

CUAPC501

Principles of Catering Control

Apply catering control principles

Competence

Credits: 4

 Learning hours: 40

Sector: Hospitality and Tourism

Sub-sector: Culinary Art

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Purpose statement

This module describes the skills and knowledge required to identify catering control principles, apply procedures to reduce wastage for a range of purposes. Moreover, this module will also allow the trainee to implement catering procedures.

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Learning Unit 1: Identify catering control principles



LO 1.1 – Describe catering

• **Topic 1: Definition of catering**

- Catering refers to the provision of food, beverages, and other related services to Events during contemporary times won't settle in having a motif but with a theme which serves as a guide for the client, guests and caterer of what to prepare and expect during the event proper. During providing catering service we consider two main type
- On promise catering (In house catering): as catering of any Function banquet reception, or event that is held on the physical premises of the establishment or facility that is producing the function.
- Examples: Hotels, convention centers, and restaurant
- Off promise catering (Outside catering): often involves producing food at a central kitchen, with delivery to and service provided at the clients location. Part or all of the production of food may be executed or finished at the event location.
- Catering is the activity of providing Food and drink for a large number of people such as wedding and parties in the hotel, Hospital, pub, aircraft, cruise ship, park, filming site.
- Or catering is the business of providing food and drink service at a social event or other gathering at a remote site or a site such as a Hotel, Hospital, Pub, aircraft, cruise ship, park, filming site or studio, entertainment site , or event venue.

Range of catering products used within the enterprise

- Perishable products(Foods) including fruit, vegetables, meat, seafood



- Paper goods, such as wrapping, boxes, gift ware
- Chemicals
- Equipment and tools, such as Glass....
- Plastic products, such as disposable cups, plates, cutlery
- Foam products, such as fast food packaging.
- Consumables in kitchens: plastic wrap, Aluminium Foil, Baking parchment.
- Beverages
- Plant and equipment – fax machines and printers, computers, ovens and cooking appliances
- General stock – which can include linen, chemicals, stationery, furniture and fittings
- Energy – gas, electricity
- Water.

- **Topic 2: Catering Guideline**

1. **Service area:** is a place or a room in which meals are eaten , as in a home , hotel or other space designed for food service ,especially the room in which the major or more formal meals are eaten. Catering service area should provide a fully furnished Kitchen with preparatory space, service utensils, service table, service linens and other service equipment to deliver special catering service to caterer event.
2. **Transport mode:** The provision of food and beverages to passengers, before , during and after a journey an trains, aircraft and ships and in buses. Or private vehicles is termed as transport catering. Before transport of food and beverage to the event location ,food safety is priority to prevent food contaminant.
3. **Delivery time:** According to the event schedule, a caterer company should plan time for preparation of meal(Breakfast, Break tea, Lunch, break coffee , Supper, cocktail) , Delivery time ,holding time and servicing time to meet with that schedule of event.

4. **Type of the menu** : According to the type of event ,type of delegate as well as type of service to be used(include Buffet service, table d'hôtel. Or a la carte) the four types of menus most commonly used are table d'hôte menu, static menu, du jour menus, and cycle menu, single use, -Tourist menu.

5. **Storage conditions:** Storage temperature and procedures should be considered. Keep food at 2° to 4°c or colder in refrigerator. A caterer needs to have clearly defined storage areas and procedures for several reasons include reduces the cost and time needed to order supplies and handle them upon delivery.. the second reasons Menu planning is easier when you are aware of the quality ,quantity and type of supplies that are on hand.

- Storage in catering establishments vary greatly.
- Food
- Equipment
- Stationary.
- Food storage will be based on 'perishable' and 'non perishable'.
- Perishable
- Fresh
- Frozen.
- Non perishable
- Dry goods.
- Non Food items
- Chemicals
- Equipment for kitchen
- Equipment for office
- Equipment for front of house
- Stationary
- Staff uniforms.



Food storage is the most important. Food will be stored in any of the following areas:

- Cool room
- Freezer
- Dry store.

Cool room

- Cool room storage is for perishable that need to have temperature control to minimise the growth of bacteria:

- Cool room temperature requirement is less than 5°C.
- Cool room is generally in close proximity to the kitchen as this is the area that will access the cool room the most.
- Fresh foods will normally be held in cool room for maximum of 3-4 days.
- Vacuum sealed foods can stay in cool room temperature for longer periods. See packaging for details.

Freezer

- Freezers are for foods that come into the kitchen and need to be held in a frozen state until required for production purposes.
- Freezer operating temperature is minus 18 degrees Celsius (-18°C).
- Freezers are also generally in close proximity to the kitchen.
- Frozen foods will vary in time that it can sit in storage in freezers. The longer food is in freezer storage the more that it will cost the establishment.

Dry Storage

- Dry storage temperature is best at 15°C to 20°C.
- Dry storage is for:
 - Canned goods
 - Dry goods like dry pasta, uncooked rice, lentils
 - Perishable goods like potatoes, tomatoes will also sit in dry store for short periods of time
 - Packaging goods for take away foods.

Chemical Storage

- Chemicals need to be stored away from food items and items that are used for food storage.
- Chemical storage room temperature is best at 15°C - 20°C.
- Chemical storage room or areas need to be well ventilated and need to have a separate waste disposal system that is not connected to the kitchen preparation area.
- Many countries will have temperature much warmer than Australia. The dry store temperature listed here are the ideal temperatures or the average ambient temperature.
- Ambient temperature is the temperature that is the air temperature without mechanical means of controlling the temperature. Air conditioning or heating.
- Care must be taken with chemicals so that they are kept sealed in proper containers. Fumes from unsealed containers that are allowed to build up in confined spaces are just as dangerous as the chemical itself.
- Well ventilated rooms allow for build up not to occur.
- Material Data Safety Sheets (MSDS) must be visible for all people to see in chemical storage rooms.

- Use safety gear as required when handling cleaning chemicals.

6. Cooking methods: cooking method include sautéing, pan- frying ,deep frying, grilling, roasting , baking, boiling, steaming , stewing etc are applied according to the type of Menu selected.

There are 10 methods of cookery commonly used in commercial kitchens. Here are some suggestions of the suitable foods that you can cook with these methods:

Methods of Cookery	Suitable Foods for Method of Cookery
Boiling	Soup Pasta Whole eggs Root Vegetables
Poaching	Fish Tender poultry cuts Eggs Fruits
Steaming	Fish and shellfish Chicken Puddings Most vegetables
Grilling	Small cuts of meat Small goods Vegetables
Stewing	Tough meat cuts Poultry Fruit
Braising	Tough meat cuts Poultry Game Fibrous vegetables Pulses

Methods of Cookery	Suitable Foods for Method of Cookery
Baking	Cakes Puddings Custards Vegetables
Roasting	Large cuts of meat Vegetables
Shallow frying	Small cuts of lean meat Offal Vegetables Noodles Eggs
Deep frying	Small cuts of meat Battered, crumbed and pastry wrapped items Potatoes

- 7. Food cost :** this is simply the total cost of your food net of existing inventory. Food cost is simply one's net food purchases divided by the restaurant 's net sales.

Food cost : The foods costs for typical catering business should total between 27 and 29 percent of gross sales. An event that generates \$ 1000 in revenue should incur between \$ 270 and \$290 in foods costs

To calculate cost of purchase amount



FORMULA

- $\text{Cost per Unit} \div \text{Unit} \times \text{Purchase Amount} = \text{Cost of purchase amount.}$

Example:

- Commodity Cost Unit Amount used Cost of usage
- Apples \$2.99kg ÷ 1000g x 255 g = \$0.76
- Balsamic Vinegar \$2.38 ÷ 375ml x 125ml = \$0.79
- Basil \$2.00 ÷ 1 each x .5 = \$1.00

Alternative

- Apples - \$2.99kg x .255 = \$0.76 per 255 grams
- When pricing any ingredient it is important to reduce to a common denominator.
- Cost per each
- Cost per kilo or litre
- Cost per gram.
- At what point should the cost be applied?
- Purchased weight
- Cleaned and prepared waste.
- The purchased weight is the easiest but exactly how much are you using when it has been cleaned.

Example:

- Eggs by the each. If an egg white is needed then the full cost of one egg is used
- If the egg white is used to make meringue the full cost is applied to the recipe.
- By implementing the full charge to both is a way of cost cutting and getting a better return on one egg.
- In recipes eggs are best measured by weight as opposed to by each.
- Eggs differ in size.
- By the each is just an easier way to measure when working in small amounts.


Type of customers: catering business always has different types of customer that will encounter

- Potential customer: The potential customer is a type of customer that is on the very beginning of your sales funnel. Potential customer is a lead that needs warming up before making a buying decision.

