particular business because of a lack of any of these elements?

Wait for some answers.

Instructional Procedure:

I want to share some key points about successful customer service. At the end of this list, I would like you to take a few minutes to write down how each of these points can be attributed to our workplace. Perhaps it is a goal, or it can be an experience you have seen or been a part of.

1. LISTEN TO YOUR CUSTOMERS

Take a survey, sample new items for opinions

2. DEAL WITH COMPLAINTS

Don't be stingy with your attention. Position yourself to be a willing listener. Sometimes, that will be enough. If changes need to be made, or an apology is in order, do not hesitate.

3. BE HELPFUL

This will remain a positive experience in that person's memory in that individual's opinion of your operation. Take that extra step to lead the customer to either the right area, the right staff or the right food item. Don't just say, "It's over there."

4. TRAIN YOUR STAFF

Empower your staff by including some simple steps to great customer service. Treat your students as they are customers. Help them to experience your cafeteria in a way that leaves them feeling good and wanting to come back.

Keeps your numbers up!

When we think about a positive experience, we feel good.

Know something about your customer. Know their name, or mention they are wearing your favorite color. Smile at them, and ask how they are doing in their sport. You get the picture. Engage with each student as if you are trying to earn a tip. Care about their experience. This is all part of building your business through customer loyalty.

Tips for implementing some customer service opportunities:

Cashiers are in a wonderful position to identify what is popular, they see what is on the plate! Noon aides see what is being thrown away. Schedule weekly staff meetings to discuss any new items, so they know how to describe it, this works wonders.

Students are really the LIFELINE to a successful scratch cooking program. If they don't want to be in your cafeteria, they will not come in and buy something from you!

They are your best and worst critics. A personal connection with them keeps them coming to your cafeteria and buying the food!

As we can see, customer service plays a huge role in getting students to RETURN to your foodline, and also works as a WORD OF MOUTH advertising that is priceless. Don't make the mistake of thinking that customer service rules do not apply to you and your kitchen.

I would like to close this with a thought;

AN ORGANIZATION'S ABILITY TO SUPPLY THEIR CUSTOMER'S NEEDS AND WANTS DOES NOT START OR STOP AT OUR CUSTOMER'S PLATES

Please take 3 minutes to turn and talk about an experience that you have had or seen regarding customer service..

Notes and Amendments for Improvement:

Lesson Objective: To encourage participants to be creative with a salad bar design, with emphasis on color combinations, textures and presentation, while learning about seasonality, set-up, regulation necessity and prep/back up

Students will be familiar with the seasonality chart and how to read it. They will also have general knowledge of how to setup and maintain a salad bar, how to determine the appropriate tool for serving, and be inspired to make improvements at their own salad bar.

Materials/Tools Needed: Overhead projector, white board and pens, guidebook, spoodles in various sizes, tongs, metal spoon.

Minutes Allotted: 15

Opening/ Instructional Procedure:

As food service workers, you probably already appreciate the impact of a well placed salad bar, today we are going to dig a little deeper in what qualities can make or break a salad bar.

1. Instructional Procedure

ASK: Who has a salad bar at their site?

ASK: What do the kids think of the salad bar?

OPENING: In this lesson, we will explore the art of creating a salad bar, aimed at inviting kids of all ages to help themselves and learn about seasonality, while eating the rainbow

ASK: What do we know about kids and rainbows?

We know that the rainbow is used in curriculum the children do already in he classroom.

ASK: Class to imagine:

- Thinking about the colors of vegetables and fruits as they mimic the rainbow, write groups on board
- Implementing strategies for creating the rainbow on the plate, using list created on board, and seasonality chart
- Discuss the difference between making dressings from scratch and how that is a benefit for your customers and your kitchen (cost, packaging, preservatives ,sodium, ingredient control)
- Explore the utensils needed for service, have equipment ready to show and demonstrate. Discuss regulations, and how the utensils aid in those regulatory needs.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

●Ask four volunteers to come to board. Assign 1 season from seasonality chart to each volunteer.. Have each volunteer create a seasonal salad bar menu from the seasonal chart, give 4-5 minutes. Give page number in training guide.

●Allow two minutes for critique from audience.

●Show on overhead projector the Lunchbox website. Explain that the Orfalea Foundation funded a large portion of the website, and navigate through the menu to show what is available for participants.

Closing Summary:

As you can see from this lesson and the seasonality chart in the workbook, there are many options and combinations that can be integrated into a fresh salad bar. A well presented salad bar can increase participation from students and teachers.

Remember to use the Lunchbox.com website for support, and remember that learning doesn't stop in the lunch room.

Lesson Objective: To understand the importance of taste, understand that children often have hyper taste sensitivity, begin to approach flavor critically and gain vocabulary for describing various smells and tastes.

Materials/Tools Needed: pill cups, lemon juice, salt, sugar, bitters, bonito flakes

Minutes Allotted: 30

Opening:

Ask: Why do we taste? Answer: For survival.

Ask: When we put a piece of food in our mouth we have an extremely important decision to make. What is it?

Answer: We must decide whether to spit it out or to swallow it.

Taste and smell are important cues, especially for kids. As chefs, it is crucial to hone and develop our own tasting skills. We must also get into a habit of constantly tasting.

Instructional Procedure:

Does everyone know what taste buds are? Tiny nerve endings that allow us to perceive different tastes. These nerve endings transmit messages directly to the brain by chemical reactions.

Those bumps on your tongue aren't actually your taste buds. They are fungiform papillae and each houses 50 to 100 taste buds. On the average, the human tongue has 2k-10k taste buds. Some people, known as "super tasters" have as many as 20k.

Ask: what are the five basic tastes? (By tastes, we mean flavors that our tongues have dedicated taste receptors for) Answer: sweet, salty, bitter, sour and…umami

It was once (incorrectly) thought that the tongue was specifically mapped to taste certain tastes in specific places on the tongue.

- In fact, all tastes can be detected anywhere there are taste receptors—around the tongue, on the soft palate at back roof of the mouth, and even in the epiglottis, the flap that blocks food from the windpipe. Some receptors are more sensitive to certain tastes than others.
- As an evolutionary survival mechanism, humans are hard wired to like sweet foods. Sweet tasting foods are nature's way of leading us to carbohydrate rich foods with dense energy reserves. This was important to survival, as our ancestors didn't always know when the next meal might present itself.
- We naturally avoid bitter substances. In the distant past bitter detection was a warning of foods containing poisons since many naturally occurring poisonous compounds are bitter.
- Being able to taste and detect salt (sodium) helps us to maintain electrolyte balance. As hard as it is to believe, our ancestors had to work to get enough salt. Without salt our bodies cannot function. Normal cell function does not occur. This is why we are drawn to salty flavors.
- Sour taste in small amounts can be pleasant. However, in large quantities sour can be an indicator of foods that have spoiled, fermented or become over-ripe, often signaling the presence of harmful bacteria that can thrive in these conditions.
- The fifth taste is one, which has been recognized in Asia for over a hundred years but is relatively recent in the western gustatory lexicon. It is the Japanese word: Umami, meaning savory, meaty or brothy. It is present in a steak right off the grill, in certain mushrooms, seaweed, certain fish, soy sauce, aged cheese, etc. Humans are drawn to umami because it signals foods that are rich in amino acids, necessary for our survival.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Taste each sample in (5) groups. Assign each group a taste category and have them use white boards to list as many of those foods as they can. Umami group will need help.

Closing Summary: (Review of key lesson points)

It is important to remember that as we age we also slowly lose taste. (At age 30, a person has around 250 taste buds on each of the tiny elevations (called papilla) on the tongue. By age 70, the number of taste buds decreases to approximately 88! Keep this in mind when seasoning foods for children.

Lesson Objective: Be able to identify and describe the different qualities and uses of common types of salts

Materials/Tools Needed: table salt, sea salt, kosher salt, sel de mer

Minutes Allotted: 30

Opening:

Salt is found in virtually everything we cook and/or eat. Knowing the qualities of ingredients is critical for the development of any food professional

Chemically there is little difference between kitchen salts. All are at least 97-1/2 percent sodium chloride. But there are significant differences in the provenance and processing of these salts.

Instructional Procedure:

Table salt is mined from underground salt deposits (dried bodies of sea water), and includes a small portion of calcium silicate, an anti-caking agent added to prevent clumping. It possesses very fine crystals and a sharp taste. Because of its fine grain a single teaspoon of table salt contains more salt than a tablespoon of kosher or sea salt.

Kosher salt takes its name from its use in the koshering process. It contains no preservatives and can be derived from either seawater or underground sources. Aside from being a great salt to keep within arm's reach when you are cooking, it is particularly useful in preserving, because its large crystals draw moisture out of meats and other foods more effectively than other salts. Kosher salt dissolves fast, and its flavor disperses quickly, so chefs recommend tossing it on everything from pork roast to popcorn. Kosher salt got its name because its craggy crystals make it perfect for curing meat—a step in the koshering process. Texture: Coarse. Cooks prize crystals like these; their roughness makes it easy to pinch a perfect amount.

Sea salt is harvested from evaporated seawater and receives little or no processing, leaving intact the minerals from the water it came from. These minerals flavor and color the salt slightly. However, because these salts are usually more expensive than table or kosher salt, it is worth keeping in mind that they lose their unique flavor when cooked or dissolved.

Fleur de Sel (A type of sea salt): Use it for: A special-occasion table salt. Spoon it into a salt cellar to be pinched, then sprinkled over food just before eating. Delicately flavored, it adds a perfect hint of saltiness to freshly sliced tomato or melon. Origin: Coastal salt ponds in France. The caviar of sea salt, fleur de sel is hand harvested. Conditions have to be just right (lots of sun and wind) for it to "bloom" like a flower on the surface of the water. Texture: Crystalline, which means that fleur de sel melts slowly in the mouth. Its earthy, pleasing flavor lingers on the tongue.

Soy Sauce. Soy is widely regarded as a salty food, and that perception is correct, since it's not unusual for a tablespoon of soy sauce to contain 1,000 milligrams of sodium. ("Salt" and "sodium" can be used pretty much interchangeably in this context, since table salt is composed of sodium and chloride; it's the sodium part that is involved with health problems in salt-sensitive individuals.) As a high-sodium food, soy sauce might be expected to be associated with increased risk of certain cardiovascular problems, including high blood pressure, since a certain percentage of individuals are salt-sensitive and experience blood pressure increases alongside

of a high-salt diet. Yet, what's interesting is that recent research studies have suggested that soy sauce may be different than other high-salt foods with respect to our blood pressure and cardiovascular health. When soy sauce is fermented in the traditional way, many of the proteins found in the soybeans get broken down into smaller molecules called peptides. Some of these peptides act to inhibit the activity of angiotensin I-converting enzyme (ACE) that is needed to constrict our blood vessels. Our blood pressure tends to goes up when our blood vessels constrict because there is less room for our blood to flow through. By decreasing ACE activity, peptides in soy sauce may be able to help prevent this process from happening.

It's still too early in the research process to give soy sauce any kind of "green light" in terms of its salt content, however. Anyone at risk of excessive salt intake or following a salt-restricted diet should still consult with a healthcare provider before including more soy sauce in a meal plan.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Comparative tasting

What are some other ingredients we use in recipes that impart saltiness?

Cheese, Anchovies, Bouillon,

Lesson Objective: Be able to identify and describe the different qualities and uses of various types of sugars and sweeteners.

Materials/Tools Needed: Raw sugar, table sugar, brown sugar, honey, maple syrup, agave syrup

Minutes Allotted: 20

Instructional Procedure:

Sweeteners are found in virtually everything we cook and/or eat. Knowing the qualities of ingredients is critical for the development of any food professional.

Raw Sugar: is essentially the product at the point before the molasses is removed (what's left after sugarcane has been processed and refined). Popular types of raw sugar include demerara sugar from Guyana and Barbados sugar, a moist, fine textured sugar.

Turbinado sugar is raw sugar that has been steam cleaned to remove contaminates. Leaving a light molasses flavored, tan colored sugar.

Brown Sugar is refined white sugar with molasses mixed in, then dried again.

White Sugar (table sugar) is created in a couple of ways. Mill white sugar is the result of sulfur dioxide being introduced to the cane juice before evaporation to bleach the mixture. Refined white sugar is raw sugar syrup run through a centrifuge to take away the outer coating of raw sugar crystals. Phosphoric acid and/or calcium hydroxide are then added to the juice to absorb and trap impurities. The resulting syrup is then filtered through a bed of activated carbon to remove the molasses, and then crystallized under vacuum. It is then further dried to produce white refined sugar like we buy in the store.

Confectioners' Sugar: Granulated white sugar ground into a fine powder, usually with a bit of cornstarch.

Honey. Honey bees transform nectar into honey by a process of regurgitation and evaporation. They store it as a primary food source in wax honeycombs inside the beehive. Honey gets its sweetness from the monosaccharides, fructose, and glucose, and has approximately the same relative sweetness as that of granulated sugar. raw honey serves up a (many claim therapeutic) dose of antioxidants, minerals, vitamins, amino acids, and enzymes.

Maple syrup is a syrup usually made from the sap of sugar maple, red maple, or black maple trees. Trees store starch in their trunks and roots before the winter; the starch is then converted to sugar that rises in the sap in the spring. Maple trees can be tapped by boring holes into their trunks and collecting the exuded sap. The sap is processed by heating to evaporate much of the water, leaving the concentrated syrup. It takes 20 to 50 gallons to make 1 gallon.

Agave Syrup Most agave sweeteners are produced from the blue agave plant. The core of the plant contains the aguamiel or "honey water," the substance used for syrup production (and, when fermented, tequila). Agave is processed just like other sugars -- and is no better for you than other sugars.

Lesson Objective: To be able to understand the different qualities of common fats and their uses

Materials/Tools Needed: Butter, margarine, XV olive oil, virgin olive oil, vegetable oil, toasted sesame oil

Minutes Allotted: 20

Fats and oils are among the most commonly used products in any kitchen. Their qualities impact our health, the taste of our food and our bottom line. Let's take a closer look.

