Domestic Work

Level-II

Learning Guide-23

Unit of Competence: Follow Basic Food Safety Practices

Module Title: Following Basic Food Safety Practices

LG Code: LSA DWR2 M07 LO1-LG-23

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LO 1: Identify basic food safety Practices in a household Setting

Instruction Sheet	Learning Guide #22

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Food safety requirements
- Components of food safety
- Food handling, storing and disposal task according to instruction.

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

- Identify food safety requirements in areas within the household where food is prepared, served and stored.
- Identify, plan and clarify standard Components of food safety specification with relevant people such as employer or work supervisor.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 1 to 2.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 Accomplish the “Self-check 1, Self-check t 2, Self-check 3 -” in page 3,-9,11-15,17-31 , respectively.
4. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, in page -33.
5. Do the “LAP test” in page – 34 (if you are ready).

Information Sheet-1	Food safety requirements

1.1. Definition of food

Food is any substance consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients, such as carbohydrates, fats, proteins, vitamins, or minerals.

1.1.1 Concepts of Food safety

Food safety refers to a scientific discipline handling, preparing, and storing food in ways to best reduce the risk of individuals becomes sick from food borne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards..

- Is considered safe for human consumption when it is free from substances like contaminants, toxins and micro-organisms that can cause undesirable reactions in Food the body when such foods are eaten.
- To ensure that food is safe for consumption, it should be:
  - ✓ Protected from contamination by harmful bacteria, poison and other foreign bodies
  - ✓ Prevented from having any bacteria present multiplying to an extent which would result in the illness of consumers or the early spoilage of the food
  - ✓ For some foods: thoroughly cooked to destroy any harmful bacteria present
  - ✓ Discarded when spoilt and/or contaminated
  - ✓ Food borne illness can be dangerous, but is often easy to prevent. By following the basic rules of food safety, you can help prevent food borne illness for yourself and others

Fig 1 Food Safety at Home

1.2 Basic principles of food safety

Food Safety Principles an important part of healthy eating is keeping foods safe. Food may be handled numerous times as it moves from the farm to homes. Individuals in their own homes can reduce contaminants and help keep food safe to eat by following safe food handling practices. Four basic food safety principles work together to reduce the risk of food borne illness—Clean, Separate, Cook, and Chill.

1.2.1. Cleaning

- **Cleaning** is the removing un wanted particles (dust, dirt or other contaminants from food and utensils or equipment

1.2.2. Hands wash

- Hands should be washed before and after preparing food, especially after handling raw seafood, meat, poultry, or eggs, and before eating. In addition, hand washing is recommended after going to the bathroom, changing diapers, coughing or sneezing, tending to someone who is sick or injured, touching animals, and handling garbage. Hands should be washed using soap and water. Soaps with antimicrobial agents are not needed for consumer hand washing, and their use over time can lead to growth of microbes resistant to these agents. Alcohol-based (≥ 60%), rinse-free hand sanitizers should be used when hand washing with soap is not possible. Hand sanitizers are not as effective when hands are visibly dirty or greasy. Wash Hands With Soap and Water .Wet hands with clean running water (warm or cold), turn off tap, and apply soap. Rub hands together to make lather and scrub the back of hands, between fingers, and under nails for at least 20 seconds. If you need a timer you can hum the “happy birthday” song from beginning to end twice. Rinse hands well under running water. Dry hands using a clean towel or air dry them.

1.2.3. Surfaces washes

Surfaces should be washed with hot, soapy water. A solution of 1 tablespoon of unscented, liquid chlorine bleach per gallon of water can be used to sanitize surfaces. All kitchen surfaces should be kept clean, including tables, countertops, sinks, utensils, cutting boards, and appliances. For example, the insides of microwaves easily become soiled with food, allowing microbes to grow. They should be cleaned often.

- Keep Appliances Clean
- At least once a week, throw out refrigerated foods that should no longer be eaten.
- Cooked leftovers should be discarded after 4 days; raw poultry and ground meats, 1 to 2 days.
- Wipe up spills immediately—clean food-contact surfaces often.

- Clean the inside and the outside of appliances. Pay particular attention to buttons and handles where cross-contamination to hands can occur.

1.2.4. Foods washes

Vegetables and fruits. All produce, regardless of where it was grown or purchased, should be thoroughly rinsed. However, any precut packaged items, like lettuce or baby carrots, are labeled as prewashed and ready-to-eat. These products can be eaten without further rinsing.