How to deal with potential customer



Show him value

 Reveal yourself

- New customer: New customer is the fresh customer that just bought something from you. He is still learning the ropes of using your product. You need everything in your power to make that adoption period smooth.


How to deal with new customer


 Guide them to success

 Leave a contact option open

- Impulsive customer: This type of customer that can make a buying decision in an instant, provided that the conditions are right.

How to deal with impulsive customer


 Clear the way to checkout

 Quick and concise help

- Discount customer: this customer that sees value in your product but won't buy it at full price.


How to deal this customer

 Explain the deal


 Offer added value

- Loyal customer: this type of customers keeps coming back for more. Apart from having a significant impact on your revenue. This customer will be also your brand's ambassador

How to deal with loyal customer

 Give him a platform

 Learn from his experience

 Don't mess it up

• **Topic 3 : Importance of catering services**

Planning and organizing an event is a tedious job as there are numerous aspects associated with it that require complete attention. And one of the major aspects of any event is catering.

Why Catering is important?

Catering is important as a large part of any event or party revolves around food. The food you present to your guests can either make or break your event, hence investing in a catering company is the best way out. Hiring an experienced catering company will not only save your time but also take off a huge burden from your shoulders by providing delicious food and quality service.

1. Food availability by time and area needed
2. Quality food provision
3. Business for income generation
4. Creation of job
5. Promotion of hospitality industry
6. Reducing stress
7. Creasing self esteem
8. Generating money
9. Reduce food bone illness
10. Prevent Food contamination

- **Topic 4: Types of catering services**

- Here we are listing different types of catering services and know more about each catering
- The types of services provided by the caterers differ according to the occasion. we usually tailor the event according to our individual preference. Your caterers will take note of the type of catering you need and work towards it. The common types catering services are into two categories include: Restaurant and Hotel Catering services and Traditional catering services
- Restaurant and hotel catering provide the following catering services:
- There are many ways to dine outside the home: restaurants, cafeterias, fast-food chains, concession stands at ballparks, even gas station food stops. In all likelihood, you've probably also encountered a conference, meeting, or event, such as a wedding, with food service available to attendees. Most frequently, these types of events are classified as banquet service.
- **A banquet service** is typically nothing more than a more elaborate meal due to the scope of the event or size of the crowd present. Logistically, since you can't squeeze a conference room full of people around a standard dining room table, banquet service fits the bill.
- Banquet service can be as varied as the style of the event and, usually, the type of service is somewhat decided by the extent of the event, menu, and crowd. Here are a few types of banquet service arrangements that are common to banquet providers, such as caterers, hotels, and banquet halls.

Banquet Types

There are various types of banquet services you might experience if you're attending a conference or event. They are sometimes dependent on the size of the event or the menu itself. For example, plates being distributed by servers should be easy to handle, such as foods without sauces.

1. Buffet service



Buffet service is very common in events with large numbers of attendees. Guests pass through a buffet line that features food choices on tables separate from the seating area. Guests serve themselves, which allows for convenience in choosing what an individual wants to eat. They then return to their table to eat. Beverages are typically delivered and refilled by attendants.

2. Reception service



Finger food and appetizers are presented in a buffet-style arrangement where guests can serve themselves. These are generally gatherings where people mill around the room while eating and chatting.

3. Food Stations service



Food stations, or action stations as they're sometimes called, include a variety of courses and offerings to guests. Many times these stations are manned by chefs who are cooking or preparing food in front of guests. Popular choices for these stations include meat carving, pasta bars, sushi stations, and desserts.

4. Cafeteria-style service



Cafeteria-style banquet service is very similar to a buffet, where guests stand in line to choose their food. However, in cafeteria service, workers or servers dish food from the buffet line. This helps control costs since workers have control over portion sizes

5. Plated service



In this service, guests are seated and servers bring food already portioned onto plates directly from the kitchen. This is the most efficient type of banquet service and also the least expensive. You'll frequently see this style at formal events such as weddings, where guests have been asked their

choice of protein (beef or chicken, for example) and plates are assembled and sorted by those requests.

6. Family-style service



Common internationally, family-style service features seated guests with large quantities of food in plates or bowls brought from the kitchen and placed at the table. Guests serve themselves and pass the food around the table.

7. Pre-set service



If you show up at an event and the food is already on the table, you've experienced a pre-set service. This is frequently seen with items such as bread rolls, desserts, salads, and beverages. Main entrees generally are brought out from the kitchen in this configuration.

Learning Outcome 1.2: Identify customer needs, preferences according to catering requirements

• Topic 1: Strategies for identifying customer needs and preferences

1. Customer Relationship Management

When you own your catering business, your customer looks to you to set the tone for your business. A positive attitude is key to help customer feel free and identifying needs and preference.

Development of a positive attitude

- Treat every one with respect
- Practice active listening
- Connect on a personal level
- Develop relationships outside of work
- Work together with customer for a larger good
- Say thank you to your customer

2. Establishing suggestion box

- If customer's suggestion box already percolate to the surface at staff meetings in casual conversation.
- Ask recommendation to your customers
- A potential client wants to know that you have the ability to provide her with satisfactory service .a recommendation from your past clients can help to reassure her of your competence .When seeking a recommendation ,approach clients who will say something positive about your work ethic.

3. Research

- Formal and informal research techniques:
- Discussions with Customer
- Reading organization information
- Research of product and service information brochures
- General media
- Attendance at conferences, trade shows and industry events
- Distributing surveys and questionnaires

4. Analyzing Customer Feedback

Tips to improve effective customer Feedback Analysis

- Analyze all Feedback
- Categorize (and sub-categorize)feedback
- Use negative and positive feedback
- Look at root causes
- Understand the value of the customer
- Look for trends

- Don't compare unrelated data
- Consolidate results and determine a plan of action

5. Use Social Media

Some of the most popular social media are websites like Face book ,you tube, Instagram. twitter, WhatsApp

6. Collaboration with customer

- One of the most common company/customer collaboration scenarios is customer support. A truly empowered customer service representative can work with a customer not just to fix a problem, but to ensure that the customer is fully satisfied and that the problem can be avoided for other customers.
- Collaboration is a method of working together to reach a goal; it isn't the goal itself. But when you collaborate with customers to reach a goal, the results can be very powerful. Often the best collaborations begin with face to face, real time meetings. But then continue asynchronously, using emails, shared repositories, and community platforms to share, improve, provide feedback on, and validate ideas, products and business processes that you come up with together.

7. Visit customers on the site

- Customer visits can be the source of insights, feature ideas, referral sales and more .

Learning Outcome 1.3: Select dishes according to the types of guest

• **Topic 1: Catering considerations when planning menu for guest**

The menu is the heart of any event , it show cases everything you have to offer for food and beverages. The menu is designed careful what the outlets wants to cater, for keeping in mind the type of customers. The main advantage of well-planned in mind is that it leads to customer satisfaction.

1. **Know Your Guest Profile-** Guest profile include Guest E-mail, Addresses those are a crucial part of the equation. special request, prefer service style, In fact there's a high chance they have obtained more data about your customer because will facilitate communication with your customer. What is the profile of the guests being invited to the events? For example , mast

business people attend many events throughout the year. To prevent your event from meeting this unflattering description.

Consider the following.

- The professional level of your guests
- The frequency your guests attend similar events
- The location of the guests reside
- The ethnic background of your guests.

2. Know Your Guest Preferences

- By taking the opportunity to understand the general profile of your guest list, the event planner is better prepared to begin considering what menu options to offer . the following may help you better plan to meet their needs.
- Older groups attendees may prefer a milder menu
- Attendees concerned about health and fitness may prefer more seafood and vegetarian options
- Younger or middle aged attendees may prefer spicier or simply more adventurous meals
- The idea here to consider what your guests will enjoy the most based on the type of event you are planning .

3. Anticipating a customer's needs is as important as reacting .Knowing and understanding your customer's preferences before they buy allows you to create an even stronger experience . Some hotels have ways of tracking their guests likes, dislikes and requests based on their past hotels stays. While knowing a customers preferences may help sales, you must also look at this as a customer service opportunity by adapting to these likes, dislikes and any special requests a customer might have.

4. Provide Menu Choices

While you may do your best to anticipate your guests' food preferences. You will never be able to please everyone with one entrée. Event planners should always plan to offer several entrée or menu choices to ensure that all guests will be pleased with their meal.

Some general guidelines to consider:

- Offer at least two choices of entrees(three is even better)
- Offer three or more salad dressing options for salad courses

- Serve all condiments on the side
- Offer two dessert options: one very indulgent.one health

The relationship between choice and satisfaction is complex . Hogarth identified two different aspects: outcome satisfaction that is satisfaction with the ultimate choice and process satisfaction that is satisfaction with the way the choice was made. While Provide menu choices will give the chances to the customers to select according to their preference.