Opening: Depending on their molecular structure, some fats are solid at room temperature, while others are liquid at the same temperature. In addition to being a vital nutrient, fat performs a number of culinary functions. It provides a rich flavor and silky mouth feel or texture that most people find very enjoyable and satisfying. Fat also carries and blends the flavors of other foods, and makes available to us flavor compounds and nutrients that are soluble only in fat

During the baking process, fat performs a multitude of chemical functions, such as tenderizing, leavening, aiding in moisture retention, and creating a flaky or crumbly texture. In cooking, fat transfers heat to foods and prevents them from sticking. It also holds the heat in food, emulsifies or thickens sauces, and creates a crisp texture when used for frying.

Instructional Procedure:

Butter is a dairy product made much the same today as it was over 4000 years ago; by churning milk so that the cream separates and fat molecules come together into a solid mass. Butter is made from cream, which comes from a cow. While it is relatively high in saturated fat, It contains none of the unhealthful trans fats that are present in many processed margarines and spreads. While butter can increase total cholesterol, many margarines specifically increase "bad" LDL

cholesterol and lower the "good" HDL.

Margarine. According to the National Association of Margarine Manufacturers, Margarine was invented in 1869 by a Frenchman named Hippolyte Mege-Mouriez after Napoleon began looking for a substitute for butter. Mouriez used margaric acid in the mixture and his formulation became known as Margarine. It became popular in the United States in the late 1800's.

Early margarine was made with beef fat. Modern margarine is made primarily from oil. But not all margarines are created equal; some contain trans fat. In general, the more solid the margarine, the more trans fat it contains. So stick margarines usually have more trans fat than tub margarines do. Trans fat, like saturated fat, increases blood cholesterol levels and the risk of heart disease. In addition, trans fat lowers high-density lipoprotein (HDL), or "good," cholesterol levels. Some brands of margarine claim to be healthier because they do not contain saturated animal fat. Look for "trans fat free" on the label.

Both butter and margarine contain roughly 100 calories per tablespoon.

Extra-virgin olive oil comes from the first pressing of the olives, contains no more than 0.8% acidity, and is considered to have superior flavor.

Virgin olive oil has an acidity less than 2%, and judged to have a good flavor.

Pure olive oil. Oil is usually a blend of refined olive oil and one of the above two categories of virgin olive oil. If it just says, Olive oil, it is a blend of virgin oil and refined oil, containing no more than 1.5% acidity. It commonly lacks a strong flavor.

Toasted oils generally have assertive flavors, are often quite expensive and can be used for seasoning.

Lesson Objective: To understand the differences between commonly used herbs and a spices and their appropriate uses.

Materials/Tools Needed: Ground spices: black pepper, clove, white pepper, ancho chile powder, cayenne, red pepper flakes, paprika, cumin, coriander, cinnamon, nutmeg, ginger, crushed, rubbed or ground herbs: basil, thyme, oregano, sage, bay leaf, rosemary, garlic powder, onion powder

Minutes Allotted: 45

Opening: Instructional Procedure:

Properly used, herbs and spices are an inexpensive way to make food taste attractive and varied without adding extra fat, sugar or calories.

Spices have been the inspiration for trade, exploration, war, and poetry since the beginning of civilization. Ground pepper was once worth its weight in gold; nutmeg once fueled a war that gained Long Island for England.

Spices at many periods throughout history literally served as currency. Pharisees in Judea paid tithes in cumin seeds. When Alaric the Visigoth held Rome under siege in the fifth century, the ransom included 3000 pounds of peppercorns. During the fourteenth century, in Germany, one pound of nutmeg could be traded for seven FAT oxen

What are some reasons why good chefs use herbs and spices in cooking? (They add flavor, aroma, color, texture and even nutrients.)

Tastier foods are more satisfying than bland ones - which you tend to eat faster, and with less fulfillment - if you're not satisfied, you're more likely to overeat.

Throughout periods of civilization, people did not necessarily have free access to water. In other words, a gathering of your fellow men would not be the most pleasant experience for the olfactory sense. Spices served as a way to perfume a room and the people in it. When knights would return from battle to have an audience with their king, they would sit on ground strewn with fresh rosemary or thyme

What's the difference between herbs and spices?

Herbs come from the flowers, leafy and green parts of a plant. **Spices** are parts of the plant other than the

leafy bit such as the root, bulb, bark or seeds.

Spices have also been known to preserve foods and some have medicinal value, such as **turmeric** with its anti-inflammatory, anti-fungal properties **Cloves**: antibacterial, antiviral, antifungal and antiseptic properties; **Cinnamon**: inked to lower inflammation, as well as reductions in blood glucose concentrations in people with diabetes.

According to the American Spice Trade Association, today **spices** have become known as "any dried plant product used primarily for seasoning purposes." This all-inclusive definition seems to cover a wide range of plants like herbs, spice seeds and even dehydrated vegetables and spice blends.

Spice Tips:

- Buy spices whole when possible and grind your own just before cooking. A coffee mill works well for this.
- Replace spices at least once a year and test for freshness every 3 to 6 months and avoid large economy sizes. Not only do spices lose some of their flavor punch, but their nutrient quality declines with age.
- Buy your spices from a store that has good product turn over. You want to avoid buying a spice that was ground ages ago and sitting on the shelf for who knows how long.
- Avoid storing them by refrigerators, stoves, heat vents and sunlight. Store your spices in a dark cool place. Sunlight exposure can hasten the depletion of nutrients. Keep them in containers with a tight seal for longer storage.
- Don't be afraid to introduce herbs and spices to your youngest eaters. They like flavor too and will benefit from all the antioxidants
- Whole herbs and spices last longer than crushed or ground versions
- Test freshness by moving some around in your hand and sniffing to see if spice gives off flavorful aroma
- Most spices are harvested once a year so with proper storage they will last at least 3 to 6 months and many will last an entire year or two. The more pungent the spice generally the longer it will last
- Different people like different amounts of spice. Start with ¼ teaspoon to 2 cups of sauce and add more if you like more flavor
- Add whole spices and those used in sauces, stews, and soups at the beginning. Some recipes will call for you to add a little more after cooking to enhance the aroma such as you do with basil which looses its aromatic property when heated
- Crushed and ground spices are best added 10 to 20 minutes prior to serving as their flavors are released quickly
- For dips and other cold products using spice, add the spice or herb 2 or more hours ahead of serving, allowing the flavors to bloom in the cold
- Generally speaking 1 cup fresh = 1/3 cup dried as the dried spices have more intense flavor
- Dried ginger is quite a bit more potent than fresh, 1 tsp. is equal to about 1 cup
- 1 clove of garlic is about 1/8 teaspoon of garlic powder or minced garlic

Lesson Objective: To understand the difference between and herb and a spice and appropriate uses for each.

Materials/Tools Needed: Ground spices: black pepper, white pepper, ancho chile powder, cayenne, red pepper flakes, paprika, cumin, coriander, cinnamon, nutmeg, ginger, crushed, rubbed or ground herbs: basil, thyme, oregano, sage, bay leaf, rosemary, garlic powder, onion powder, salts and sugars from earlier lessons.

Minutes Allotted: 45 **Workbook Page:**

Opening: Instructional Procedure:

Properly used, herbs and spices are an inexpensive way to make food taste attractive and varied without adding extra fat, sugar or calories. Herbs and spices are an easy and inexpensive way to provide food with flavor, interest and healthful properties.

Why would you want to make your own spice blends?

1. Customization. There's always room for a little play in a spice mix. Don't like cloves? Leave them out of your pumpkin pie spice and add a little extra allspice. Allergic to a specific herb? Creating your own spice blends from scratch allows you the freedom to customize each recipe to suit your health needs. Plus they often contain excessive salt, starch, MSG, sugar, artificial ingredients, and preservatives

2. Freshness. There's no telling how long a mix has been sitting in that jar on store shelves, and it certainly can't beat the fresh flavor of a homemade spice blend. When you make a blend yourself, be sure to label it clearly with the date. Are the spices ground? Store them in a small airtight container in the freezer to maintain maximum freshness.

3. Savings. There's no question about it, those cute little spice kits are selling for way more than the value of their contents. And that's understandable, as someone had to assemble them, but you the home cook can make considerable savings by purchasing whole spices (bulk, even) and mixing up your own culinary concoctions.

4. Consistency. When your customers begin to look forward to a certain flavor (like a chicken rub), you want it to taste the same each time.

An easy method for testing herb and spice combinations is to mix them with small amounts of a mild cheese, like cream cheese. Allow them to sit for at least an hour, then sample your blends, noting which flavors you most enjoy. Be sure to label the samples so you'll know how to duplicate or modify each to suit your taste.

A quick rundown of some commonly used herbs and spices:

Bay leaves. These aromatic, woodsy-tasting leaves are typically sold dried. Choose those with a rich green color. Add whole bay leaves to soups, stews, and marinades; remove before serving.

Black peppercorns. A must-have for their slight pungency. Always pick whole peppercorns over preground versions: The flavor of freshly ground or cracked pepper makes the small effort in preparation well worth it.

Cayenne pepper. Made from a small, spicy red pepper, this is the foundation of many bottled hot sauces. Used frequently in Cajun and Indian recipes.

Chili powder. This is typically made from a blend of dried chilies, cumin, coriander, and oregano. Delicious in Mexican and Southwestern dishes.

Cinnamon, ground. This warm, aromatic spice has a reddish brown color and a bittersweet flavor. Great for baking as well as adding an earthiness to stews, chilies, and curries.

Cloves, ground. This sweet, rich spice is a staple in holiday baking, especially gingersnaps. Use it sparingly; a little goes a long way.

Cumin, ground. An aromatic, mellow spice, ground from a small seed. Delicious in Middle Eastern and Indian cooking, especially curries.

Curry powder. Up to 20 spices—including coriander, cumin, and turmeric—can make up this popular Indian blend. The Madras variety has more heat.

Ginger, ground. Ground ginger has a more intense and astringent taste than fresh ginger. Keep it on hand for baking.

Nutmeg, whole. A delicate, warm spice frequently used in baking. Also a common addition to baked winter squash, béchamel sauce, and spinach dishes.

Oregano, dried. A member of the mint family, this robust herb is commonly used in Mediterranean, South American, and Cajun cooking.

Paprika. A powder made from ground sweet red pepper pods, this is available in sweet and hot varieties. Use the spice to season meat, seafood, and vegetables.

Crushed red pepper. Use the flakes of crushed red chili to spice up pastas and stir-fries or to sprinkle on pizzas.

Rosemary, dried. With an aroma of lemon and pine, this herb is used in an assortment of Mediterranean dishes.

Thyme, dried. This fragrant herb lends a delicate flavor to meat, poultry, and vegetables. It's popular in Mediterranean, Cajun, and Creole cuisines.

Vanilla extract. A baking essential made by soaking vanilla beans in alcohol. Opt for the pure rather than the imitation variety

BASIC POULTRY SEASONING:
1 Tablespoons rosemary
1 Tablespoons oregano
2 teaspoon sage
1 Tablespoons ginger
1 Tablespoons marjoram
1 Tablespoons thyme
1 teaspoon black pepper

BASIC CAJUN BLEND:
1 teaspoon coarse salt
1 teaspoon ground black pepper
1 teaspoon onion powder
1 teaspoon cayenne pepper
1 teaspoon dried oregano
1 teaspoon dried thyme
2 teaspoons paprika
2 teaspoons garlic powder

BASIC CHILI SEASONING:
2 Tablespoons cumin
5 Tablespoon chili Powder
2 teaspoon red pepper flakes
2 teaspoon garlic powder
2 teaspoon onion powder
1 Tablespoon paprika
2 Tablespoon kosher salt
1 Tablespoon black pepper

Notes and Amendments for Improvement:

Lesson Concept: Viewing and discussion guide for Nourish

Materials/Tools Needed: Nourish DVD

Minutes Allotted: Film: 26 Minutes Discussion 10 Minutes

Opening: The tag line for Nourish is What's the Story of Your Food? Nourish invites us to look beyond our plate and explore where our food comes from.

REFLECTIONS ON NOURISH

- What was something in the film that was new to you? What surprised you?
- What content in the film affected you the most, and why?
- What are some questions you have about the story of your food?
- What are you interested in learning more about?

CONNECTING NOURISH TO PERSONAL EXPERIENCE

- What food traditions are represented in your family? How are they celebrated?
- Recall an especially memorable meal. Who made it? What was the occasion? What made it special?
- What is your first memory of eating fresh, seasonal produce?
- What new whole foods (fruit, vegetables, grains) have you discovered in the past two years? How did you discover them?
- How has your relationship to food changed over your lifetime?

BUILDING A HEALTHY FOOD CULTURE

- How does the modern Western diet differ from more traditional cultures' diets? What are the health and environmental consequences of the Western diet?
- What do you think is the root cause of our society's largely unhealthy relationship to food?
- What does "food culture" mean to you? What words would you use to describe our nation's food culture?
- How can we create a healthier food culture?

CHAPTER 1: CONNECTIONS

- What food issues are you most passionate about?
- Pick a recent meal or food choice that connected you to the global food system?
- How much do you know about where the food came from and how it got to you?
- What does "interdependent" mean to you? Who are some of the people we rely on for our daily food?
- Have you ever visited a farm or ranch that produces food you eat? What might be the closest one?

nourish
food + community

CHAPTER 2: SEED TO TABLE

- In a typical week, how much of your diet is processed versus whole foods?
- What questions or concerns do you have about where your food comes from and how it gets to you? In a typical week, how much of your diet is processed versus whole foods?
- What role does food marketing play in your choice of food products? What's the most memorable food ad you have seen?
- Describe an experience of eating local food (such as from your garden, the farmers market, or a CSA). What are the benefits of eating foods grown close to where you live? What are the challenges?

CHAPTER 3: VOTE WITH YOUR FORK

- What does it mean to "vote with your fork"? • When purchasing food, what factors are most important to you? (For example: cost, convenience, taste, health benefit, local, organic, seasonal.) Why?
- What information do you need to make healthy food choices?
- What one food policy or practice would you like to see changed? Who can you work with to bring about this change?