- Rinse fresh vegetables and fruits under running water just before eating, cutting, or cooking.
- Do not use soap or detergent to clean produce; commercial produce washes are not needed
- Even if you plan to peel or cut the produce before eating, it is still important to thoroughly rinse it first to prevent microbes from transferring from the outside to the inside of the produce.
- Scrub the skin or rind of firm produce, such as melons and cucumbers, with a clean produce brush while you rinse it.
- Dry produce with a clean cloth towel or paper towel to further reduce bacteria that may be present. Wet produce can allow remaining microbes to multiply faster.
- Seafood, meat, and poultry. Raw seafood, meat, and poultry should not be rinsed. Bacteria in these raw juices can spread to other foods, utensils, and surfaces, leading to food borne illness.

1.2.5. Separate foods

Separating foods that are ready-to-eat from those that are raw or that might otherwise contain harmful microbes is key to preventing food borne illness. Attention should be given to separating foods at every step of food handling, from purchase to preparation to serving. Separate Foods When Shopping

- Place raw seafood, meat, and poultry in plastic bags. Separate them from other foods in your grocery cart and bags.
- Store raw seafood, meat, and poultry below ready-to-eat foods in your refrigerator.
- Clean reusable grocery bags regularly. Wash canvas and cloth bags in the washing machine and wash plastic reusable bags with hot, soapy water.
- Separate Foods When Preparing and Serving Food
- Always use a clean cutting board for fresh produce and a separate one for raw seafood, meat, and poultry.
- Always use a clean plate to serve and eat food.
- Never place cooked food back on the same plate or cutting board that previously held raw food.

1.2.6. Cook and Chill

- Seafood, meat, poultry, and egg dishes should be cooked to the recommended safe minimum internal temperature to destroy harmful microbes .It is not always possible to tell whether a food is safe by how it looks. A food thermometer should be used to ensure that food is safely cooked and that cooked food is held at safe temperatures until eaten. In general, the food thermometer should be placed in the thickest part of the food, not touching bone, fat, or gristle. The manufacturer's instructions should be followed for the amount of time needed to measure the temperature of foods. Food thermometers should be cleaned with hot, soapy water before and after each use.
- Temperature rules also apply to microwave cooking. Microwave ovens can cook unevenly and leave "cold spots" where harmful bacteria can survive. When cooking using a microwave, foods should be stirred, rotated, and/or flipped periodically to help them cook evenly. Microwave cooking instructions on food packages always should be followed.
- Keep Foods at Safe Temperatures
- Hold cold foods at 40°F or below.
- Keep hot foods at 140°F or above.
- Foods are no longer safe to eat when they have been in the danger zone of 40-140°F for more than 2 hours (1 hour if the temperature was above 90°F).
  - ✓ When shopping, the 2-hour window includes the amount of time food is in the grocery basket, car, and on the kitchen counter.
  - ✓ As soon as frozen food begins to thaw and become warmer than 40°F, any bacteria that may have been present before freezing can begin to multiply.
  - ✓ Use one of the three safe ways to thaw foods:
- in the refrigerator,
- in cold water (i.e., in a leak proof bag, changing cold water every 30 minutes), or
- In the microwave.

  Never thaw food on the counter. Keep your refrigerator at 40°F or below.
- Keep your freezer at 0°F or below. Monitor these temperatures with appliance thermometers.
- Food safety requirements include:-
- Cooking and serving food
- Disposing waste and garbage materials
- Identifying food labels
- Preparing ingredients
- Storing cooked and uncooked food

Table 1 Terms and their Definition

Term	Definition
Cross contamination	The passing of microorganisms from contaminated food or surfaces to other foods or surfaces
Food	**Food** is any substance consumed to provide nutritional support for the body's
Basic principles of food safety	**Four basic food safety principles work together to reduce the risk of food borne illnesses—Clean, Separate, Cook, and Chill**
Food poisoning	Illness occurring when a person ingests contaminated foods or beverages
Hazard identification	Recognizing the risk of an item or situation that may lead to a potential accident or harm to a person
Hazards	An item, condition, event or situation that could lead to a potential accident or harm
Prevention	Preservatives can expand the shelf life of food and can lengthen the time long enough for it to be harvested, processed, sold, and kept in the consumer's home for a reasonable length of time.
Manual handling	Using human force to move or support a load (including moving, lifting, putting down, pushing pulling, or carrying)
Personal hygiene	Factors that maintain positive, clean personal care and health of a person
Pest control	Actions designed to control and eradicate pests and vermin from workplaces

1.2.7 Cooling food

- Potentially hazardous food need to be cooled after cooking as quickly as possible. Hot food needs to be chilled to below 5°C as quickly as possible.
- Placing hot food straight into the cool room or freezer is not advisable as it raises the temperature of these storage areas placing the food into the danger zone.
- Small portions and shallow containers cool food quickly.
- Transfer hot foods into smaller shallow containers.
- Stir food to decrease temperatures.
- Cool the food container in some ice or cold water.