5. Select a Menu that Fits the Event Schedule – Event schedule is timetable for an event such as meeting ,conference, trip, etc Sometimes the clockwill be the greatest guide to determining the menu and meal service for an event. Choose the meal type and menu options that best suit the time you have for the meal.

Consider these common event meal examples.

- Box lunches are best if you have 30 minutes or are on the go.
- Plated meals usually require a minimum of 1 hour before dinner
- Working breakfasts or lunches should incorporate menu items that can hold up for longer periods of time without ruining the integrity of the food

6. Anticipate Special Needs

Today ,there are more dietary preferances and concerns to consider than ever before. Before any event,it is critical for an event planner to find out if any of the guests have a special dietary need so that the catering manager can address those needs prior to the event.

Special dietary considerations may include:

- Food allergies (such as lactose intolerance, nut allergies etc)
- Food intolerances(such as Caliacs)
- Religious requirements(such as Kosher observance)
- Voluntary dietary restrictions(such as vegetarianism or veganism)

7. Incorporate seasonal and Fresh items

When selecting the menu the time of year should play a large factor in determining food and beverage. Take into consideration which items are in season for spring or winter menus.

Another important factor is to consider the region or location of the event and popular food

items from the area. Incorporate fresh seafood or regionally grown produce to reflect the locale and ensure some of the freshest ingredients.

8. Create Ethnic or Regional Menus – Plan events that have ethnic themes. It allows an event planner and the executive chef to work together to bring region-specific and international foods into your event, which can please guests and help your event stand out. Common ethnic catering includes the following (Asian/Chinese/ Japanese/French, German, Greek, Italian, Mexican, Middle Eastern)

9. Consider the types of events: Seminars. A seminar is a type of corporate event that's organised with a target audience in mind and aims to impart highly relevant information to them. ...

Conferences, Trade Shows, Reunions, Parties, Galas.

10. Consider the skills of staff(Personnel)- Aside from the skills and abilities of the personnel the total main hours available and the numbers of employees on duty at any given time will be the limiting factors in selecting foods and foods combinations that can be included in the menu.

11. Consider the number of delegate.

Knowledge of the patrons or customers- in planning the menu, the menu maker must have the knowledge of the patrons or customers to be served. Eating habits play a larger part in menu selection than actual backgrounds, climatic and geographical and social backgrounds, climatic and geographical conditions, economic condition, and individual differences.

Physical equipment- The physical facilities including the equipment and arrangement for the preparation, service and storage of food influence directly the menu planning. The space should provide adequate housing for the necessary equipment and for the traffic flow which includes the passage of workers, the movement of the consumable supplies and the transport of needed small equipment.

12. Food budget- Before planning a meal, a knowledge of the food budget to be spent must be known. For these is no known formula applicable to every organization, the determination of the expected income is not always an easy process. The economic level of this customers will ascertain to a large content, the amount of money they will spend when dining. The volume of the business will also affect the amount of the income.

13. Style of service- A restaurant using waiter service will have a different menu planning or a buffet service in a department store.

14. Incorporate the seasonal and Fresh items (Food available)- The weather exerts a definite influence on both appetites and body needs of people. The more and heavier foods are needed in a cold weather than in hot weather is a well known fact.

15. Menu appeal- The individual dishes can be varied and made appealing by contrast in:

- Color
- Texture
- Consistency
- Flavor combinations
- Shape
- Arrangement
- Temperature
- Allow for a comfortable Room setup

16. Choose the appropriate room layout that supports your event objectives and the schedule meals. If you are serving meals, the tables will be filled with used dishes and glassware, in addition to binders, notepads and pens. If you are holding a separate cocktail tables can only comfortably handle smaller plates and drinks. It's important to choose the best room and table setup and allow space for people to move as needed.

Consider these room set up tips:

- Boardroom setup should be for a maximum of 15 guests
- U-shape and rectangular table layouts promote discussion but are less accommodating for buffet meals
- Classroom style is great for presentation
- Banquet style promotes small group discussions.
- Regardless of the setup, allow for people to spread out. For instance, you might consider setting a 10-person banquet table for only eight people.

17. Consider the final presentation of food and beverage- It is said by the best chefs that we eat with our eyes and our noses before actually tasting the food. Whether it's served plated or buffet, a catered meal should be visually colorful, fragrant, and most importantly appetizing. The

presentation of food should make your guests want to eat it . it means linens and decorations that complement the theme of the meal. If doesn't look good and smell good, your guests will not be happy.

Principles involving menu planning:

Chicken	Rice	Beef	Pasta	Main Side	Quinoa	Snacks
• BBQ Bruschetta	• Chicken N-Rice Casserole	• "Sleepy Joe's"	• Spaghetti	• Pizza	• Fenchel	• Popcorn, Cheese, apples
• Herb-Roasted Chicken	• Rice N-Beans	• Beef Tacos	• Lasagne	• Hot dogs	• Beans	• Cheese N-crackers
• Chicken Enchiladas			• Mac-n-cheese		• Burritos	• Le Paves
• Honey-Ginger Chicken			• Refried Beans		• Taco Salad	

- Menus must be planned for easy and efficiency of production and service. It should distribute the workload equally among the kitchen staff and facilities.
- Itemize in an interesting understandable way what you have to offer. The listing should be clear so that customers do not have to ask questions.
- In building a selective menu , many items on the luncheon and dinner menus can be the same .e.g; appetizers and dessert- change only entrees, vegetable and salad.
- If you include a daily special, select it carefully-list it first on the entries, place it correctly and it should be unusually good. Example, local specials, nationality special,home made special, casserole specials etc.
- Consider the attractiveness of the items as they are served, appearance, color, and garnishee, Do not overcrowd a plate. Have contrast in the form and shape of the foods.
- Using raw materials and ingredients of high quality you cannot expect on high standard of cooking unless you have a high standard of quality in purchasing. Keep checking new items. setting up specifications for purchasing, preparation, portions, and service.
- Avoid monotonous menus
- Consider the possibilities of using a separate menu for dessert, cocktail, or even for children
- Keeping the menu clean and in good order
- Start a collection of menus.
- Planning menu in advance.
- Using a well worked out menu pattern that is suitable to the clientele and workable in relation to the staff and equipment available.
- Avoid having all popular dishes in one meal and uninteresting dishes at another meal.

Learning Unit 2: Apply procedures to reduce wastage

Learning Outcome 2.1: Minimize food wastage and contamination

● **Topic 1: Introduction to food contamination**



- **Definition of food contamination:** is when food has been attacked by Microbes, Bacteria and poison this food should cause illness and disease.
- Or Food contamination refer to the presence of harmful chemicals and microorganisms in food, which can cause consumer illness. the impact of chemical contaminants on consumer health and well-being is often apparent only after many years of processing and prolonged exposure at low levels
- Food contamination is common term used. however, only a few people are aware of the exact reasons for food contamination and its effect on your health. When food items are not handled and cooked safely ,the disease causing organisms such as bacteria, parasites, and viruses result in food contamination . the disease causing parasites produce toxins that may also lead to food intoxication. In addition ,the presence of pesticides ,certain cleaning compounds, contaminate the food .

10.ways in which food can be contaminated

- Improper storing food
- Improper handling food
- Improper preparing food
- Unhygienic hands and fingernails
- Poor personal hygiene habits
- Improperly cleaned or sanitized utensils

- Contamination by flies, cockroaches,
- Contamination of insects and pests.

Different type of food contamination

There are number of reasons that can leads to food contamination. However food contamination falls under four different categories which are:

- Biological contamination
- Chemical contamination
- Physical contamination
- Cross contamination

Biological contamination



Biological contamination is one of the common causes of food poisoning as well as spoilage .contamination of food items by other living organism is known as biological food contamination. During biological contamination ,the harmful bacteria spread on foods that you consume. Even single bacterium can multiply very quickly when they find ideal growth conditions . Not just bacteria ,but also their process of multiplying can be quite harmful to humans. The common places where you can find bacteria are:

- Dust
- Raw meat
- The air
- The human body
- Pets and pests
- Clothes of food handler
- Kitchen clothes

The best way to avoid food contamination is by washing the food items with Kent vegetable and fruit cleaner and wash the Kitchen cloths on a regular basis.