CHAPTER 4: BE THE DIFFERENCE

- What are some ways to create community through food?
- Where do you go for fresh, healthy food? Are there local farmers markets, co-ops, CSAs, or restaurants you can recommend?
- Have you ever grown your own food, and if so, what? If not, what would you need to get started, and what foods would you like to grow?
- Are you part of an organization that works on food issues? If not, do you know of any you might join?

CLOSING THOUGHTS

- What's one thing you've learned from this gathering that you would like share with your family and friends?
- What is your vision of a healthy food system? What role can citizens play in achieving this vision?
- What one practice related to food would you like to focus on for the next three months?
- How might you use Nourish to educate others about food and sustainability?

Lesson Concept:

1. Do animals have the right to a certain quality of life?

2. Do people have the right to know what is in their food?

Materials/Tools Needed: Pt. 1 running time: 12:52; Pt..2 running time: 7:54

Minutes Allotted: Film: 21 Minutes Discussion: 9 minutes

Discussion topics, part 1: Fast Food to All Food

Remind students that in the opener, they considered how people's food choices affect what and how food is produced. Have students name a couple of scenes in the film that relate to this idea. Pointing out that we could not give animals equal rights, because that might mean entitlement to citizenship, public education, or other things, ask students whether they think animals have a right to a certain quality of life.

- How many of you have pets at home? Do your pets have the same rights as the people who live with you? What rights do your pets have? In what ways are your pets' rights limited? (For example, they may not be able to choose what or when to eat, or when and how to get exercise.)
- Are there any rights that all animals should have? If animals should have certain rights, do you think those rights also apply to animals we raise for food, like chickens or pigs? Are there any rights that these farm animals should have? If so, what are they?
- How do you think farm animals should be treated? How do your ideas compare to what you saw in the film?
- Richard Lobb of the National Chicken Council says in the film, "In a way, we're not producing chickens, we're producing food." What does this statement mean? Do you agree or disagree with it?
- How might this perspective affect the way that chickens are raised?
- If we are in consensus that even food animals deserve to have a certain quality of life, who has the responsibility to oversee the treatment of chickens or other food animals? What responsibility do individuals and consumers have? The government? Companies?
- If we are in consensus that food animals should not have rights to a certain quality of life, what might be some repercussions of that position?
- As consumers, do we have the right to know how the chickens we eat are being raised? Do we want to know?
- As portrayed by the film, consumers wanting faster, cheaper food altered the way chickens are raised. Can you think of parallel situations where consumers wanted certain products or experiences, and industry responded to meet the demand? (For example, we want to have inexpensive clothes, so companies hire low-wage workers in other countries to make them; when people became increasingly concerned about air pollution from vehicles, companies created hybrid-fueled cars.)

- We've been talking about the rights of food animals. What did the film bring up about people's rights?
- Based on this 13-minute chapter of the film, we've been focusing on just one food most people eat—chicken. What ethical questions emerged from our discussion?

Discussion topics, part 2: A Cornucopia of Choices

Opener: Bring in a sample of the following foods (or list them on the board) and, before showing the film chapter, ask students to think about what these foods all have in common as they watch the film. BREAKFAST CEREAL CAKE MIX, JAM, JUICE, KETCHUP, YOGURT, MARGARINE, SALAD DRESSING, SOFT DRINKS, BREAD, VANILLA EXTRACT, WHITE VINEGAR

- Immediately after watching the film, ask students what they think the foods you listed for the Opener have in common. Ask how many of them were surprised to learn how prevalent corn is in our food. Ask whether they think people have the right to know what is in their food.
- In the film, food science professor Larry Johnson says, "If you go and look on the supermarket shelf, I'll bet you 90 percent of [the products] would contain either a corn or soybean ingredient. And most of the time, it'll contain both." Why might it be a problem that the majority of our food is made mostly from just corn and soybeans—so that nearly everything we eat contains them? (Responses might include it being unhealthy because our bodies need more variety, or our food system being in danger if those crops develop a pest or other problem.)
- Many of us were surprised to learn that corn is so prevalent in our foods. Why do you think we were so surprised? Do you think the government and food producers have kept it a secret? Why don't more people know this fact?
- Using the corn-based food products you brought in for the Opener and the Corn from A to Z student handout, page 37, point out which ingredients are from corn. Food labels actually do list corn-based ingredients, but not always in a recognizable way. How do you feel about ingredients being included in your diet without your knowledge?
- Whose responsibility do you think it is to inform us about what is in our food? Is it our responsibility to find out, the producer's responsibility to make it more clear, or both? Why do you think so?
- Have students place themselves along a spectrum, standing at one end if they feel it is individuals' responsibility to inform themselves about what is in their food, at the other end if they think it is the producer's responsibility, and in the middle if they think both have some level of responsibility. What are the consequences of different positions along the spectrum?
- If people are responsible for informing themselves about what is in their food, what would help them be more informed? If producers are responsible, what would be the more effective ways for them to inform people?
- The movie points out that cows and farm-raised fish, which are not biologically suited to eating corn, are now given a modified diet that is based on corn. Do you think people's diets have been modified in a similar way? How do you feel about the possibility of your food being modified without you being aware of it?

REFLECTION "What can people do to be better informed about what is in the foods they eat?"

Lesson Concept:

Pt. 1: Who is responsible for keeping our food safe?

Pt. 2: Should access to healthy food be a right for everyone?

Materials/Tools Needed: Pt. 3 running time: 13:56. Pt..2 running time: 5:12

Minutes Allotted: Film: 20 Minutes Discussion: 10 minutes

Discussion topics, part 3: The Dollar Menu

Opener: Before showing this chapter of the film, ask students whether they have ever heard of a food being recalled. Ask, "What do we mean by a food recall? Why are foods recalled?" Have them generate a list of food recalls that they know of.

- *Who's responsible for Kevin's death?* [Throughout the discussion, if the students name a group of people as responsible for Kevin's death, help them narrow it down to the specific individuals they would hold responsible. For example, if they name the meat packing company, ask them, "Who at the company is responsible: The forklift driver? The meat packing worker? The owner?"]
- You are a salesperson at the restaurant who sold the hamburger to Kevin's mom. Are you responsible?
- You are the meat distributor who sold the meat to the restaurant. You weren't aware that the meat was contaminated. Are you responsible? You are a worker at the meat packing plant whose job is to cut the carcass. You are a good worker and follow the procedures set up by the plant. Are you at all responsible?
- What about the federal court judges who said that the government doesn't have the authority to shut down a meat packing plant that repeatedly fails contaminant tests. Should they be held partly responsible?
- What about the people who started feeding corn to cows in the first place? Should they be held partly responsible?
- Does this situation remind you of any other parallel situation where there are unintended consequences of people's actions? (For example, texting an important message in a hurry to a friend may have the unintended consequence of it being misconstrued, or the use of gasoline-powered cars has had the unintended consequence of raising carbon dioxide levels in the atmosphere.) What are some of the unintended consequences in that situation?
- If any of these people didn't intend for Kevin to die, does that get them off the hook?
- Imagine that you accidentally hit and killed someone while driving your car. You didn't mean to hurt the person and you are very sorry about it. Does that mean you are not responsible?
- If a particular party is responsible for Kevin's death, what do you think the consequences or repercussions should be?
- The mother says, "Sometimes it feels like industry was more protected than my son." What do you think of her words?
- Thinking back on our discussion, who are all the parties we identified? Which of them did we think were responsible, at least in part, for Kevin's death?
- Do we have the right to assume that our food is safe? If so, who do you think should be responsible for ensuring its safety?

REFLECTION: Ask students to imagine that they are charged with making sure a death like Kevin's never happens again. What steps would they take to ensure it doesn't?

Point out to students that feeding cattle cheap and abundant corn seemed like a good idea when people started doing it, but it had some unintended consequences. Ask students to write about a situation at home, school, or in your community when

something that started as a solution created more problems than existed in the first place.

Discussion topics, part 4:

NOTE: Be sensitive to the fact that the portrayal of the family in the film may hit close to home for some of your students. Make sure that the discussion avoids stigmatizing or blaming low-income individuals and families, or those with obesity or diabetes.

Opener: Bring in a head of broccoli (or another vegetable) and a bag of chips, noting the price of each. Before showing the film chapter, show students the broccoli and the chips and ask: Which do you think costs more? Which one has the most ingredients and is the most processed? Why isn't that one more expensive? Introduce the idea of subsidies (see Background Information).

After viewing the film chapter, answer any fact-based questions students may have about subsidies, diabetes, and so on (see Background Information). Then, ask students to share their perspectives on whether everyone should have the right to healthy food.

DEEPENING QUESTIONS:

- Would it be okay with you that healthy food is only available to people who can afford it?
- If so, what might be the consequences of that—both to individuals and society? (For example, by eating less healthy food, low-income individuals have more health issues, are sick more often, require more health care, miss more days of work, and have lower job performance.)
- If not, how might we make healthy food available to everyone?
- The film gives the impression that food is either cheap or healthy. Do you think it is true that food is either one or the other, or is this a false dichotomy?
- In the film, the mother, Maria Andrea Gonzalez, says, "We're really tight from either paying for his [Alfredo Orozco's] medicine to be healthy or buying vegetables to be healthy." Which should she choose if she cannot afford both?
- How have our government policies affected the types and costs of available foods? How does the cheap price of processed food affect low-income families? Is this fair?
- Subsidies make certain foods cheaper than they would be otherwise. Without subsidies, how might low-income families afford food?
- In the film, author Michael Pollan says, "We've skewed our food system to the bad calories, and it's not an accident." What does he mean by this?
- With cheap food, it seems our society pays at both ends—at the production end with subsidy tax dollars, and at the consumption end with poorer health and lower productivity. Who benefits from cheap, fast food? Is it really cheap for everyone?
- How might our government policies be restructured to allow more access to healthier foods? (For example, policies might educate people about healthful eating or give incentives to grow and buy fruits, vegetables, whole grains, and other healthier foods.)
- Do you think healthy eating should be a right, a responsibility, or a privilege? [Placing a sign for each position around the room, have students stand under the sign that shows their position. Ask students at each sign to explain their position.]

REFLECTION: Have students discuss the question, "How do you think the way your grandparents used to eat differs from how you eat today?"

Lesson Concepts:

Pt. 1: When deciding what to eat, how much should we consider the workers who pick, process, and transport it?

Pt. 2: Does it matter to you which food companies produce your food?

Materials/Tools Needed: Pt. 5 running time: 13:44. Pt.6 running time: 8:00

Minutes Allotted: Film: 22 Minutes Discussion: 8 minutes

Discussion topics, part 3: In the Grass

Opener: Before showing this chapter of the film, ask students to name all the jobs they can think of that are involved in getting their lunch to them. The list might include truck drivers, cafeteria workers, farmers, meat processors, and so on.

After watching the film chapter, have students give their general impressions. Then, ask them to what extent the workers involved in bringing us food should factor into our food choices.

DEEPENING QUESTIONS:

- In the film, union organizer Eduardo Peña says, "We want to pay the cheapest price for our food. We don't understand that it comes at a price." Do you agree or disagree with him? What evidence do you see in the film that led you to agree or disagree? What evidence do you see in your life that informs your position as well?
- How would you compare the slaughtering of the chickens by Polyface Farms to the slaughtering of the Smithfield hogs? How do the workers' conditions compare?
- You've seen in the film how the production of some of the meat we eat affects the workers involved in the production. It portrays these people as having no choice because farmers in other countries can no longer farm as a result of our food system. Assuming it is true that there aren't local people to do this work, do you think companies have the right to recruit foreign workers to come into the country, as you saw in the film? What do you think of that?
- What alternative might the companies have if they can't find local people to do the work?
- If you think it is okay for companies to recruit foreign workers this way, what might be the repercussions of that?
- Keith Ludlum in the film says, "They have the same mentality toward workers as they do toward the hogs." What do you think of this statement? If it is true, how might that influence the treatment of both workers and hogs?
- Slaughterhouse workers may earn as little as $8 an hour to do the work shown in the film. For how much money would you be willing to do this work? What else might you demand?
- If you would require a large amount of money to do this work, how would the company meet your demand? How would they cover the additional cost? If you say that no amount of money would be enough, what alternatives would the company have, since people like you will not do the work?

- When a person chooses to eat meat, who else does that decision affect?
- What might people do to make sure that their eating meat does not harm other people or animals?
- Author Michael Pollan uses the phrase "Vote with Your Fork" to mean that consumers have the ability to influence companies by what they choose to eat. Is there a way as a group, school, or town that we could possibly influence this situation?
- Whether or not you think illegal immigration (or the influx of undocumented workers) is a problem, how is illegal immigration connected to the food we eat?

Discussion topics, part 6: Hidden Costs

- After viewing the chapter, have students list some products they feel it is important to buy cheaply. Is the company making the product a factor they would consider? Ask them whether it matters to them which food companies produce their food, and have them explain their position.

DEEPENING QUESTIONS:

- In the film, we see that Stonyfield Yogurt is now owned by Groupe Danone, Tom's of Maine by Colgate, Kashi by Kellogg, and Burt's Bees by Clorox, which are all large corporations. What kinds of consumers do you think these products are geared for?
- How do you think those consumers might react to learning that the products are actually made by big corporations?
- As the film suggests, small companies and producers are often bought out or taken over by very big companies. What might be the implications of that—both positive and negative?
- Why might corporations continue marketing the small companies' products under their original labels, as we saw in the film? What do you think of that practice?
- Walmart's dairy purchaser says that Walmart and other companies react to what the customers want. How might individual purchases affect Walmart's dairy offerings? Can you think of any situation where companies should not provide what the customer wants?
- Farmer Joel Salatin in the film says, "We're willing to subsidize the food system to create the mystique of cheap food when actually it's very expensive food." What might he mean by that?
- As portrayed in the film, cost and efficiency drive our current food system. Should price be the most important force behind our food industry? Why or why not? How might our food system change if it was driven by other values, like health or environmental sustainability?
- Some people seek out organic food and some follow a vegetarian or vegan diet. What other examples can you think of where people make food or consumer choices based on their values?
- Yogurt company executive Gary Hirshberg says that Walmart started selling organic yogurt not because of a "moral enlightenment," but for economic. Do you think economics is a good enough reason by itself for companies to make changes that affect our society? Why or why not?
- What do you think of Gary Hirshberg's statement that "nobody can challenge the fact that a sale of another million dollars to Walmart helps to save the world"? Do you agree with him? Why or why not?