Physical contamination



- Physical contaminants (or 'foreign bodies') are objects such as hair, plant stalks or pieces of plastic/metal that can occur as contaminants in food. Sometimes the object is a natural component of the food (e.g. a fruit stalk) - but in all cases it is important to find out what it is and how and when it got there.
- When harmful objects contaminate the food it leads to physical contamination. At times food items can have both physical and biological contamination . Physical contamination
- Such as rats, hair ,pests, glass or metals, which can contaminate food and make it unhealthy. Same safety tips that you can follow when handling food items to prevent food contamination are:
- Hair-Tie your hair when handling food
- Glass or Metal- clean away cracked or broken crockery and utensils to avoid contamination
- Fingernails – keep your fingernails short or wear clean gloves when handling food
- Dirt – Wash fruits and vegetables with kent vegetable and fruit cleaner to remove dirt.
- Jewelry – Wear minimum jewelry when preparing food.

Chemical contamination



➤ Chemical contaminants are one of the serious sources of food contamination. These contaminants can also lead to food poisoning. Pesticides present in fruits and vegetables are one of the main source of contamination. In addition kitchens cleaning agents, food containers made of non-safe plastic, pest control products also lead to food contamination. Though we make it a point to wash fruits and vegetables thoroughly, however, plain water can't remove all the contaminants. This is where kitchen vegetables and fruits cleaner can help you out. The smart Kitchen appliance uses ozone disinfection technology that removes contaminants from the surface of the fruits and vegetables to make it safe for consumption.

Cross- contamination



➤ Many of us are not aware of cross- contamination, However, this type of contamination can lead to a number of health problems. Cross- contamination take place when pathogens are transported from any object that you use in the kitchen. Dirty kitchen clothes, unclean utensils , pests, raw food storage can lead to cross-contamination.

➤ Here are some of the ways to avoid cross-contamination:

➤ Personal hygiene: Thoroughly wash your hands and face when handling food.

➤ Coughing , sneezing or even touching your hair can lead to cross-contamination

Utensils: Use separate utensils to prepare different types of foods, Avoid using the same chopping board and knife for ready to eat foods.

Storing foods: Make sure Raw food don't come in contact with ready to eat foods. Cover and store raw foods below cooked foods to prevent cross-contamination.

Disposing Waste: Make sure you store and seal garbage correctly to prevent cross-contamination. Clean and sanitize the waste bins to prevent infestation risk.

Food poisoning

Definition: illness after a person eats or drinks fluids contaminated with certain ,Viruses, Parasites, Chemicals , bacteria or other toxins in the food ,typically with vomiting and diarrhea.

- Common ways of Food poisoning are transferred from
 - Unwashed hands handling food
 - Unwashed raw fruit
 - Any raw produce with bacteria
 - Undercooked raw meat
 - Cross contamination of food bacteria
 - Incorrectly prepared or stored deli meats, hot dogs, or ground beef.
 - Unpasteurized milk.
 - Spoiled dairy products or soft cheeses.
 - Cutting boards ,Bowls, or knives that are unwashed.
- **Symptoms of food poisoning**
 - Food poisoning symptoms may include:
 - Cramping
 - Nausea
 - Vomiting
 - Diarrhea

People may experience

- **Pain areas:** in the abdomen or Rectum
- Whole body: Chills, dehydration, dizziness, fatigue, fever, malaise, sweating
- Gastrointestinal: bloating, diarrhea, gagging, indigestion, nausea vomiting, flatulence, or stomach cramp
- Also common: headache, or weakness

Types of food poisoning

- E-coli (Escherichia Coli) symptoms of e-coli a) Bloody diarrhea, Kidney failure(in serious cases)
- Listeria(Listeriosis) symptoms of Listeria Fever, ,Muscle aches, nausea, diarrhea, loss of balance, convulsions.
- Norovirus(stomach flu) symptoms of Norovirus ,diarrhea, fever, abdominal cramps
- Salmonella(salmonellosis) symptoms: diarrhea ,fever, abdominal cramps

Salmonella

- **Source** – Humans, raw meat/poultry, untreated milk, eggs, made up raw foods, unwashed vegetables.
- **How contamination occurs**
 - ✓ Via contaminated foods to hands, utensils or work surfaces which in turn can contaminate foods which are to be eaten without further cooking.
 - ✓ Poor hygiene practices of food handler.
 - ✓ Using known contaminated foods as raw ingredients without adequate cooking and temperature control.
- **Control**
 - ✓ Regular hand washing
 - ✓ Cleaning utensils and work surface before and after use
 - ✓ Separation of areas/utensils/personnel when preparing raw and cooked food items such as the use of colour coded chopping boards
 - ✓ Control use of eggs
 - ✓ Thorough cooking

Staphylococcus Aureus

- **Source** – Human body especially skin, nose, mouth, cuts and boils.
- **How contamination occurs**
 - ✓ From skin flora or infections in food handlers directly on to cooked foods.
 - ✓ If the organism builds up to high numbers it may produce a heat resistant toxin. If this is in prepared dishes reheating or even thorough cooking may not destroy it.
- **Control**

- ✓ Frequent hand washing
- ✓ Ensuring food handlers with infected wounds, cuts, boils etc do not handle food or they are appropriately covered
- ✓ Keep ready to eat food under refrigeration until required for service/use

Clostridium Perfringens

➤ **Source** – Animal and human excreta, soil, dust, insects and raw meat.

➤ **How contamination occurs**

Spores – these are dormant in food, soil and dust and may be activated by cooking to germinate and multiply causing illness after the food is eaten. Outbreaks have been associated with large scale catering where meat and poultry dishes are pre-cooked, cooled down slowly then left at temperatures which allow the growth of micro-organisms and then reheated inadequately.

➤ **Controls**

- ✓ Cool food as quickly as possible and then place in a fridge operating below 8°C.
- ✓ Ensure bulk foods are thoroughly cooked
- ✓ Avoid cooking food in advance
- ✓ Bacillus Cereus
- ✓ Source – Cereals (especially rice), soil, vegetables
- ✓ How Contamination occurs
- ✓ Poor cooling of cooked food items
- ✓ Controls
- ✓ Avoid pre-cooking of food especially rice
- ✓ Cool food as quickly as possible and then store in the fridge operating below 8°C

Campylobacter

➤ **Source** – Raw poultry, raw meat, milk and animals (including pets).

➤ **How contamination occurs**

- ✓ Poor handling of raw meat and poultry causing cross contamination of food and work surface.
- ✓ Bird pecked bottled milk Unpasteurised milk

➤ **Controls**

- ✓ Hand washing before and after handling raw meat and poultry
- ✓ Use of different areas, separate utensils, chopping boards etc for handling raw and cooked food items
- ✓ Pasteurised milk

Escherichia Coli

- **Source** – Human and animal gut, sewage, water and raw meat.
- **How contamination occurs**
 - ✓ Poor personal hygiene leading to cross contamination
 - ✓ Contamination of meat during slaughter of animals
- **Control**
 - ✓ Practice good personal hygiene
 - ✓ Ensure reformed meat products e.g. burgers are cooked thoroughly

Who is at a Higher Risk of food Poisoning?

Though anyone can get food poisoning, some age groups are at a higher risk . The following age groups are at a higher risk of food poisoning.

Kids who are younger than 5 years

Kids who are less than 5 years have a weak immune system and their body's ability to fight infections is less. Food poisoning can be very dangerous for children as it leads to dehydration and diarrhea. Children, less than 5 years are three times more likely to be hospitalized by food poisoning

Pregnant Women

Expectant mothers are more vulnerable to certain germs as compared to others. This is the reason why pregnant women are 10 times more vulnerable to food poisoning than other people.

Elderly People

Adults who are more than 65 years of age are at a higher risk of food contamination as their immune systems are weak. Their organs don't recognize and get rid of harmful germs present in food items, making them vulnerable to food poisoning.

People with weak immune system

A weak immune system makes harder for your body to fight disease and as a result they are more likely to get food poisoning and have serious health effects. People suffering from diseases such as diabetes, high blood pressure, Kidney or liver disease have a low immunity level and they are not in the condition to fight germs and sicknesses. This is the reason why they are at a higher risk of suffering from food poisoning.

Causes of food contamination

- ✧ Chemicals: Ex. Cleaning agents(soap), pesticide, sanitizer.
- ✧ Pathogens: Microorganisms (microbes, bacteria, Virus, parasite ,fungi) e.g. salmonella ,
- ✧ -Poisonous plants: some mushrooms ,cassava leave, Apple seed
- ✧ Human carriers (People with diseases)
- ✧ Washing areas.(Dirt sink if is not sanitized)
- ✧ How to reduce high the risk of food Poisoning ?

To lower the chance of getting affected by food poisoning it very important that you must be careful about what you are eating, how you are storing ,washing and preparing your food. The most important thing that one should follow is to wash fruits, vegetables, raw meat, poultry, fish and seafood properly before consumption. Simple use of tap water may not be effective enough to remove the harmful germs and chemicals from the surface of the eatables and consuming it can cause severe food poison.

N B: the revolutionary technology can kill bacteria, viruses, fungi and other pathogens that are present on the surface of the food items that may lead to food borne diseases.

More importantly ,it can even remove insecticides, pesticides and chemicals from vegetables ,fruits and meat and ensure that whatever you cook is safe for consumption.

So, it is always a good idea to use a vegetable and fruit cleaner to wash the food items before cooking to ensure that you are eating safely. Cook health ,eat healthy!

1. define food spoilage

Food spoilage is the process where a food product becomes unsuitable to ingest by the consumer. The cause of such a process is due to many outside factors as a side-effect of the type of product it is, as well as how the product is packaged and stored.

2. Kind Of high risk and low risk foods



- High-risk foods are more likely to cause food poisoning, but any food can become a health hazard. Find out why and which ones.
- High-risk foods, also called potentially hazardous foods, are foods that are more likely to harbour dangerous bacteria and other disease-causing pathogens. High-risk foods must be kept within a certain temperature range to minimise bacterial growth or the formation of toxins that can cause food poisoning.

What makes some foods riskier than others?

- Foods that are considered high-risk have certain characteristics that support the growth of pathogenic microorganisms.
- These characteristics include:
 - neutral acidity (pH over 4.5 or “mild acids”)
 - nutrients (high in starch or protein)
 - moisture
- If the combination of these factors creates a favourable environment for dangerous germs and food is not kept under temperature control, they can grow and produce toxins that can cause food poisoning.

While the formation of toxins is generally associated with pathogens, it can also result from decomposition. For example, the amino acid *histidine*, which is present in fish muscle, can be broken

down by some bacteria to form a food-borne toxin called *histamine* if the fish are not refrigerated shortly after catching.

- Examples of high-risk foods
- Examples of high-risk foods include:
- meat and poultry (cooked or raw)
- eggs (cooked or raw)
- dairy products
- seafood
- prepared fruits and vegetables
- unpasteurised juices
- cooked rice, fresh or cooked pasta
- foods that contain any of the above

Raw vegetables and fruit can also harbour disease-causing microorganisms, especially if they won't be cooked before eating (e.g. sprouts, rockmelon). Fruits and vegetables can become contaminated if they come into contact with contaminated water, surfaces or equipment; contaminated food; pests; or Food Handlers who are sick or have dirty hands.

Bacteria in high-risk foods

- The temperature range in which bacteria thrive is 5°C – 60°C, which is why it's called the Temperature Danger Zone. Bacteria are among the fastest reproducing organisms in the world, doubling every four to 20 minutes.
- After four hours in the Temperature Danger Zone, the number of bacteria or bacterial toxins that could be present in contaminated food is far too high for someone to consume it safely. In some cases, even a small amount of bacteria can cause an infection, depending on the type of bacteria and the health of the person who ingests it.

Some bacteria can also form spores — which is like a protective shell — that protect them from high temperatures and other unfavourable conditions, while others produce heat-resistant toxins that can cause food poisoning even after the bacteria is destroyed by the cooking process.

To minimise the risk of food-borne illness from bacterial infections, time and temperature control are key.

3. Low-risk foods

The list of high-risk foods isn't a short one, but thankfully there are still some low-risk foods that don't support the growth of disease-causing microorganisms, either because their natural state is inhospitable to bacteria (e.g. naturally acidic foods), or because they have been processed in a way that minimises microbial growth (e.g. dried, salted, acidified).

Chemical additives (e.g. sulphites, nitrites) and some specialised packaging can also help to minimise microbial growth in food. Examples of foods that are not considered to be low-risk include:

- biscuits and crackers
- plain breads and bread rolls
- bottled marinades / pasta sauces / salsa
- confectionary, dried fruit
- salted dried meats
- honey, jam, peanut butter
- pickles, salad dressings, sauces (e.g. soy sauce, ketchup)
- dry goods*
- yoghurt

It's important to remember that any food, even if it is not typically considered high-risk (or "potentially hazardous"), can be a food safety hazard. Viruses, such as Norovirus and Hepatitis A, and other pathogenic microorganisms may not grow in food, but they can contaminate them and cause food-borne illness just as effectively as bacteria (in some cases, more so).

*When you add water to dehydrated or dry goods, such as uncooked rice, you add the missing ingredient that bacteria need to grow. This means that dried foods become high-risk foods once water is added, so it's important to keep them out of the Temperature Danger Zone after cooking.

Viruses and parasites

Other pathogenic microorganisms, like viruses or parasites, don't grow in food but they can contaminate it; once they are ingested by a person (or animal), they use live cells to increase in number or size.

Eating undercooked meat products is the most common route of parasitic infection, but people can also get parasites from contaminated water (or any food that has been washed in contaminated water), or through cross-contamination. Cooking is the most effective way to control the spread of parasites, so it's important to know the safe cooking temperatures for the type of food you're

preparing.

Viruses enter the body through the intestinal tract; the most common route of infection is through contact with human hands, which is why hand washing is so important. Other routes of infection include:

- Contaminated water
- Food washed in contaminated water or seafood (e.g. shellfish) that has been exposed to it
- Cross-contamination

● **Topic 2: define cross contamination and the do's and don'ts around it**

- **Cross-contamination:** the transfer of a harmful substance from one food to another by direct or indirect contact.
- **Direct cross-contamination:** Involves the transfer of a harmful agent from raw foods to cooked or ready-to-eat foods.
- **Indirect cross-contamination:** Involves the transfer of a harmful agent to foods by hands, utensils, or equipment

Here are 10 important food sanitation do's and don'ts,

- ✧ Wash hands and utensils thoroughly before preparing food.
- ✧ Don't leave food out for more than two hours.
- ✧ Keep food hot (over 140 degrees) or cold (under 40 degrees).
- ✧ Avoid cross-contamination by keeping raw food away from cooked food. For example, don't use a fork to turn raw or partially cooked chicken and then use the same fork on vegetables or other food.
- ✧ Don't use any canned goods showing danger signs such as bulges.
- ✧ Thaw foods in the refrigerator overnight; do not use the kitchen counter for thawing, since bacteria can multiply rapidly at room temperature. For fast thawing, put the frozen package in a watertight plastic bag under cold water, changing the water frequently.

- ✧ Most food-poisoning bacteria are tasteless, colorless and odorless, so never taste foods that you think might be unsafe. “When in doubt, throw it out” is still the best rule of thumb.
- ✧ Divide bulk-cooked foods into smaller portions before serving or cooling and storing.
- ✧ Refrigerate a lunch prepared the night before. If you can’t refrigerate it at school or work the next day, put something cold in the bag with it (a cold drink, small plastic refrigerator dish with ice or one of the new commercial freezing gels). Or freeze the sandwich, holding the lettuce, mayonnaise and tomato, since they don’t freeze well.
- ✧ Don’t drink untreated water or unpasteurized milk. Realize that there are risks associated with consuming raw fish, shellfish and undercooked meats and poultry.

● **Topic 2: Ways for protecting food from wastage and contamination**

- Correct food handling rules
- Basics for Handling Food Safely
- Shopping
- Storage
- Preparation
- Thawing
- Cooking
- Serving
- Leftovers
- Refreezing
- Cold Storage Chart

Safe steps in food handling, cooking, and storage are essential to prevent foodborne illness. You can't see, smell, or taste harmful bacteria that may cause illness. In every step of food preparation, follow the four steps of the Food Safe Families campaign to keep food safe:

- Clean — Wash hands and surfaces often.
- Separate — Don't cross-contaminate.
- Cook — Cook to the right temperature.
- Chill — Refrigerate promptly.

Shopping

- Purchase refrigerated or frozen items after selecting your non-perishables.

- Never choose meat or poultry in packaging that is torn or leaking.
- Do not buy food past "Sell-By," "Use-By," or other expiration dates.

Storage

- Always refrigerate perishable food within 2 hours—1 hour when the temperature is above 90 °F (32.2 °C).
- Check the temperature of your refrigerator and freezer with an appliance thermometer. The refrigerator should be at 40 °F (4.4 °C) or below and the freezer at 0 °F (-17.7 °C) or below.
- Cook or freeze fresh poultry, fish, ground meats, and variety meats within 2 days; other beef, veal, lamb, or pork, within 3 to 5 days.
- Perishable food such as meat and poultry should be wrapped securely to maintain quality and to prevent meat juices from getting onto other food.
- To maintain quality when freezing meat and poultry in its original package, wrap the package again with foil or plastic wrap that is recommended for the freezer.
- Canned foods are safe indefinitely as long as they are not exposed to freezing temperatures, or temperatures above 90 °F. If the cans look ok, they are safe to use. Discard cans that are dented, rusted, or swollen. High-acid canned food (tomatoes, fruits) will keep their best quality for 12 to 18 months; low-acid canned food (meats, vegetables) for 2 to 5 years.