Lesson Concept:

Pt.7**:** Should companies be able to own the DNA contained in plant seeds?

Pt. 8: Should a company have the power to decide what information to give consumers about the food it produces?

Pt. 9: What individual or collective actions are you willing to take to improve our food system, and what would be their impact?

Materials/Tools Needed: Pt.1: 10:07; Pt.8: 7:59; Pt.9: 7:07

Minutes Allotted: Film: 26 Minutes Discussion 20 minutes

Part 7 Discussion topics: From Seed to the Supermarket

- After viewing this film chapter, ask students to name some of the issues raised about genetically modified organisms. Ask them whether they think companies should be able to own the genetic material contained in plant seeds. What might be arguments for each side?
- From Monsanto's perspective, it is expensive to develop new seeds like these, and the seeds save farmers time and enable them to produce more soybeans. What might be the consequences—both positive and negative—of the company owning the genetic information in the seed?
- How does this situation compare to downloading music from "free" sites?
- Intellectual property can be defined as creations of the mind—such as music, art, writing, inventions, symbols, images, designs, or names—that have commercial value. In our country, these things are legally protected and cannot be sold or used without the permission of the owner. Do you think people should be able to own an idea? Why or why not?
- Saving seeds from each year's crop is a tradition farmers have followed for thousands of years. Think of a tradition that has been in your family for a long time. What if you could no longer have this tradition because someone now legally claims it as theirs? Why might we care whether Monsanto or another company owns the DNA in seeds?
- Do you think it is fair that the one farmer had to settle (say he was guilty) because that was cheaper than trying to fight Monsanto's lawsuit? Why or why not? The film includes an image of Lady Justice holding scales, with the side that is able to put the most money on the scales depicted as the winner. What do you think of that image?

Part 8 Discussion topics: The Veil

- In the film, Noel Kramers of the California Farm Bureau says that the bureau is against labeling because it "creates unnecessary fear in the consumer's mind." Do you agree with this reasoning? Why or why not?
- Thinking back to the Opener, how would information about a food raise or lower your fear of it?
- In the film, author Michael Pollan says, "I think that one of the most important battles for consumers to fight is the right to know what's in their food and how it's grown." How does his position compare with the California Farm Bureau's position?
- Can you name different consumer products that have warning labels about their use or safety (cigarettes, alcohol, appliances, games, and so on)? What impact, if any, do you think these labels have?
- Health experts recently called for warning labels on energy drinks, pointing out the effects of "caffeine intoxication"—a syndrome that can cause anxiety, insomnia, gastrointestinal upset, tremors, rapid heartbeat, and even death. Would a warning label affect whether or not you buy energy drinks? Why or why not?
- How effective are labels in helping consumers make decisions about their food? What might be more effective?
- What do you think about Oprah being sued for saying she wasn't sure if she wanted to continue eating hamburgers, as described in the film? What do you think about a law that prevents you from saying something negative about a particular food item?

- In the film, Barbara Kowalcyk appears to be afraid to say how her eating habits have changed as a result of her son's death, and she does not reveal the source of the meat that killed him. What do you think of that?
- People who have been in the industry are knowledgeable about that industry. What are the pros and cons of them becoming regulators working for the government?
- Who do you think should have the power to decide food policies, laws about food safety, and other food-related matters?
- How often do you read the Warning or Caution labels on products you buy or use?
- Do the Warning or Caution labels affect whether you buy or how you use a certain product?
- How often do you read the Ingredients list of foods you buy or eat?
- Does the Ingredients list affect whether you buy or how much you eat a certain food?
- How often do you read the Nutrition Facts of foods you buy or eat?
- Do the Nutrition Facts affect whether you buy or how much you eat a certain food?
- How often do you think warning labels on cigarettes and alcohol keep people from using these products?
- Foods high in fat can lead to obesity, which is a major health problem. Some people think a warning label should be included on foods that are high in fat. Would a warning label like that keep you from eating high-fat foods

Part 8 Discussion topics: Shocks to the System

- After watching the film chapter, make a class list of food-related issues raised by the film. Ask students to name individual or collective things people could do to improve the food system, and list these on the board. Ask them which actions they would be willing to take and what the impact of those actions would be. What kinds of actions have you taken before to make a change at home, at school, or in the community? What was effective? What wasn't?
- Yogurt company executive Gary Hirshberg states in the film, "The consumer does not feel very powerful, but it's the exact opposite. When we run an item past the supermarket scanner, we're voting for local or not, organic or not." What does he mean by this statement? Do you agree or disagree with it? Why or why not? Aside from the supermarket, in what other arenas can individuals and groups make an impact on our food system?
- As portrayed in the film, our food system has become very mechanized as a way to cheaply and efficiently provide vast quantities of food. Would it be possible to feed the hundreds of millions of people who live in our country without this kind of industrialized food system? If so, how? If not, what might we do to avoid the problems that seem to come with it?
- In the film, farmer Joel Salatin asks us to "imagine what if, as a national policy, we said we would be only successful if we had fewer people going to the hospital next year than last year." What changes would need to happen for this to be a reality? What other goals might we have for our food system?
- Author Michael Pollan points out in the film that "to eat well in this country costs more than to eat badly. It will take more money and some people simply don't have it. And that's one of the reasons that we need changes at the policy level so that the carrots are a better deal than the chips." If healthful, environmentally sustainable food were to cost less than other food, do you think people would eat more of it? Why do you think that?
- There is plenty of research showing that healthful food makes people feel better, have more energy, and stay well. Do you think if more people knew about this research, they would make different food choices? Why or why not?
- Which do you think would be a more effective way to change people's food choices: changing policy or informing the public about health benefits and environmental impacts? Why do you think so?

Lesson Concept:

Lesson Objective: Discuss the differences between steaming and blanching and the appropriate cooling methods. Demonstrate proficiency at steaming vegetables. Participants will learn how to steam vegetables and cool appropriately. How to blanch and shock vegetables correctly. (Different options based on equipment available)

Lesson Rationale: Materials/Tools Needed: The RIP vegetable half sheet pan with 3 pieces of raw, appropriately cooked and over-cooked vegetables (broccoli, carrots and snap peas). The equipment for the blanching and steaming demo station per Equipment Manager's Demo List assignments.

Minutes Allotted: 20

Opening:

Steaming (and/or blanching) is a great way to get children to eat vegetables that might be more palatable when lightly cooked (broccoli, snap peas, etc.). Appropriate cooking times (visual) will yield an attractively cooked product that is neither raw nor over-cooked.

We're going to show you today how to blanch and steam vegetables appropriately so that they are lightly cooked and attractive. Does anyone in this group have a vegetable from their child-hood that might still be a bad memory or something you still have difficulty eating? Why is that?"

Instructional Procedure:

Participants will usually come up with examples that involve overcooked vegetables or canned vegetables wi-than unpleasant texture. Pass the RIP sheet pan of vegetables around with examples of raw, lightly steamed/blanched and over-cooked vegetables.

- Emphasize that there is nothing wrong with the raw vegetables but ask which is the most attractive. Participants will generally go for the lightly steamed/blanched vegetables.
- Ask/Remind participants if children are susceptible to "eating with their eyes" and how long it sometimes takes for them to try anything new.
- Ask if any of the participants are still leery of eating those vegetables from their childhood and remind them that they are powerful people in the lives of the children they are feeding when they either present beautiful vegetables or over-cooked ones
- Show blanching method either in a pot on the stove top or in the tilt skillet (also already set up as a steamer). Shock the blanched vegetables and ask if this is an efficient way to cook vegetables in a volume setting. Remind participants that not all kitchens including large central kitchens have ice machine. If there is a steamer available in the host kitchen site, demo that usage and how long it takes.

- Safety first: use pot holders or mitts, show the steam release vents and remind them that steam is 212˚ F and hotter.
- Show the tilt skillet set up for steaming with two sets of perforated pans set upside down with two additional perforated hotel pans set right side up on top to act as a steamer
- Steam broccoli and snap peas and cool on sheet pans that go into refrigeration/freezer

Notes:

Lesson Objective: Upon completion of lesson participants will know how to measure wet and dry ingredients, how to read a recipe and how to produce scones using the Rubbed Dough Method. Participants will achieve familiarity with how to read a recipe, MEP, proper measuring techniques, and rubbed dough method.

Materials/Tools Needed: Scone recipe card and equipment

Minutes Allotted: 20

Instructional Procedure:

In order to produce consistent baked goods, proper measuring techniques must be executed

"In this demo, we will see some of the basic techniques and methods that we just discussed."

QUESTION: "What is the first thing that we want to do when we begin to execute a recipe?" (Answer: Read the recipe)

QUESTION: "How many times do we want to read the recipe?" (Answers: At least twice or as many times as needed.)

THEN ASK OURSELVES:

- Do I need to do some math to scale the recipe up or down depending on how much I need?
- Do I have all the ingredients for this recipe? Will I make any substitutions? Add any flavor agents?
- Do I have to do any additional prep steps before I begin? (Answer: chop, defrost, crumble, dice)
- What is the method? Do I have all the equipment I need? (MEP)
- Do I need to preheat the oven?
- When will I be serving this item? Do I need to store it? Consider HAACP steps.

We will prepare this recipe by using the Rubbed Dough or Biscuit Method; Mix wet ingredients, combine dry ingredients and cut or "rub" in fat, make a well in the dry ingredients and pour in the liquid ingredients; mix until just combined. I will be mixing by hand because this is only one batch. QUESTION: "If we were making this in our sites for (ask participant how many meals their kitchen serves) "x" amount of students, what type of equipment would we use?" (Answer: Hobart)

This recipe is a whole grain recipe, which means by definition; at least 51% of its ingredients by "weight" are whole grain. In this case, the whole wheat flour and oats.

Ask if there may be a volunteer to help assist in reading the recipe. Let's review the basic anatomy of this recipe: Title, yield, list of ingredients, method used (oven temperature and cooking times).

As student reads method, chef instructor will execute technique. Mention that some ingredients have been specifically MEP, and those are labeled accordingly. All other ingredients, demonstrate proper measuring technique.

- Mix and combine dry: measure whole wheat flour and oats; set aside
- Mix and combine wet: measure milk; set aside
- Rub in fat: using gloved hand "rub" flour into butter
- Make a well in dry; add wet to dry; gently fold in flavor agents until just combined. Explain how overmixing would result in a dense, dry scone, like a hockey puck.

Share why it is good to use parchment-lined pans; easy to clean and will be more consistent with browning.

Use proper measuring scoop to pan up scones. ACTION: Scoop a heaping measure on the first scone. QUESTION: "Is this a good size scone? Wouldn't someone love to get this enormous scone?" QUESTION: "Why would we not want such a large, over-flowing scoop?" (Answers: We would not yield the correct amount; the baking time would not be consistent; the nutritional serving per student would vary and one student may not get the required serving needed for reimbursement; and we could waste money if too large of portions are served.)

Confirm how long the baking time is and determine if ovens are cooking "hot" and adjust appropriately.

Set a timer; QUESTION: "What if a timer goes off and it is not one that you originally set?" (Answers: Use your "kitchen" voice and announce "TIMER." Open the oven door slightly to stop the cooking process, find the person responsible for the recipe OR take care of it yourself. You all are a TEAM, and your success as a kitchen is dependant on all team members.)

Lesson Objective: To understand the yeast method, particularly for use in pizza dough; benefits of cooking from scratch, learn steps to prepare yeasted dough; how to set up an assembly line. How to use teamwork, MEP; work ahead strategies; proper use of Hobart mixer.

Materials/Tools Needed: Equipment and product set-up; Hobart mixer; recipe card for dough and sauce

Minutes Allotted: 15

Opening:

Knowing the proper way to "proof" yeast to make sure that other ingredients are not being wasted if yeast is not viable; Team work, assembly line and working ahead are key factors in operating a successful school kitchen.

We know that kids love pizza. Pizza is great, but we want to be mindful of the ingredients and the toppings so that we do not have too much sugar, fat and salt. We can do this by making our own pizza. For the foundation of the pizza, we will start with the pizza dough. To make this dough, we will need to understand the 'yeast method' and the steps to assemble it.

Instructional Procedure:

10 minutes prior to the beginning of the demo; begin proofing the yeast by adding all wet ingredients together a see-through vessel.

Begin by reading the recipe; explain that all ingredients have been "specifically" MEP for this demonstration to speed our production

- 1st: Show the vessel containing the yeast mixture. Tell how the water temperature was between 117-120, and not over 120 because if the water is too hot, it would kill the yeast. The honey has been added to give

the yeast something to feed on and to allow it to activate. The oil has also been added so that we only have (1) mixture to add to the dry ingredients. Note that the yeast should look frothy; this tells us it is alive.

- 2nd: All dry ingredients have been MEP and explain that they were "weighed" to give a more precise measurement.
- 3rd: Load all wet & dry ingredients onto a cart and wheel to the Hobart mixer.
- 4th: QUESTION: "Who is familiar with this piece of equipment?" Ask if they would like to volunteer to assist in working the machine; ask for another volunteer who is not familiar with the machine.
- 5th: Show how to properly attach mixing bowl, paddle and safety features
- 6th: Ask one of the volunteers to add dry ingredients to mixing bowl;
- 7th: With machine on low speed, as to not have the dry ingredients whip out of the bowl; have 2nd volunteer slowly add the wet ingredients
- 8th: Allow machine to incorporate wet & dry ingredients; then demonstrate how to scrape down the bowl
- 9th: While dough is "kneading" for 10 minutes to develop the gluten so that the dough can rise; return to work station and continue the pan prep and explain the Sauce Recipe and how a spoodle can be used to spread the measured amount of sauce per pan.
- 10th: Ask for (2) new volunteers; one to oil & one to cornmeal QUESTION: "Why do we want to prepare our pans?" (Answer: So that all of the product will release and we will be able to serve it; and to be kind to our dishwashers."
- 11th: When dough is done kneading; ask for (2) more volunteers to help remove batter from bowl and place into a large Cambro. Note the total volume of the product. Split the product between the (2) pans.
- 12th: Dough will need to rest in on a speed rack for 20 minutes before it gets par-baked; explain that because it is a "wet" dough we cannot spread the sauce and toppings on until dough is par-baked or "partially baked" then toppings are added and only 7 minutes for final bake-off. All steps can be done the day before through the par-baked crust.