Preparation

- Always wash hands with warm water and soap for 20 seconds before and after handling food.
- Don't cross-contaminate. Keep raw meat, poultry, fish, and their juices away from other food. After cutting raw meats, wash cutting board, utensils, and countertops with hot, soapy water.
- Cutting boards, utensils, and countertops can be sanitized by using a solution of 1 tablespoon of unscented, liquid chlorine bleach in 1 gallon of water
- Marinate meat and poultry in a covered dish in the refrigerator

Thawing

- Refrigerator: The refrigerator allows slow, safe thawing. Make sure thawing meat and poultry juices do not drip onto other food.
- Cold Water: For faster thawing, place food in a leak-proof plastic bag. Submerge in cold tap water. Change the water every 30 minutes. Cook immediately after thawing.
- Microwave: Cook meat and poultry immediately after microwave thawing.



Cooking

Cook all raw beef, pork, lamb and veal steaks, chops, and roasts to a minimum internal temperature of 145 °F (62.8 °C) as measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.

Ground meats: Cook all raw ground beef, pork, lamb, and veal to an internal temperature of 160 °F (71.1 °C) as measured with a food thermometer.

Poultry: Cook all poultry to an internal temperature of 165 °F (73.9 °C) as measured with a food thermometer.

Serving

- Hot food should be held at 140 °F (60 °C) or warmer.
- Cold food should be held at 40 °F (4.4 °C) or colder.
- When serving food at a buffet, keep food hot with chafing dishes, slow cookers, and warming trays. Keep food cold by nesting dishes in bowls of ice or use small serving trays and replace them often.
- Perishable food should not be left out more than 2 hours at room temperature—1 hour when the temperature is above 90 °F (32.2 °C).

Leftovers

- Discard any food left out at room temperature for more than 2 hours—1 hour if the temperature was above 90 °F (32.2 °C).
- Place food into shallow containers and immediately put in the refrigerator or freezer for rapid cooling.
- Use cooked leftovers within 4 days.

- Reheat leftovers to 165 °F (73.9 °C).

Refreezing

Meat and poultry defrosted in the refrigerator may be refrozen before or after cooking. If thawed by other methods, cook before refreezing.

Cold Storage Chart

These short, but safe, time limits will help keep refrigerated food from spoiling or becoming dangerous to eat. Because freezing keeps food safe indefinitely, recommended storage times are for quality only.

These short, but safe, time limits will help keep refrigerated food from spoiling or becoming dangerous to eat. Because freezing keeps food safe indefinitely, recommended storage times are for quality only.

How to prevent contamination?

- Keeping food separately
- Avoiding to mix cooked foods and uncooked
- Use different equipment for different foods
- Handle food as little as possible
- Wash hands between tasks in food preparation or in handling food.
- Eliminate all pest, flies and insects
- Train all the staff.

Common ways of Food poisoning are transferred from

- Unwashed hands handling food
- Unwashed raw fruit
- Any raw produce with bacteria
- Undercooked raw meat
- Cross contamination of food bacteria
- Incorrectly prepared or stored deli meats, hot dogs, or ground beef.
- Unpasteurized milk.
- Spoiled dairy products or soft cheeses.
- Cutting boards, bowls, or knives that are unwashed.
- How contamination occurs
- Poor personal hygiene leading to cross contamination
- Contamination of meat during slaughter of animals

Control

Practice good personal hygiene

Ensure reformed meat products

e.g. burgers are cooked thoroughly

Ways to prevent food poisoning

Wash your hands: Wash your hands thoroughly with soap and water(warm or cold water) and dry them before handling food, after handling raw food – including meat, fish, eggs and vegetables and after touching the bin, going to the toilet, blowing your nose or touching animals(including pets)

Wash worktops: wash worktops before and after preparing food, particularly after they have been touched by raw meat (including poultry), raw eggs, fish and vegetables. you don't need to use antibacterial sprays: Hot, soapy water is fine.

Wash dishcloths: Wash dishcloths and tea towels regularly, and let them dry before you use them again. Dirty, damp cloths are the perfect place for germs to spread

Use separate chopping boards: use separated chopping boards to prepare raw food such as meat, fish and poultry. This is to avoid contaminating ready to eat foods with harmful bacteria that can be present in raw food before it has been cooked.

Keep raw meat separate: it's especially to keep raw meat away from ready to eat food, such as salad fruit and bread . this is because these foods won't be cooked before you eat them, so any bacteria that get onto the foods from the raw meat won't be killed.

Store raw meat on the bottom shelf: Always cover raw meat and store it on the bottom shelf of the fridge, where it can't touch or drip onto other foods.

Cook food thoroughly: Make sure poultry, pork, burgers, sausages and fish are cooked until steaming hot, with no pink meat inside. Don't wash raw meat (including chicken and turkey) before cooking ,as this can spread bacteria around your kitchen.

Freezing raw chicken reduces the levels of campylobacter bacteria but doesn't eliminate them completely. The safety way to kill all traces of campylobacter is by cooking chicken thoroughly.

Keep your fridge below 5c: keep your fridge temperature below 5c and use fridge thermometer to check it. This prevents harmful germs from growing and multiplying.

Avoid overfilling your fridge – if it's too full, air can't circulate properly, which can affect the overall temperature.

Cool leftovers quickly: if you have cooked food that you are not going to eat straight away. Cool it as quickly as possible (within 90 minutes) and store it in the fridge or freezer .use any leftovers from the fridge within 2 days.

Respect 'use by dates': Don't eat food that's past its use by date, even if it looks and smell okay. Use by dates are based on scientific tests that show how quickly harmful bugs can develop in the packaged food.

Hygienic practices while handling and storing food and beverage

Time and temperature control practices

Storing process when handling raw and cooked food

Techniques of sanitization of workplace and equipment

Pests control measures

- Six methods of pest control.
- Clean up after meals
- Put all rubbish into the bin.
- Wrap all food scraps tightly in paper before putting them in the bin
- Keep all the benches, cupboards and floors clean and free of food scraps.
- Regularly clean behind stoves, refrigerators and other household appliances.
- Keep food in containers with tight-fitting lids.

NB: the use of pesticides to control pests should always be the last resort

Ways for protecting food from wastage

- Food waste is a bigger problem than many people realize.

- In fact ,nearly one –third of all food produced is discarded or wasted for various reasons.
- The following are different ways for protecting food from wastage and contamination
- Shop smart- Most people tend to buy more food than they need this method leads to more food waste. To avoid buying more food than you need ,make frequent trips to the grocery store every few days rather than doing a bulk shopping trip once a week. Additionally ,try making a list of items that you need to buy and stick to that list. this will help you reduce impulse buying and reduce food waste as well
- Store food Correctly- Improper storage leads to a massive amount of food waste.
- According to the natural Resource Defense council, about two-thirds of household waste in the United Kingdom is due to food spoilage.
- Many people are unsure how to store fruits and vegetables, which can lead to premature ripening and eventually, rotten produce. For instance, potatoes, tomatoes, garlic, cucumbers and onions should never be refrigerated . These items should be kept at room temperature.
- Separating foods that produce more ethylene gas from those that don't is another great way to reduce food spoilage. Ethylene promotes ripening in foods and could lead to spoilage.
- Food that produce ethylene gas while ripening include:
 - ✓ Bananas
 - ✓ Avocados
 - ✓ Tomatoes
 - ✓ Peaches
 - ✓ Pears
 - ✓ Green onions

Keep these foods away from ethylene sensitive produce like potatoes , apples, leafy greens, berries and peppers to avoid premature spoilage.

Learn to Preserve- While you might think fermenting and pickling are new fads, food preservation techniques like these have been used for thousands of years. Pickling ,a type of preservation method using brine or vinegar, may have been used as far back as 2400 BC. Pickling, drying, canning, fermenting, Freezing and curing are all methods you can use to make food last longer, thus reducing

waste. Not only will these methods shrink your carbon footprint ,they will save you money as well. What is more, most preservation techniques are simple and can be fun. For example, canning an excess of ripe apples and turning them into apple sauce or pickling fresh carrots from the market will provide you with a delicious and long lasting treat that even kids will enjoy.

Keep your Fridge Clutter Free- You have probably heard the saying “out of sight, out of mind” This rings especially true when it comes to food. While having a well-stocked fridge can be a good thing ,an overly filled fridge can be bad when it comes to food waste. Help avoid food spoilage by keeping your fridge organized so you can clearly see foods and know when they were purchased. A good way to stock your fridge is by using the FIFO method, which stands for “First in, First out”

For example ,when you buy a new carton of berries, place the newer package behind the old one. This helps ensure that older food gets used, not wasted.