Explain the group assigned to the dough will finish it. Morning group to serve pizza for lunch; afternoon group to make fococcia to be served on Day 2.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Participants/volunteers to help with assembly

Closing Summary: (Review of key lesson points)

As we can see it is important to make sure that we start this entire process by making sure that our yeast is alive. The last thing we would want is to measure all ingredients, add to the mixing bowl, mix for 10 minutes and rest another 20 minutes, only to find out that the yeast was dead and we have to throw all the dough away. We also know that we can make a quality pizza, from-scratch with minimal ingredients. When we work ahead, we can prepare this on the day of service in just minutes and serve fresh, hot pizza to our students."

Lesson Objective: Understand how to measure by weight and volume; the difference between wet and dry measurements; (4) basic types of quick breads; why it is important to cook from scratch; how quickbreads can be integrated into production.

Lesson Rationale: Materials/Tools Needed: Set of dry measuring spoons and cups; 1-cup, 2-cup, 5-gallon Cambro containers, large scale, digital scale, timer, whiteboard, pens, eraser

Minutes Allotted: 15

Opening:

Baking is precise work. The quality and consistency of our baked goods depends on precise measurements. A recipe will be successful if our measuring techniques are correct. Therefore it is crucial to understand the importance of proper measuring techniques and how they relate to consistency and quality.

Instructional Procedure:

When we bake, we often have two types of ingredients. Can anyone name those (2) main categories?

(Answer: Wet and Dry)

We are going to look at two different ways to measure different ingredients and what method will be best to you and why. The two basic techniques to measure our ingredients are by weight and by volume. In school kitchens, we will most likely be measuring by volume, and this will give us the most consistent and accurate results.

Weight measurements

"Of the tools displayed here, which one is the best to measure by weight?" (Answer: Scale)

Because we are baking on a large scale, it will make more sense to measure by weight than measuring out 20 cups of flour. This would not be an efficient use of time and we may have discrepancies in our scoops and this would affect our overall consistency and ultimately the quality of our baked goods.

Demonstrate: How to "tare" the scale. (Either manually turn dial or press "zero/tare." What the difference would be if we did not tare a scale. (We would include the weight of the vessel and that would not give us an accurate read on the actual ingredients)

If you may want to convert a recipe from volume to weights, the "Book of Yields" is an excellent source.

Volume measurements

When we bake at home, we are most likely using volume measurements (by the cup or teaspoon, etc.). As we discussed, this method is not recommended for professional baking.

Measuring by volumes can be reliable when using the proper techniques. To measure dry, we always want to have level scoop that are not packed too tightly. The best method is to lightly spoon the ingredients into the cup then level off the top. The only time to "pack" ingredients in the cup is when the recipe specifically tells you to do so, as in the case with brown sugar.

Lesson Objective: To understand the difference of measuring by weight and volume; the different between wet and dry measurements; (4) basic types of quick breads; why it is important to cook from scratch; how quickbreads can be integrated into production.

Materials/Tools Needed: Set of dry measuring spoons and cups; 1-cup, 2-cup, 5-gallon Cambro containers, large scale, digital scale, timer, whiteboard, pens, eraser

Minutes Allotted: 15

Opening: Now we are going to talk about quick breads. Can anyone give me a definition of quickbread? (Answer: Breads that are quick to prepare, usually due to the fact they are leavened with baking powder, or baking soda, rather than yeast.)

Most of the baking we see in school is done by using a Quickbread method. We are focusing on Quickbreads because by definition they are "quick" to assemble and this can be ideal for the types of time constraints a school' kitchen faces.

Many basic Quickbread recipes can be transformed with the addition of various flavor agents. Take the basic scone recipe, which can be altered from the basic scone to cinnamon/raisin, cranberry/orange, lemon/blueberry, peach, strawberry, or dried cherries. The combinations are endless.

Quickbreads typically use baking powder or baking soda, which are chemical leveners to make them rise; it is a chemical reaction with the other ingredients and the steam that is released from the wet ingredients

The texture of Quickbreads is very soft and tender because dough is mixed minimally

Instructional Procedure:

For all quick breads we must use the following techniques:

- Measure/Scale all ingredients accurately
- Mix minimally

We are going to talk about (4) types of Quickbreads and the "method" that is used to mix them.

Biscuit Method or "Rubbed-Dough Method" will be used for the buttermilk biscuits we make today, but also used in scones

- Scale then sift dry ingredients together and mix
- Basically the cold fat is then "rubbed" or cut into dry ingredients, and mixture should resemble small pea-sized pieces
- Measure and combine liquid ingredients and add to dry and mix only until just combined
- The key is to mix and form gently to keep the biscuits light and tender

Muffin Method or "Well Method" which is used for muffins, pancakes, waffles and the Sweet Potato Bread

Scale all dry ingredients and mix

Measure all wet ingredients, including fats

Add liquid to dry until just combined; do not over mix

If mixing by hand; make "well" with dry ingredients then pour wet ingredients into "well" and fold to mix until just combined

Bake immediately so that the chemical leveners are effective

Creaming Method which is used for cakes, cookies and sometimes muffins

- Most important is to have all ingredients at room temperature so that they can incorporate into a creamy mixture with no lumps of cold fat
- The basic technique is to "cream" or beat the fat and the sugar until it resembles a light, fluffy mixture, then the room temperature eggs will be added one at a time and then the liquid ingredients will be added in batches alternating with the dry ingredients all the while continuing to mix as to incorporate air

Yeast Method which is used for yeasted breads and pizza dough, focaccia, etc. and we will use it for the pourable pizza crust

First step for this method is to check to make sure that the yeast, which is an organic levener, is alive and we do this by hydrating the yeast

We hydrate the yeast because we do not want to mix all of our ingredients together and then find out the leavening agent will not work or is dead or expired

To do this we mix the yeast with water at a temperature of 115-120 with a little sugar

We want to check that the yeast comes alive and it will resemble a frothy cappuccino

It then can be added to the dry ingredients and mixed to develop gluten, which is the protein in flour. By developing gluten, elastic-type bands are created, like a spider-web and gases are released and trapped inside the web when it rises. This gives it texture.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

QUESTION: "Does anyone bake a home?" and "What type of things do you bake?".

ACTION: Create list of items students bake at home. Use list to identify types of Quickbreads after definitions are given.

Closing Summary: (Review of key lesson points)

- Control of the ingredients; no preservatives, additives, coloring
- Whole grains, less fat, sugar and salt
- Quality is fresh

Lesson Objective: To learn how to make (3) base dressings that can be modified with simple flavor agents. Learn that by assembling season kits ahead of time, actual assembly time for the dressing is minimal

Materials/Tools Needed: Ranch, Caesar, Italian Dressing recipe cards, ingredients and equipment set up, service containers; lettuce to taste dressings

Minutes Allotted: 20

Opening:

By making salad dressing from scratch, we can control the sugar, fat and salt content as well as customizing flavors. MEP, work ahead

"Today we have focused on many types of vegetables and items for our salad bars. Now, let's look at some dressings to go with our greens and vegetables."

Instructional Procedure:

CAESAR DRESSING - This dressing is not only great for Caesar Salad, but also can be used as a sandwich spread or in wraps

QUESTION: "Has anyone ever had a 'classic' Caesar Salad? Can you think of one ingredient in the 'classic that may not be so popular with the students?" (Answer: Anchovies)

For this recipe, we will be omitting the anchovies and it will be replaced with soy sauce. This will mimic the anchovies' saltiness.

This recipe also calls for apple cider vinegar, which is made from apples and will give the dressing a mild sweetness with no ADDED sugar.

The other variable components in the recipe are the Dijon mustard and the garlic. We know that Dijon mustard can sometimes be spicy or sharp. For this reason, you will want to be mindful of the brand you purchase and only start with ½ the amount. This is the same with the garlic. The beauty of cooking from scratch is that you can easily adjust the flavor agents.

- To assemble; add ingredients and only ½ the Dijon mustard and garlic; use immersion blender.

Student Participation:

- Have students taste by dipping pieces of lettuce into small vessel of dressing and adjust seasoning.
- Students should help by reading recipe and using the equipment to blend.

ITALIAN - "This is another great dressing that can not only be used on the salad bar, but can also be used for sandwiches or pasta salads or marinated beans and vegetables."

- After reading the recipe, point out that a "kit" of the dry seasonings has been made. This can be done ahead of time and many kits MEP so that fresh dressing can be made weekly on only take a few minutes.
- As with the Caesar, we will use cider vinegar for a little sweetness and we will need to be mindful of the Dijon and the garlic.
- To assemble; add all ingredients to Cambro and ½ garlic and Dijon. Use a large whisk or incorporate.
- Note how the mixture begins separated and with a little whisking it will emulsify and come together. If making a large quantity, we would want to "recognize when to mechanize" and use the emersion blender. This dressing is great when we need to make something very quick because no equipment is really needed and with the kits MEP it can take just a few minutes.

Student Participation: Have students taste & adjust seasonings.

RANCH - QUESTION: "What is the most popular dressing with the students?" (Answer: (Most likely) RANCH)

"We know that kids love ranch. Why not make something that is fresh and that we know that we can control the ingredients."

- If we compare this ranch recipe to a national brand, we know that they do have added sugar. Most often prepared Ranch dressing is flavored with monosodium glutamate or MSG. Some people are intolerant or sensitive to MSG and can present symptoms that can mimic an allergic reaction and we need to be mindful of this.

This recipe does not have any added sugar or MSG. There are only a few ingredients and all the dry ones have been MEP into a kit. These can be made in advance and stored on the shelf for 2-3 months. Then for assembly only the buttermilk and mayonnaise need to be added.

- To assemble; add all ingredients to the Cambro; use emersion blender to combine.

Student Participation: All students should taste. Assign one group at the end of the demo to transfer dressing to service containers; label and date

QUESTION: "How could we vary this basic Ranch recipe with other flavor agents?" (Answers: Chipotle, basil, Spice Rub, sun-dried tomato) These are all good additions to Ranch and can be used in different recipes, i.e. SW salads, Italian wraps, Pita Pockets)

Closing Summary: (Review of key lesson points)

By MEP the season kits for some of these dressings and making them from scratch from a limited amount of ingredients, we can see how easy it is to prepare fresh dressings. We can also control what is added into the recipe and add flavor agents to get numerous combinations.

Lesson Objective: Understanding the ease of working ahead and creating an assembly line; proper re-therm temps and portion sizes

Materials/Tools Needed: Macaroni and Cheese Demo equipment set-up, and product set-up.

Minutes Allotted: 15

Opening:

"Team work, assembly line and working ahead are all key factors in operating a successful school kitchen. Mac and Cheese gives us a chance to practice all those skills."

"Do kids like pasta dishes, macaroni and cheese?"

Instructional Procedure:

We are going to look at how to assemble this recipe but there a few key points to this demonstration.

1st: Let's look at the MEP for the recipe. Ingredients: recipe card, pasta, sauce, salt and pepper. Equipment: Speed rack, scale, liquid measure, rubber spatula, parchment paper, hotel pan lids (foil) and the total number of hotel pans we will need for production (have a stack of extra hotel pans to indicate volume, though only (1) will be used for demo.) Begin to lay out the hotel pans ask QUESTION: "How many people are needed to create an assembly line?" (Answer: One)

"I could work this assembly line by myself, but I will ask for one volunteer to read the recipe and one volunteer to help with assembly."

2nd: QUESTION: "Before we begin 'cooking' a recipe, what is the first step?" (Answer: Turn on ovens)

3rd: Because we always want to do similar tasks at the same time (2 pans or 20 pans), we will prep each pan with a little oil. This will ultimately ensure that we can get all of our product out of the pans AND that we will keep our dishwashers happy, which may be ourselves at the end of a shift.

4th: For the recipe, we will want to weigh the correct amount of cooked pasta for each pan. We will want to put a vessel on the scale then tare/zero the scale so that we are only weighing the correct amount of pasta and not the vessel. The weight per hotel pan will be 5.5# of pasta. We will fill each pan with pasta before

moving on to the next step.

5th: For the sauce, I will want to measure 1 gallon of cheese sauce per pan. I would want to measure and pour sauce into each pan before I begin mixing. Then I will go back and add the appropriate amount of salt and pepper. To use economies of motion and scale, I could mix the salt and pepper together then add the correct amount.

6th: I would work my way down the assembly line, mixing as I go.

7th: Cover with parchment and lid. The parchment will help keep the cheese from baking on the lid and this will also be for ease of clean up.

8th: Last would be to properly label each pan; date, title and initial, if appropriate.

9th: Return pans to speed rack once labeled and wheel into walk-in

By creating the MEP for this macaroni and cheese assembly we can ensure that we are working efficiently.

When we use standardized recipes, we can ensure consistency and the yield, or number of portions. We want to make sure that the amount that we prep will result in the correct number of portions.

QUESTION: "Why is it important to serve the proper portion?" (Answer: If we serve too large of a portion, we may run short of product; if we serve to small of a portion, we will not be serving enough to the students for a reimbursable meal and we may have extra portions that get thrown away. We could lose money in reimbursements and food and labor costs)

To re-therm macaroni and cheese ask, QUESTION: "What temperature do we need to reheat this to?" (Answer: 165) QUESTION: "How much time do we have to reach 165?" (Answer: Within 2 hours)

Always give yourself enough time to re-therm. Once you have reached 165 within 2 hours, you can always hold items until service.

The last step to complete this recipe is to add cheese on top for the last 5 minutes of cooking. Since we are not putting in the oven now, we will place the measured cheese with our item so it is ready when we need it.

We would never want to reheat in a warming box or steam table, as we could not reach the proper temperature in our allotted time and our food would be exposed to the danger zone.

For the morning session, assign one team to re-therm the macaroni and cheese. It should go in the oven 1:15 prior to service.