Save leftovers – Leftovers are not just for holidays . Although many people save excess food from large meals, it is often forgotten in the fridge, then tossed when it goes bad. Storing leftovers in a clear glass container, rather than in an opaque container, helps ensure you do not forget the food. If you happen to cook a lot and you regularly have leftovers,designate a day to use up any that have accumulated in the fridge. it’s a great way to avoid throwing away food. What’s more ,it saves you time and money.

Eat the skin- People often remove the skins and fruits, veggies and chicken when preparing meals. This is a shame ,because so many nutrients are located in the outer layer of produce and in poultry skin. For example apple skin contain a large amount of fiber, vitamins, minerals and antioxidants, chicken skin is packed with nutrients as well, including vitamin A,B vitamins, protein and health fats.

Be a seed saver- Out of the 13 billion pounds of pumpkins produced in the united States every year , most end up getting thrown away. While carving pumpkin can be fun for the whole family, these are ways to reduce the waste that comes along with this activity .Aside from using the tasty flesh of your pumpkins recipes and baking ,a great way to cut waste is to save the seeds.in fact, pumpkin seeds are tasty and packed with nutrients.

Keep your serving sizes in check- Overeating is a problem for many people. Making sure your portion sizes stay within a health range doesn’t just help keep your weight down ,it also reduces food waste. While you may not think twice about scraping the leftover food on your plate into the

trash, remember that food waste has a major impact on the environment. Being more mindful of how hungry you actually are and practicing portion control are great ways to reduce food waste.

Get Friendly with your Freezer – Freezing food is one of the easiest ways to preserve it, and the types of food that take well to freezing are endless. For example, greens that are a bit too soft to be used in your favorite salad can be put in freezer- safe bags or containers and used at a later date in smoothies and other recipes. You can freeze leftovers from meals, excess produce from your favorite farm stand, and bulk meals like soups and chilis. It 's a great way to ensure you always have a healthy ,home –cooked meal available.

Understand expiration dates- “sell by” and “expires on” are just two of the many confusing terms companies use on food labels to let consumers know when a product will most likely go bad. In fact ,the task is often left to food producers to determine the date they think a product is most lokely to spoil by the truth is most likely to spoil by. The truth is most food that has just passed its expiration date is still safe to eat.

“Sell by” is used to inform retailers when the product should be sold or removed from the shelves. “Best by” is a suggested date that consumers should use their products by.

Get creative in the kitchen- One of the great things about cooking your own food is that you can tweak recipes to your liking ,adding new flavors and ingredients. Including parts of foods that aren't usually used is an excellent way to repurpose scraps when you are experimenting in the kitchen. Stems and stalks make tasty additions to sautes and baked dishes, while garlic and onion ends can bring flavor to stocks and sauces.

Whipping up a fresh pesto made with broccoli stalks, soft tomatoes, wilted spinach or cilantro rather than the traditional basil is an inventive way to add a tasty twist to favorite dishes.

Learning Outcome 2.2: Select catering service tools and equipment

● Topic 1: Types of tools and equipment for catering service

1. Food carriers:



Those are equipment in catering business used for maintaining a meal's ideal temperature while it's being transported is essential to ensuring your food's quality. our insulated food pan carries are perfect for catering halls and cafeterias. For example of food carries-

Fountains:



this provides service staff to set up and clean up your event with Fountains catering ,you get the professional touch, not the take out feel. Private event, When it's time for a party ,you deserve to have as much fun as your guests to. Fountain also is deserved as where dishes are washed after being used form service.



2. Place card holders:

this place card holder is designed to hold seating cards ,menus, and table numbers at special events ,you can be assured that it will secured grip the cards so they will not slip out.

3. Banquet holding cabinets:



this is the traditional and economy electric banquet cabinets, Food warming equipment has a banquet holding solution to fit your needs. Commercial banquet holding cabinet is essential for catering businesses and any business that serves food to large groups.

4. Beverage dispensers:



A beverage dispenser allows you to set up a self serve drink station at your buffet, catered event, hotel lobby or café. Our models are available in different shapes, sizes, and capacities, so you're sure to find a drink dispenser for your low or high volume needs. You can also choose from dispensers of different material make ups, colors and styles to complement your establishment's decor. Our selection of dispensers includes both insulated and non-insulated styles. An insulated beverage dispenser is fully insulated to keep hot contents warm and cold drinks chilled throughout events. Non insulated styles are typically more visually appealing, but are only suitable for cold drinks like iced tea, lemonade, water, and cocktails. For great supplies to set out at your drink station, check out our beverage glasses, beverage napkins and straws.

5. Disposable plastics:



single –use plastics or disposable plastics are used only once before they are thrown away or recycled. These items are things like plastic bags, straws, coffee stirrers, soda and water bottle, cups, and food packaging.

6. Steam wares:



Learning Outcome 2.3: Apply recipe guidelines to reduce wastage

Recipe is a set of instructions for preparing a particular dish, including a list of the ingredients required.

● Topic 1: Recipe guidelines depending on the recipe name

Information Standardized Recipes Must Include

Name of Recipe: The same as you use on menus. Recipe numbers are optional. They are useful for organizing recipe files. The source of the recipe is another optional item.

Number of Servings: Note the number of servings that the recipe makes. Recipes can be written for a quantity of “one” as for a sandwich, chef salad etc.

Ingredients measurements: List in the order used and in measured weight, volume or specific can size.

Directions for Preparation/Equipment: List directions in order. Include equipment needed, pan size, amount of product per pan, kind of oven, how to cut portions, etc.

Serving Size: Amount served per student, by grade group if applicable. This should be in weight or volume using the same units as the yield. It may also be “each” or “one piece.”

Yield: Specify the total weight or volume that the recipe prepares.

Serving Utensil: Specify the utensil that is used on the serving line, for each grade group, if applicable.

Meal Pattern Contribution: Record the contribution the recipe ingredients make to the required food components (oz. of meat/meat alternate, number of servings of grains/breads, cups of fruit/vegetable). Record the calculations on the back of the recipe for reference.

Serving Suggestions: Optional information for variations, condiments, etc.

Critical Control Points: Time, temperature, how to cool and store are important food safety points (optional).

A standard recipe is a precise record of ingredients, method, serving instructions and cost of any food item on a menu.

A standard recipe needs to include:

- Summary of ingredients
- Required quantities of each item
- Specific preparation guidelines
- Garnish and service details

- Portion sizes
- Accurate costs
- % wastage
- Date.
- Why do we use them?
- Standardise production of recipes -regardless of who makes them
- Consistent quality – always taste the same
- Consistent presentation – always look the same
- Consistent portion size - always the same quantity
- Easy to calculate cost of dish – and re-establish cost of dish
- Customer satisfaction.

Learning Outcome 2.4: Re-use remaining ingredients



● **Topic 1: Preparation methods of remaining ingredients according to the type of dishes**

- For hot dishes (baking, boiling, steaming, Frying, roasting and smoking)
- For cold dishes (thawing, defrosting, peeling, cooling)
- Use trimmings of food productsn
- Trimmings may relate to:
- Off cuts

- Off cuts are all part of stock purchased. How they can be utilised in the kitchen will determine if they can be used in other dishes.
- If the cost of the labour outweighs the benefit or return to the kitchen then there is no need to utilise off cuts.
- Not all off cuts are useable.
- Vegetable trimmings can be added to stocks if their flavour does not spoil the flavour of the final product:
- Tomato trimmings will make a chicken stock go bitter but can be used in vegetable stock.
- Not all off-cuts will be usable
- Off cuts of vegetable can be used in vegetable stocks
- Off cuts of meats may be saved and utilised in other meat dishes but it has to be economically viable to do this.
- Products that have been frozen and thawed cannot be refrozen so it can be used in another dish at another time.
- It can be unviable to save small amounts of meat to use in another dish. Chef of the kitchen will have to make that decision.
- It is good practice to utilise any off cut into other usable dishes where a return to the kitchen can be claimed.

Learning Unit 3 : Implement working plan for the catering procedures

Learning Outcome 3.1: Plan catering provision and additional products

● **Topic 1: Catering service supplies**

Those are selection of catering food and beverage service supplies includes all equipment needed to hold and serve your event 's featured drinks and food.

1. Disposable catering supplies



those are disposable catering supplies you need to make cleanup easy, from dinnerware and utensils to aluminum chafers pans and food trays.