For the afternoon session, explain that this will be used at a later lunch service.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

With this demo, we can see how to create an assembly line, how important MEP is in efficient production, and why working ahead is essential to our operations. We also know how important it is to label our products so we know where to find them, how to reheat and properly portion. This method could be used for any number of baked pasta dishes, i.e. pasta with meat sauce, pasta with chicken and broccoli, pasta salads, etc.

Lesson Objective: The ease of working ahead and creating an assembly line

Materials/Tools Needed: Marinara Sauce & Lasagna recipe card(s), product and equipment set-up

Minutes Allotted: 15

Opening:

"This recipe comes from the Lompoc Unified School District's central kitchen and was created by one of their chefs, EZ. We are happy to share his recipe and because it is a crowd favorite we have added it to our collection of recipes. In this demo, we will incorporate many things that we have learned this week. First, we will thank the team who made the Marinara Sauce on Tuesday. We are 'repurposing' the sauce in this recipe. By 'repurposing,' we can use ingredients to create new dishes. The next thing is that we have MEP all ingredients. We will also be using teamwork and an assembly line both showing us how we can work ahead."

Team work, assembly line and working ahead are key factors in operating a successful school kitchen. This

recipe gives us an opportunity to use all those skills."

Instructional Procedure:

- As you read the recipe, explain that the layers were MEP ahead of time; Marinara sauce, cheese mixture, and noodles. MEP will help the over all speed of production
- Read the separate recipe card for the Marinara sauce; ask a volunteer to explain how their group made the sauce earlier in the week
- Note this recipe is a vegetarian entrée, but can substitute meat for some of the cheese
- Highlight food safety and remind participants that we only want to pull enough product to work with within (1) hour
- Ask for (3) volunteers
- 1st volunteer can prep the pan with light coating of oil; QUESTION: "Why would we want to prep our pans?" (Answers: To ensure that all the product will release for service and for ease of clean up) then follow with 1st layer of sauce
- 2nd volunteer can layer noodles; then 3rd volunteer layer cheese mixture; then repeat as directed on recipe
- We would maximize our production space by clearing all that we can and combining table/counter space. Utilize a cart to move the heavy product up and down the assembly line.
- Have volunteer label and date
- Designate a production team in the morning to reheat for lunch; QUESTION: "What temperature would we want to reheat this dish too?" (Answer: 165 within 2 hours)

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Hands on participation by (3) students; question and answer during demo

Closing Summary: (Review of key lesson points)

"A few key points about this demo are:

1st: we were able to 're purpose' the Marinara Sauce that was made earlier in the week

2nd: ingredients were MEP to speed production

3rd: we used and assembly line and team work

4th: we are happy to share this recipe, which was created by one of our partners, and last this is a menu item kids really do love, sauce made from-scratch, cheese and noodles.

Lesson Objective: Demonstrate proficiency using the immersion blender (there will be other opportunities to use the immersion blender.) Define and discuss pureéing as a thickening process for sauces. Demonstrate safe food practices for tasting food.

Materials/Tools Needed: Marinara sauce cooking in tilt skillet, Immersion blender (unplugged), 22 quart Cambro, Small metal bowl or 3 quart Cambro, Kitchen spoon, Tasting spoons (durables), Large paddle.

Minutes Allotted: 30

Opening:

"Welcome to Kitchen power tools, 101! The immersion blender in volume cooking environments can be one of your first best friends…"

puréed

The immersion blender is an invaluable tool that may not be utilized if participants are not trained in a comfortable environment.

Thickening sauces with added puréed vegetables is invaluable in adding "stealth health" to sauces. Participants need to know the professional protocols for tasting the items they are cooking in a safe manner; knowing this enables better seasoning practices and continuous tasting during the cooking process.

Today we'll learn how to use an immersion blender to pureé a sauce to thicken; How to taste sauces and/or other products as a food professional, ensuring food safety.

Instructional Procedure:

Safety first! Unplug the immersion blender. With blender unplugged, demonstrate safe use of the immersion blender, assembly, safety switch, speeds, trigger, etc.

- Ask one of the group members to summarize the cooking process for the marinara sauce
- Review (based on the immersion blender model) the two buttons required to turn on, the handle to steer and the off button
- Ask 2-3 volunteers to pureé the marinara sauce, giving priority to members of the marinara sauce group
- Show the technique for professional and safe tasting, ask one of the chef instructors to step up for the first tasting to demo
- Mother Spoon, over a container, not the pot
- Tasting spoons
- Drip sauce from the mother spoon onto each tasting spoon without touching over a container or bowl, product will be disposed
- No Double dipping!

Notes and Amendments for Improvement:

DEMO: CUTTING BUTTERNUT SQUASH

Lesson Objective: Demonstrate proficiency at utilizing butternut squash in different applications in a safe manner. Participants will **learn how to** peel and cut butternut squash for specific recipe: also gain familiarity with other cuts for butternut squash

Materials/Tools Needed: Cut glove, compost container, slip mat, cutting board, chef's knife

Minutes Allotted: 10

Opening:

Butternut squash is a great product to utilize as a "stealth health" ingredient; as an ingredient in a cheese sauce, as a salad bar item (as roasted squares or as a thinly sliced skin-on roasted item

Instructional Procedure:

Set up station--Demo

- Trim both ends of butternut squash, cut in half between the two halves;
- Discuss: the two halves are different, the bottom half holding the seeds
- Show: the peeling of the skin, shaving around the ends of the two halves, splitting and removing seeds from the bottom half
- Show: Cutting into squares (for group production)
- Show: Shaving into thin slices to roast (served for lunch?)
- Show: Cutting whole squash to roast (for mac & cheese)
- Use Cut knife-Safety first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Lesson Objective: Participants will experience the ease of working ahead and creating an assembly line

Materials/Tools Needed: SW Sauce & Lasagna recipe card(s), product and equipment set-up

Minutes Allotted: 15

Opening:

"This recipe was actually developed in a school kitchen in Santa Barbara. We will see that it mimics the flavors associated with enchiladas but out of necessity it was created and assembled like a lasagna. As we know, with limited time in the kitchen it would be hard to create enough time to hand-roll each tortilla as in a 'traditional' enchilada entree."

Instructional Procedure:

- As you read the recipe, explain that the layers were MEP ahead of time; SW sauce, meat & cheese mixture, and tortillas; this will help overall speed of production
- Read the separate recipe card for the sauce; explain how different flavor agents can be adjusted for the palates of the students, especially the amount of chili.
- Note this recipe can also be a vegetarian entree with the substitution of beans for the meat and still be counted as a Meat Alternative; this can also help reduce overall production cost
- Highlight food safety and remind participants that we only want to pull enough product to work with within (1) hour
- Ask for (3) volunteers
- 1st volunteer can prep the pan with light coating of oil; QUESTION: "Why would we want to prep our pans?" (Answers: To ensure that all the product will release for service and for ease of clean up;) then follow with 1st layer of sauce
- 2nd volunteer can layer tortillas; then 3rd volunteer layer cheese mixture; then repeat as directed on recipe
- We would maximize our production space by clearing all that we can and combining table/counter space. Utilize a cart to move the heavy product up and down the assembly line.
- Have volunteer label and date
- Designate a production team in the morning to reheat for lunch; QUESTION: "What temperature would we want to reheat this dish too?" (Answer: 165 within 2 hours)

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Hands on participation by (3) students; question and answer during demo

Closing Summary: (Review of key lesson points)

A few key points about this demo are:

1st: we MEP all ingredients to speed production

2nd: we used an assembly line and team work

3rd: we have several different ingredients we can substitute in the recipe and use the same method; cheese, meat, or beans.

4th: finally, because it was made from scratch we can control the quality of ingredients and the flavor agents to customize the recipe for our customers, the students.

Lesson Objective: Participants should see and understand economies of scale and the ease of working ahead, and learn procedures for safely washing a large volume of greens (lettuce, spinach, herbs) while using MEP, work ahead, and assembly line.

Materials/Tools Needed: Greens; Equipment set-up for Greens Washing Station (cutting board, (2) slip mats, chef's knife, s/m/lg rubber gloves, salad bar inserts/Lexans, salad spinner, colander/spider, 2-compartment sink filled half-way with cold water; compost bin, trash can

Minutes Allotted: 15

Opening:

"If we may be lucky enough to have greens from our school gardens make their way into our kitchens or bulk greens through a farm-to-school program, we need to know how to properly clean them for use in our recipes and on our salad bars. Using greens from the School Garden, or loose greens (not pre-cut & packaged) means less package waste, more freshness and better flavor."

Instructional Procedure:

1. All participants should put on gloves because they are going to be handling ready-to-eat food
2. Chef instructor will explain station set-up:

- 2 compartment sink has been washed and sanitized; then ½ filled with cold water
- Cutting board has slip mat under it so that the board does not slip; same with salad spinner
- Several bins ready for cut product
- Compost bin for trim waste; and trash bin for rubber bands or twist ties, gloves

3. Chef instructor will demo how to cut a head of lettuce

- Split length-wise down through the root-end; keeping the root-end attached as with the onion
- Make several cross-cuts from the root-end; as with dicing the onion
- With the root-end at 9:00, tightly gather the leaves and with the knife tip at 12:00 "rock" the blade through till 6:00
- Compost the root-end
- With a gloved hand, and not the blade of the knife, scrap leaves into water-filled sink
- Swirl with spider/handled colander causing the dirt to fall to the bottom
- Scoop greens from water with colander and put in salad spinner

- Be mindful that the lid of the spinner is secure and spin dry
- Pack into salad bar containers; label and date
- After initial demo is completed by Chef Instructor, have each student process at least ½ head.

Closing Summary: (Review of key lesson points)

"As we can see, we can set up a mini-assembly line with this station. This method of washing greens would not only work well for lettuce, but other salad greens such as spinach, kale, and other leafy greens like herbs."

Lesson Objective: Upon completion, participants will be able to demonstrate the safe and proper usage of commercial Hobart mixers with confidence

Materials/Tools Needed: Hobart mixer (per host kitchen site), equipment and ingredients per "Mashed Potato" recipe, Serving container (AM) and lid/foil or hotel pan (PM) to cool (take temps in both sessions and have Equipment Manager's group log temps on their station food temp log

Minutes Allotted: 10 (during production)

Opening:

"Welcome to the Hobart mixer demo. A commercial mixer (i.e. Hobart) is a piece of equipment that optimizes the ability of school food service workers to cook from scratch and maximize time management concepts while building the confidence to cook in volume environments"

"How many have used this or another size (version) of this mixer? Do you like what it does for you and your ability to cook for volume? What have you made in a Hobart?"

While talking, move potatoes into the bowl of the mixer.

Instructional Procedure:

Ask, 'What's our first priority when working with mechanized, electric equipment?" Answer: 'Safety first!!!"

Depending on the piece of equipment, talk about built-in safety features that don't allow the mixer to start unless guards are in place, etc. If not, unplug the mixer and demo how to lower and raise the bowl, use the wheeled platform that allows the bowl to be moved out from the (based on size) and the different attachments (whisk, paddle and dough hooks) Show how to attach and detach the paddle for mashed potatoes.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Demo the recipe and Ask for volunteers to scrape the bowl, pack the mashed potatoes, remove the paddle and wheel bowl to dish area

Taste IF time allows

DEMO: RE-PURPOSING BROCCOLI SOUP

Lesson Objective: Demonstrate the process of taking base sauce and converting it to a different finished product

Materials/Tools Needed: White sauce, un-thickened (3 quarts), cooked broccoli (2 lbs.), mashed potatoes (1 quart), grated Parmesan cheese (2 C.) per recipe card, kitchen spoon, immersion blender, container, mother spoon, tasting spoons, 2-inch full hotel pan (to organize equipment).

Minutes Allotted: 10 (during production session)

Opening:

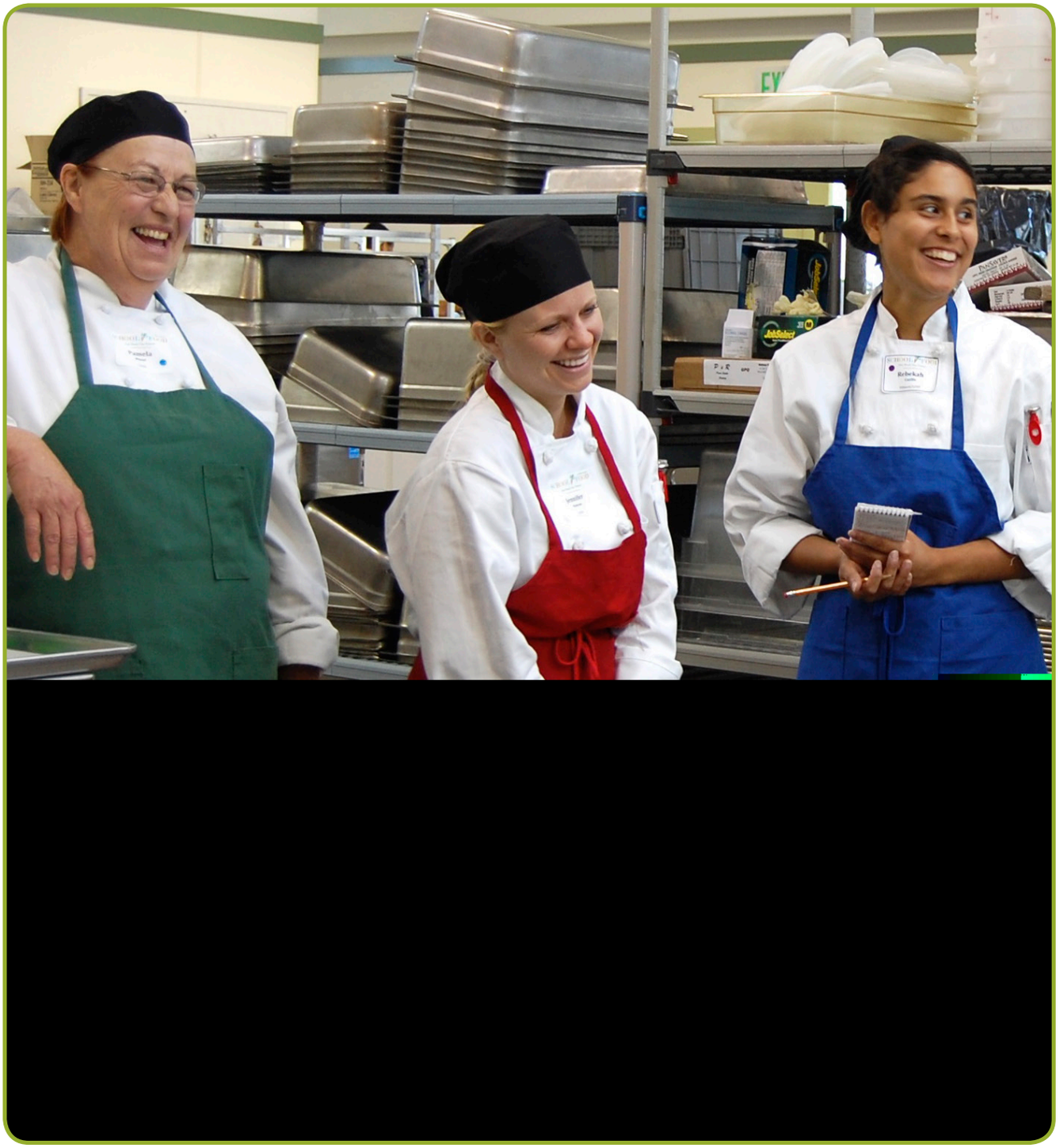
"Welcome to our re-purposing Demo—We are going to take the un-thickened white sauce I reserved yesterday before I added the slurry to the white sauce and then the cheese and butternut squash to make the cheese sauce. When using a core number of base recipes in your kitchens, you can maximize the number of menu items by re-purposing sauces when possible to save money and time."

Instructional Procedure:

During the middle part of kitchen production, heat the white sauce and cooked broccoli and bring to a simmer. Hold, covered until participants are ready, Then ask for one volunteer to blend the soup, adding the reserved mashed potatoes and the Parmesan cheese. Ask for another volunteer to taste everyone on the soup and add salt and pepper as needed (White sauce is typically under seasoned).

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Two participants will have conducted the demo under the chef instructor's guidance



Notes and Amendments for Improvement:

Lesson Objective: Define and discuss why cooking from scratch is beneficial for health, well-being (tasty and aromatic) and the financial benefits; Define the value of enriching sauces with vegetables; Discuss the three classic ways of thickening sauces and how they are applicable to school food; Discuss and demonstrate proper cooling techniques to stay compliant in safe food handling.

Materials/Tools Needed: White board, dry-eraser and dry-erase markers, props as needed, (canned / bottled marinara and/or "alfredo" sauces), Pre-written flip chart of the different cooling methods with pictures

Minutes Allotted: 5 + 15

Introduction:

Why make sauces from scratch? (Ask the question) Ideal answers include:

- Taste
- Aroma
- Control of ingredients: including preservatives, food colorings/dyes, shelf stabilizers, flavorings
- Health

Instructional Procedure:

Introduce the notion of stealth health, i.e. butternut squash in macaroni and cheese; Refrigeration; funky meat, heavy sauces

Mother Sauces: (Ask the question: who makes sauce from scratch at home or at work?) Keep it short and sweet

Give them: Espagnole and Veloute sauces; Prompt: Tomato sauce

If not offered by participants, prompt Bechamel and Hollandaise (Eggs Benedict)

Talk about SFI's recipe for white sauce being a hybrid of Velouté and Bechamel sauces

Introduce Math in the Kitchen: Fat + Flour (in equal amounts by weight) = Roux (thickening agent)

Cornstarch (or other starch) + Liquid (water, stock, broth) = Slurry (Thickening agent)

Thickening Agent + Liquid = Sauce

Thickening techniques:

- Puree, stealth health using vegetables
- Reduce, evaporating liquid for sauce consistency
- Add thickening agents:

- Slurry
- Roux
- Pros vs. Cons: Slurry vs. Roux
- Roux: freezable but expensive, easy to burn, needs to be well-managed
- Tasty but expensive
- Slurry: Unfreezable (freeze the sauce, then add slurry upon reheat)
- Inexpensive; adds shine and gloss to the sauce

Proper Cooling Techniques:

According to ServSafe's two stage cooling method, we have 6 hours to cool foods to below 41˚ F

Two stage cooling method: 2 hours to get to 70˚ F,

Then 4 hours to get to below 41˚F (Write on white board)

The first stage is the most important because this is the temperature range in which bacteria grows most rapidly, so we want to move our sauces out of that temperature range as quickly as possible

This process is monitored by logging the temperatures on a food log which you will do today. The logs are taped to your station

Ask if anyone can think of some proper cooling techniques and be prepared to write down as students respond:

- Increase surface area (divide into several batches)
- Increase air circulation
- Transfer to a metal container
- add ice
- Ice wands
- Cool in a freezer, walk-in cooler or a blast chiller if possible
- Cool uncovered
- Ice Bath

Communication: important that other kitchen staff knows and can see that sauces (or any foods) are cooling, best place is to store on carts or speed racks

Student Participation:

None – lecture; note that participants can take notes and ask questions during production and/or review

Lesson Concept: Lesson Objective: Define and demonstrate the process of thickening sauce with a slurry. Define potential other usages of the white sauce including derivative sauces. Participants will learn how to thicken a sauce by adding slurry as the thickening agent. How to create derivative sauces from the white sauce ("Alfredo" and butternut squash cheese sauces)

Materials/Tools Needed: White Sauce pre-thickening and Butternut Squash cheese sauce per recipe, "Alfredo" sauce ingredients (grated parmesan cheese and chopped parsley), Small sauce pan with boiling water and ¼ C. grated cheddar cheese

Minutes Allotted: 5 + 15

Instructional Procedure:

"This demo is a jump-off from the White Sauce Group Production: The group provides the white sauce recipe when it comes to temp. (200-210˚ F, temp and log, REMOVE 3 quarts of sauce for the Broccoli soup demo)

Have the white sauce group measure the cornstarch and liquid (preferably milk or stock) but do not mix together

When the white sauce comes to temp and 3 quarts have been removed, gather the entire group for the demo: (the reserved un-thickened white sauce is temp'ed and set aside to cool according to HAACP protocols

Demo: Mix the cornstarch and cold liquid together and whisk into the white sauce, and immersion blend in 1 quart of grated parmesan cheese and 1 C. chopped parsley, taste with the group

Remove 3 quarts of sauce for lunch (keep warm) and

Proceed with the Butternut Squash Cheese Sauce: per Recipe (for 1 gallon), give as many participants as possible the opportunity to use the immersion blender

Mix cheese into the boiling water and explain that:

The starch in the sauce allows incorporation of the cheese into the sauce; without the starch, the fat in the cheese just coagulates without becoming incorporated into the liquid

Professional sauce tasting; if possible utilize white sauce group members to use the "mother" spoon

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

White sauce group members take charge and become part of the demo group, immersion blender opportunities for everyone and professional sauce tasting demo

Lesson Objective: Recap advantages of making sauces from scratch; Recap recipe-reading; read at least two times and delegate group members; General vs. Specific Mise en Place; "Produce Stand" (Mise en Placed ingredients). Participants will learn three different ways to thicken sauce;

Lesson Rationale: Materials/Tools Needed: Production and Group Assignment White Boards

Minutes Allotted: 20

Introduction:

This is an overview of the kitchen production session, time management concepts, basic cooking techniques, multi-tasking, recipe reading (to execute sauce recipes), develops skills in measuring and/or accurate weighing.

Introduce the “Produce Stand” and indicate that the measuring and weighing utensils will be at the station and so will bowls (if applicable) to take away their product. Indicate where each group will be cooking: generally it will be:

- Marinara sauce in the tilt skillet
- White sauce on the stove top burner
- BBQ sauce(s) on the portable burner *
- Turkey gravy on the stove top burner

* Remind group to occasionally check their burner to make sure the heat canister is not empty

Instructional Procedure:

Introduce Sauce Making and utilizing Time Management tools:

Multi-task, sauces need to be stirred occasionally but they don’t need to be baby-sat

Read and follow the recipe but use your own common sense

After you read the recipe, delegate and decide who will do each task: gather he produce, check off equipment refrigerated items and dry goods, who will do the actual cooking, etc.

After you have decided who is doing each task, send your delegate to the “Produce Stand” with appropriate containers to weigh/measure your produce

Advise participants that there will be three mini-demos within the production time and that we will ask them to gather around the appropriate station for the demo:

Marinara-pureéing, using the immersion blender (incorporate the professional tasting technique into the first sauce demo using a “mother” spoon, container and tasting spoons

White Sauce-adding a slurry to thicken and butternut squash cheese sauce variation

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

After the sauce overview, the participants have hands-on experience with: reading a recipe, weighing/measuring ingredients, making their assigned sauce and cooling properly (as required).

Lesson Concept:

Objective: Demonstrate proper cooling and storing techniques; Determine which baked goods are to be frozen. Students will learn how to properly store baked gods for next day and/or service further out

Lesson Rationale: Materials/Tools Needed: Bun cover

Minutes Allotted: 20

Opening:

If baked goods are not stored properly, they will not taste fresh or as delicious as when they come out of the oven. This disappoints your customers (students) and can be a waste of time, money and resources.

Ask if anyone has ever baked cookies and stored them tightly in a tin (as most recipes indicate) only to find the cookies taste stale after a short period of time. This is called “staling”, and it happens when baked goods are not completely cooled before being wrapped.

Instructional Procedure:

Proper storage entails:

1. Completely cooled before wrapping (planning baking projects early enough in the day so that the baked goods can cool before the day ends and everyone leaves)

2. Wrapping the baked goods with a bun cover or in containers, un-refrigerated

Ask why we wouldn't want to refrigerate baked goods (Answer: condensation, moisture will "stale" the baked goods)

3. Baked and frozen

4. Unbaked and frozen for items that can be baked from the frozen state

5. Labeled with product name, date, AM/PM group and group number (we want to identify the group so that if there is a teachable moment, we can return to the group with it)

DEMO: HIGH-LOW ROASTING METHOD FOR B.R.T. ROASTS

Lesson Objective: Discuss and demonstrate proficiency at handling large cuts of meat safely; Discuss possible menu options for BRT roasts (i.e. for pork: BBQ; sandwiches, tacos, burritos, Asian-style pork bowls, stir fries, etc. Demonstrate high-low roasting methods for large roasts; BRT roasts as an economical and versatile "cut" of meat for school food menus; Safe food handling for animal proteins; potentially hazardous foods

Materials/Tools Needed: BRT pork roast, equipment as defined on recipe card; Chef: disposable apron, disposable gloves, paring knife

Minutes Allotted: 20

Opening:

Safe food handling for animal/meat products (potentially hazardous foods) is a must for NSLP cooks. Familiarity breeds comfort when dealing with large cuts of meat. Whole muscle meats are advantageous as sources of protein for school food service; and BRT's provide a great source of versatility in school food menus

Instructional Procedure: Safety first!

BRT roasts-"boned, rolled and tied" – the different muscle cuts of pork are visible, tied together and while they look like separate cuts now, when they are cooked will appear to be one piece of meat

- Boned-boneless
- Rolled-together
- Tied-netted together
- This cooking method is a dry-heat cooking method utilizing both searing (browning, i.e. maillard reaction) and roasting
- The Maillard reaction creates *fond* "roasted yumminess" in the bottom of the pan for the start of a gravy or sauce
- High-low method, start in a hot oven,425 -450˚ F for 45", then turn oven down to 325-350˚ oven until the internal temperature is _____˚F ?
- Emphasize how equipment MEP has been set up for this session (trash can, paring knife, oven temp, plastic apron and spacing of the racks in the oven
- Discuss Maillard reaction
- BRT roasts are great sources of protein in school food menus since they must be cooked ahead of time for most applications (easier to slice and/or dice when cold) and are versatile in school food menus: tacos, burritos, Asian-style pork bowls or stir fries, bbq sandwiches, posole, pork and beans—turkey BRTs can be versatile as well in the same ways: open-faced hot turkey sandwiches, traditional turkey meals, tacos, burritos, etc.


Chefwear

Lesson Objective: Demonstrate Slicing (as applicable); Slice pork roast, show the fond; demo pork roast assembly for pork bowl assembly and/or other recipes. Students will learn to dis-assemble and assemble slicer using applicable safety features and/or other features Students will demonstrate slicer proficiency; learn pork bowl assembly.

Materials/Tools Needed: Slicer, Pork Bowl Assembly Recipe Card and Equipment, ingredients as indicated; Meat Slicer, Gloves

Minutes Allotted: 20

Opening:

"Welcome to Pork Demo, Part 2!" Today we will focus on animals as foods in our kitchen production session and we will start off with finishing the pork roast that we started yesterday." The slicer is an important piece of equipment that allows mechanized slicing so volume cookery can be accomplished. Used properly, it can save us a great deal of time in the kitchen.

Instructional Procedure: If we did not get a chance to show the pork roast as it was cooling yesterday, show

the participants the cross section of the roast where it now looks like one piece of muscle meat. Take the netting off with gloved hands*

*Gloves are not necessary unless the pork is going to be served as is, for example in a cold sandwich. If it will be re-heated, gloves are not necessary.

- Slice 5-6 pieces of pork by hand, stack them and cut into 1 inch long julienne strips. Ask/Talk about cutting size-and-age appropriate pieces of meat
- Emphasize "Safety first!" Dis-assemble and assemble slicer, unplugged showing applicable safety features and/or other features (show blade sharpener but encourage participants to utilize professional sharpening services; automatic feature, etc
- Slice 5-6 pieces of pork, using the slicer and talk about the advantages of mechanized cutting when producing in a volume setting. If the slicer has the feature which allows cutting the slices into julienne pieces, show that feature, otherwise cut the slices into 1 inch long julienne strips.
- Put the meat aside into a container and set aside and/or have co-instructor remove from the Demo table
- Assemble the pork bowl per recipe card and talk about the different vegetables that can be used: celery, broccoli, onions, peppers, carrot slices or shreds
- Cross-pollinate the concept of MEP, noting that the ingredients for the pork bowl assembly has been specifically Mise en placed
- Show the graduated container (cambro) with the sauce and Ask participants how they would set this assembly up for multiple hotel pans and discuss

Lesson Objective: Students should be able to demonstrate proper handling of knives; basic knife cuts and techniques; how to refresh a knife blade

Materials/Tools Needed: Knife Skills tool set-up, "Production" whiteboard, produce

Minutes Allotted: 30

Introduction: "In today's lesson, we will look at several different knife cuts to learn the safe and proper techniques of how to use a knife as well as generate enough product for our sauce production."