Categories of disposable catering supplies include: Disposable tablecloths, Plastic serving utensils, Plastic cutlery utensils, Take out containers and To Go Boxes, Aluminum Foil steam table Pans & lids, Disposable plastic Dinnerware Paper napkins, disposable wedding Plates etc

2. Buffet Line suppliers



set up an enticing food display with our buffet line supplies. Browse our chafers, food pans, crocks and serving accessories.

Categories of Buffet line suppliers include: Display Trays and covers ,cold crocks, Pans, and lids, chafers, chafing Dishes, and chafer ,Melamine food Pans, salad bar and Deli crocks etc...

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3. Kitchen Prepare and transport supplies



- Deliver food and other necessities from your prep kitchen to an event location with these catering storage and transport supplies. Those include: Insulated food carries and

beverage, Glass Rocks, cup Racks and Extenders, Food storage boxes and covers, Tote boxes, Plastic prep serve totes, outdoor coolers, Disposable bags, Disposable gloves, Food and produces crates etc.

4. Cooking and Holding Supplies and equipment



From appetizers to desserts, you can prep and hold all of your food at safe serving temperatures with our cooking and holding supplies and equipment. Those include: Banquet carts and heated banquet cabinets, Display cookware ,outdoor steam wares and outdoor Fryers, Portable Gas Ranges. Holding and proofing cabinets etc...

4. Catering beverage service supplies



our selection of catering beverage service supplies includes all the equipment needed to hold and serve your event's featured drinks such as Beverage dispensers, Beverage ware, portable bars, disposable plastic barware etc...

5. Display and décor supplies



Whether you are setting up a buffet table or revealing a tiered cake, we have the display and décor supplies needed for a unique presentation such as: Hotel and restaurant linen, cake, pie, cupcake stands and covers, Restaurant candles and table Lamps, Display Risers and Display stands ,Table card holders and Number stands.

6. Tabletop supplies



selection of tabletop supplies, so you can set up the most inviting place setting for your guests. such as Dinnerware, Flatware, Linens and Table covers, Charger plates, Cloth Napkins Bud Vases and Accent Vases etc..

● **Topic 2: Catering Objectives**

1. Provide a high quality catering service
2. Aid your recovery with nutritionally healthy meals, cooked in the traditional way
3. Provide a service that caters for all appetites and dietary requirements
4. Provide an appetizing and varied menu
5. Deliver your exact meal requirements within the specified delivery time at the appropriate temperature

● **Topic 3: Factors considered in planning products addition**

Some of the important factors generally responsible for addition of a new product line are as follows:

1. Speed with which the product is sold before adding new products on the menu tells yourself how long a product will sell for and make a profit.
2. Quantities that can be sold;
3. Range of products to be stocked;
4. The strength of the manufacturer
5. Competition: the first thing to keep in mind is the competition.
6. Customer preferences: Know who your customers are
7. Precise information
8. Social media
9. Marketing continuation.

Learning Outcome 3.2: Pack catering products

- **Topic 1: Packages of supplies in catering**

- Envelopes
- Tissue paper
- White wrap paper
- Disposable Packaging

Bags such as: -

- ✓ Bags an a Roll
- ✓ Carrier Bags
- ✓ Clear Polythene food safe bags
- ✓ Counter bags and Sheets
- ✓ Film satchel Bags
- ✓ Paper bags
- ✓ Potato bags

Boxes: such as –

- ✓ Cakes boxes
- ✓ Pizza boxes
- ✓ Foil and Pie Dishes
- ✓ Salad Boxes
- ✓ Sandwich Packaging

Wrapping product such as:

- Film, Foil, Parchment
- Counter wraps and film sheets
- Duplex paper
- Grease proof paper
- Food bags
- Paper bags(Paper packaging bags)
- Plastic carry bags(Plastic food packaging bags, Hot selling luxury Bag food container, custom plastic food packaging bag)
- Take away packages
 1. Printed take away paper food
 2. Take away Packaging Realistic
 3. Fast food take away packaging
 4. China take away Paper food
 5. Fast food Paper packaging
 6. Kraft paper packaging bag
 7. Deli shop Take away
 8. Paper food packaging
 9. Transparent take away bowl for salad
- Wrappers (plastic wrap, aluminium foil)

The basic function of packaging is to protect the contents from damage, dust, dirt, leakage, pilferage, evaporation, watering, contamination.

● **Topic 2:Functions of products**

1. **Physical Protection:** One the major functions of packaging is to provide for the revages of time and environment for the Natural and manufactured products. The protection function can be divided into some classes viz.
 2. **Natural deterioration:** is caused by the interaction of product with water, chemical , microbiology (bacteria, moulds) , contaminant insect and rondents.
 3. **Physical protection:** the packaging is also used for physical protection, internal products protection, and reducing damage caused by vibration or snagging.
- These product include : inflammable gas and liquid, toxic materials.

4. **Waste reduction:** Packaging also serves to reduce the amount of waste specially in case of food distribution.
5. **Containment :** this involves consolidation of unit loads for shipping . It starts with spots of adhesives on the individual shippers that stick then together, straps of steel and plastic.
6. **Information:** the packaging convey necessary information to the customers. The common information that packaging provides include general features of the products, ingredients, net weight of the content ,name , and address of the manufactures, maximum retail price(MRP),methods of preparation ,recipes and serving ideas, nutritional benefits and date of manufacturing ,date of expiry ,warning messages.
7. **Utility of use :** the convenience packaging has been devised for foods, household chemicals, drugs, adhesives, points, cosmetics ,paper good and the host of the products. This types of packaging includes dispensing devices, prepackaged hot metals, disposable medical packaging.
8. **Promotion:** companies use attractive colors, logos, symbols, and captions to promote the product that can influence customer purchase decision.
9. **Marketing**
10. **Security**
- 11..**Convenience**
- 12..**Portion control**

Packaging requires several decisions.

- i. **Packaging concept:** this defines what the package should be or do for the particular product in terms of size, shape, materials, color, text, brand mark, and tamperproof ability.
- ii. **Engineering texts:** this will ensure that the package stands up under normal conditions.
- iii. **Visual tests:** this is to ensure that the script is legible and colors are harmonious.
- iv. **Dealer tests:** this is to ensure that the dealers find the packages attractive and easy to handle
- v. **Consumer tests:** this is to ensure favorable consumer response.

Learning Outcome 3.3: Plan catering event

● **Topic 1: Types of catering events**

1. Corporate catering
2. Wedding catering
3. Social event catering

4. Concession catering
5. Cocktail Reception
6. Food Truck catering
7. Buffet catering
8. St-down catering

1. Corporate catering

Corporate catering means to provide food and drink to small office meeting and trainings to large regional events.

2. Wedding catering

While we are familiar with wedding catering, we can also agree that catering makes a huge impact on that special day. From the special guests to the bride and groom , you want to make sure every one eats and celebrates well. Decoration, dinner, dessert and what to drink along are just part of the planning.

3. Social event catering:

From birthday and retirement parties to big backyard, social events cover a wide range of events.

4. Concession catering

Seasonal sporting, major public events all fall into this category where you will find lots of people, you will always find catered food. Planning for these take a pro to make sure you have all the right menu choices for your audience.

Cocktail Reception

Topic2: Tips to consider before planning events

- 1. Know your guest Count:** the factor of your catering costs is based on how many you are feeding .you would be surprised how many people try to order when they don't know how many people are coming. Knowing your guest count before you call to get on confusing and unnecessary menu changes at the last minute.
- 2. Decide on your Delivery method:** most people think catering only come one way, but a good professional caterer will offer you up to 4 different ways to have your food delivered including:

Pick up: you pick up the food at the caterers location. Not as common, but an option to save on your delivery fee or save time and a rush order.

Drop off : one of the most common , particularly for corporate and social events, where the caterer simply delivery the food in disposable containers foil pans ,coffee boxes etc.

Real Display : For buffets and banquets you may consider this option as the caterer will prepare the tables and food serving area including linen, glasses, tableware etc.

Full service: In addition to the real display ,you can also choose to have the food professionally served and even cooked on site!

3. How do you want to Enhance your event : Think of these like the” optional or upgrade items” can choose to add to your event.

Although this may not seem like much to do with the food, it’s an integral part of the event planning that any professional caterer should offer.

Enhancements may include decorations, linens, china ,serves, on site chefs, bartenders, Dj, and more.

4. Know your budget before you order : although this is often the first things you may think about, it’s often the last thing that is figure out.

For mast caterers, pricing is determined an a dollar person pricing model. So an easy way to create your budget is just to determine the total amount you want to spend and divide it by the estimated number of people.

Having this number to start with will help the caterer get you more for your money!

Remember ,professional caterers are part artists and part servants there is nothing we want more than to provide you food that fits both your event and your budget.

The mare information we have ,the better the job we can do or as we like to say: Great Food, Great service, stress free.

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