Take a look at the production white board; identify the amounts of the different ingredients that need to be prepared. Review how the white board will be used to improve efficiency and MEP enough cut produce at one time for today's production and the remainder of the week; this allows us to "work ahead."

QUESTION: By looking at the white board ask: "Does anyone want to volunteer to dice (25#) of onions that we will need, mince (16) cups of garlic; slice (15#) of zucchini?" ACTION: Give praise to anyone who does volunteer, but explain that we will apply "teamwork" to get the job done. "Many hands make light work."

We will prep enough today so we can just measure what we need for each recipe and speed our production.

We want to be mindful of each cut we make as we will be using them at later times and consistency will make a difference

QUESTION: Why do we want to achieve consistent and accurate cuts? (Answer: The more consistent the knife cuts the more consistent the appearance, the cooking time will be more even and that will lead to better texture and flavor; two elements of food that are very important to kids.)

QUESTION: What is the first thing we will want to do with our produce before we begin our knife cuts? (Answer: Wash it!)

For this demonstration all produce has been washed ahead of time. We did this to also "work ahead."

Let's take a look at how we will generate the specific knife cuts that we will need. I will demonstrate each cut, and then you will return to your station and attempt to duplicate it.

The Chef Instructors will be working with their groups to monitor progress. We will be looking to see if you are using safe and proper technique when handling the knife.

We will be offering feedback. If needed, we may ask you to set your knife down so that we can review proper technique and make adjustments for your safety. After each cut, the Chef Instructors will collect your product and add it to our "Produce Stand," which we will use to gather our ingredients for sauce recipes. Remember after each cut, you will want to remove any debris and sanitize your board.

Instructional Procedure:

<u>Zucchini-1/4" half moon</u>

Holding up a zucchini ask, QUESTION: "Can anyone tell me what this is?" (Answer: Zucchini)

Pointing to the flowering-end of the zucchini; QUESTION: "Can anyone tell me what this end is?" (Answer: Flower)

The opposite end is the stem end that connects to the plant.

1st: We will want to start by trimming both ends and composting our waste. ACTION: Exaggerate how much to remove from the ends, approximately 1" pieces then ask; QUESTION: "Would this be the correct amount to 'trim' off?" (Answer: No, that would be cutting off a sizeable portion. If we cut off too much and throw it away, even though it is in the compost bin, it is throwing away money.)

2nd: SHOW how the zucchini rolls around the cutting board, mimic hacking at it. QUESTION: "Is this safe?" (Answer: No) ACTION: Slice lengthwise from stem to flower end and lay cut-side down to create a flat surface for balance and safety. Product should be placed with ends at 9:00 and 3:00

3rd: We will aim for ¼" slices. I will start with the tip of the knife on the board at 12:00 and in a rocking motion push through all the way to the heel of the knife at 6:00; it is a rhythmic motion and you can say "tip to heel, tip to heel."

4th: I am going to use the bench scraper to gather my product and put in the proper bin. QUESTION: "Could I use my knife to scrape the board?" (Answer: No, never. We would not want to bring the knife blade toward the palm of our hand nor would we want to scrape the cutting edge of the knife on the board to dull it.)

5th: I will refresh my board and you can return to your station with your Chef Instructor and practice this half-moon slice

Before moving on to the second cut ask QUESTION: "How did that first cut feel?" Allow a student to share their experience.

Celery-bias cut

QUESTION: "Has anyone heard the term 'bias'? What does it mean?" (Answer: To be angled; To lean to one side)

A biased, or angled cut, is what we will attempt to achieve.

1st: Trim ends for compost or note that they could be used in stock, or as a flavoring agent in beans or as a roasting rack for meat or inside the cavity of poultry to impart flavor and moisture.

I want to angle my product so that I get a cut that leans to one side. I don't want to angle my body, as that could cause stress on my muscles if I did this for a prolong period of time. ACTION: I will start with my product and place one end at 11:00 on the board. Then, start at the end of the celery, and with the tip of my knife at 12:00 and I will push through to the heel at 6:00 just as before. SHOW: A slice that is cut on the bias vs. cut that straight by exaggerating a large "chunk" piece.

The bias cut piece is thinner and has more flat surface area. This will be good for a quick sauté. The large chunk would be better for slow-cooking such as a stew or soup because the cooking time would be longer.

NOTE: If a student is making cuts and they are sticking together by the strings, stop the group and explain that we can separate the product by making sure that we are pushing all the way through to the heavy-duty heel edge of the knife.

Students should return to their stations and practice bias cut, and then refresh their station.

Carrots-1/4" half moon, bias

"The next cut may be a little more challenging." ACTION: Tap the carrot on the cutting board then ask QUESTION: "What is different about this carrot vs. the soft, spongy zucchini?" (Answer: The carrot is hard and more dense.)

We will need to be mindful when cutting from the thick root-end to the skinny stem-end to try and achieve the same consistent cuts.

1st: Trim ends. We always want to do like tasks at the same time. If we have multiple carrots to cut, we would want to trim all ends first.

2nd: We want to create a flat surface just as before. Starting with the tip of our knife at the root end of the carrot and finishing at the stem-end where our heavy-duty heel cutting edge is located. If needed, use guide hand to push the spine of the knife through the product.

3rd: Angle our product to 11:00. Begin with the tip of the knife at 12:00 and push through to 6:00; "tip to heel, tip to heel." You can return to your stations and try this cut.

Lesson Objective: Students should be able to demonstrate proper handling of knives; basic knife cuts and techniques; how to refresh a knife blade

Materials/Tools Needed: Knife Skills tool set-up, “Production” whiteboard, produce

Minutes Allotted: 30

Onion-sauté sliced 1/4” thick

Now that our blade is nice and straight, we can cut onions. One way we can try to prevent too many tears is not to have a rounded edge on our blade that will squish and mash the onion, squirting onion juice in our eyes. We want nice clean cuts.

Onion-sauté sliced 1/4" thick

Now that our blade is nice and straight, we can cut onions. One way we can try to prevent too many tears is not to have a rounded edge on our blade that will squish and mash the onion, squirting onion juice in our eyes. We want nice clean cuts.

1st: Thin slices are good for sautéing, which is a quick cooking method.

2nd: Identify root-end and stem-end and cut off both ends and compost or use as a flavor agent.

3rd: Create a flat edge by cutting from stem-end to root-end then peel

4th: Identify grow lines; those will be a "cheats" so we know what way to slice

5th: Cut side down we will cut along the grow lines; make sure fingers on the guide hand are tucked out of the way

6th: Half way through, flip the onion to gain more flat surface area for stability.

Onion-small dice

1st: Identify root-end and stem-end

2nd: Remove ONLY the stem-end; if you happened to remove both, please ask for a new onion. This cut will not work safely if both ends are removed.

3rd: With cut-side on board to create a flat surface, split the onion just as before, but this time we will use our guide hand on top of the spine and push through middle of the root-end

4th: Peel the onion

5th: Place the onion, root-end facing outward at 9:00, in the soft spot on the palm of your hand with your fingers pointed upward for stability

6th: We want to secure the onion with light pressure, too much pressure may cause onion to shoot across cutting board or put too much downward pressure that you cannot slide your knife blade through the onion

7th: Depending on the size of your onion, we will make 3-4 lateral cuts making sure that we do not cut all the way through the root-end

8th: Then we will turn our root-end to 12:00 and make 3-4 notch cuts the opposite way making sure that we do not cut all the way to the root end

9th: Then to dice, return root-end to 9:00 and with the tip of the knife at 12:00 push through to 6:00, "tip to heel, tip to heel."

The next two items will be for demonstration purposes only.

Garlic-Minced QUESTION: "Who has ever minced garlic"

It can take some time to chop into little, tiny pieces or "mince." However we will need a large amount for volume production and this is why we will ultimately use the Robocoupe. I want to demonstrate the method using the chef's knife.

1st: Create a flat cutting surface by smashing.

2nd: Gather all cloves and with a rocking motion of the blade, begin to mince back and forth until desired sized

pieces.

Ginger-Minced - Holding up the ginger root ask QUESTION: "Does anyone know what this is?" Ginger has a fantastic flavor and can beautifully season sauces and soups. But because it is a root, it can be tough and the skin hard to remove. We have a few different tools and methods to peel it.

1st: The peeler; does a good job but can be time consuming because of all the root's bumps and knobs.

2nd: The knife can work, and may be a little faster, but we will ultimately "trim" and waste much more product.

3rd: Holding up the spoon ask QUESTION: "What is this tool?" (Answer: spoon) The spoon is just the perfect tool to scrape the skin and move around the bumps and knobs.

We can see by this demonstration that we want to choose the right tool for the job. However, we always are thinking about money too and want to make sure that we are wasting too much product and we are working efficiently. QUESTION: "Which tool is the fastest?" (Answer: knife) QUESTION: "Which tool has the least amount of waste?" (Answer: spoon)

4th: Slice the root into thin coins or discs, then into thin-matchsticks, and then mince.

This could be very time consuming and dangerous when cutting in small, precise pieces. We would most likely want to use the Robocoupe for this task. NOTE: We would want to start with thin coins when using Robocoupe

Broccoli-florets

This is not so much about the "cut" but about uniform size. We know that the head of the broccoli is the flowering head of the plant. Some kids like the fun fact that they are eating a flower. These "florets" can come in all different shapes and sizes. Consistent cuts will allow for consistent steaming time. Consistent cuts will also give us the right size piece for the salad bar.

For this more precise work, we will use the smaller paring knife. We want to separate the florets and not "chop" anything at this time

Start by trimming off a larger floret then ask, QUESTION: "Is this the right size bite for a Kindergartner?" (Answer: No, it is way too big for their tiny mouths.)

You want to know your customers and cater to their needs.

1st: Trim all the florets from the main stem, but leaving enough to create nice "handles" so they can dip if they please into dressing made from-scratch.

2nd: Using a paring knife, I will cut each floret down to the right size. Students will return to their stations to fabricate broccoli; then refresh stations.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

Hands on participation, mini discussion and answer between each segment

Closing Summary: (Review of key lesson points)

In this lesson, we have learned several different knife cuts and how to safely and properly execute them. By working together as a team, we have generated enough product for our production and for the remainder of the week. We also learned how to choose the right tool for the job. Most likely in your school kitchens, you will be doing prep work in volume and now we will look at some tools that will help us speed up our productivity even more. We like to call this next demo "recognize when to mechanize."

Lesson Objective: Participants will define mise en place and use techniques to work more efficiently as a team. Participants will learn to Identify production tasks (including amounts) by using the white board to plan production and storage

Materials/Tools Needed: White board with production schedule posted. White board with group assignments (including breakfast groups)

Minutes Allotted: 10

Opening:

Ask the group what mise in place means or ask what "to put in place" is called

- Mise en Place – "to put in place," "everything in place"

Instructional Procedure:

1. Show the production white board and the products and amounts listed:
2. Baking is on the first day since some of those products will be used for lunch and for breakfast on Day 2
3. Sauce-making is on Day 2 with the knife practicum before (sequencing) since the vegetables are required for the sauces
4. Transparency-no surprises! Ability to work ahead (TM concept)
5. Management tool-since production tasks with amounts and menus are listed staff is able to determine tasks to do on their own
6. Production white boards are essentially a list (TM concept) that allows us all to work more efficiently and to deliver on time

Show the group assignment white board and the day's production recipes, instructors, HAACP assignments and breakfast assignments (starts with PM session on Monday, prep in PM and produce breakfast for everyone on the following day at 6:45 AM)

1. Designed so that each chef instructor works with every group
2. Some groups may assist their chef instructor with production for a class demo during their production time
3. Start by reading the recipe, "how many times?". (As many times as is needed to be clear on procedure)

DEMO: SECTIONIZER

Lesson Objective: Participants will demonstrate safe proficiency in using the Sectionizer

Materials/Tools Needed: Sectionizer and the recipe and product from the group production team that has the roasted potato/sweet potato recipe as their group assignment, Mashed potato recipe and washed potatoes

Minutes Allotted: 10 (during kitchen production)

Opening:

Welcome to the Sunkist Sectionizer demo.

The Sunkist Sectionizer is a piece of equipment that optimizes your ability to cook in a volume food environment and maximizes time management concepts in taking advantage of mechanized cutting equipment

This is a piece of equipment that will make your life that much easier when you produce roasted potatoes cooked from scratch instead of frozen processed potatoes. We'll cut our potatoes into wedges today but there are other applications depending on which blade attachments you have in your kitchen. Does anyone currently use this piece of equipment for any other applications?" Answers might be: oranges, apples, pears (if they have the blade that has the corer.)

Instructional Procedure:

As always with a mechanized cutting blade, emphasize safety and dis-assemble the Sectionizer, showing the blade attachment with the gasket, show the pin that holds the pushing element. Emphasize that these mechanized cutting equipment are all great time management tools but again, they are useful only in as much we use them safely.

Optional: Ask a chef instructor to cut five potatoes by hand vs. a volunteer using the Sectionizer to show the advantages of using mechanized cutting equipment-extrapolate from 5 potatoes to 100 lbs., etc.

Invite: 4-5 participants to wedge 2-3 potatoes each (for mashed potato demo), utilizing participants who are NOT part of the group production team that has the roasted potato recipe.

Invite all other participants when they have a moment during the group production session to wedge potatoes for the mashed potato demo.

Student Participation: (Exercises, problem solving, hands-on, discussion, etc.)

The goal is for all participants to wedge several potatoes (instructor will place stickers on student name tags or "equipment passports" to ensure participants each have an opportunity for actual hands-on experience with equipment.

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