Self- check #1	Written test

Answer the following questions

1. What is food? (2pts)

.....

.....

2. What is the meaning of hazard? (2 pts)

……

……

3. How can you reduce the risk of harm to yourself or others? (1 pts)

……

……

4. Write the types of hazards that can be occur in your work area? (2 pts)

……

……

5. What is cleaning (2 pts)

……

……..

Note: **Satisfactory rating 9 points** **Unsatisfactory 9 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-2	Components of food safety

2.1. **Components of basic food safety**

- Maintaining personal hygiene while storing and handling food
- Preventing contamination, cross contamination
- Reporting and preventing pest infestation
- Safe disposal of waste
- Safe handling and storage of cooked and un-cooked food
- Use of personal protective equipment

2.2. Basic Requirements of a Food Safety

A Food Safety Plan should include some basic activities which address hazard control more broadly. Basic activities include: cleaning and sanitation , personal hygiene practices, pest control, waste disposal, staff training and handling of customer complaint., Responsibilities to everyone, Prevention contaminations, cross contamination

2.3. Basic Requirements of a Food Safety

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2.3. 1.Prevention contamination, cross contamination

Activities to protect the food supply from microbial, chemical, allergenic and physical hazards that may occur during all stages of food production and handling. Number of methods of prevention can be used that can totally prevent, delay, or otherwise reduce food spoilage.

2.3.2 Responsibilities to everyone

There are many things to know to keep food safe. The responsibility for safe food belongs to everyone in your food premises, from the owner to the chef to the server to the dishwasher. Every person in your premises has a job to do, and part of that job is keeping your customers and the food you prepare or serve to them safe. As a food handler, it's your responsibility to know what the regulations and standards are and to follow them. You have a responsibility to provide safe food. Food sanitation rests directly upon the state of personal hygiene and habits of the personnel working in the domestic house. Education of food handlers in matters of personal hygiene, food handling, utensil and dish washing is the best means of promoting food hygiene.

- The hands should be cleaned at all times. Hands should be scrubbed and washed with soap and water immediately after visiting a lavatory.
- Finger should be kept trimmed and free from dirt. Head covering should be provided to prevent loose hairs obtaining entrance to foodstuffs. Coughing and sneezing in the vicinity of food and smoking on food premises should be avoided.

2.3.3 Personal hygiene practices

Good personal hygiene is essential for food safety. Disease-causing bacteria may be present on the skin and in the nose of healthy people. All food handlers must therefore maintain a high standard of personal hygiene and cleanliness in order to avoid transferring pathogens to foods.

Fig 1.2. Personal hygiene

2.3.4 Pest Control

Pest may contaminate food and cause food borne illness. A pest control programmed should be developed to eliminate pests and prevent pests from infesting your food premises. An effective pest control programmed should be able to prevent access, deny harborage and eradicate any pests present.

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Fig1. 3 Types of pests

2.3.5 Waste Disposal

Waste can be regarded as any item of food, ingredients, packaging materials, etc. which are not suitable for further use and are intended to be disposed of. Waste should be controlled carefully since it presents a risk of contamination of foods.

Fig. 1.4 Waste Disposal

Waste disposal: Waste can be regarded as any item of foods, ingredients, packaging materials, etc. which is not suitable for further use and intended to be disposed of. Waste should be controlled carefully since it presents a risk of contamination of food. s Waste disposal bins should be placed near the working area of food preparation rooms and positioned conveniently to operating staff Waste disposal bins should be clearly distinguishable from other storage bins s A defined area should be allocated for the storage of waste pending disposal s When food waste is removed from food preparation area pending disposal, it must be placed in a tightly covered waste storage bins s Plastic liners should be used in waste disposal and storage bins s Waste disposal and storage bins should be emptied when full or on a regular basis s Waste disposal bins should be cleaned and sanitized daily and placed upside down and off the floor to drain overnight

2.3.6 Customer Complaint Records

Customer complaint helps to reflect the problem of the food production process. Complaints should be handled carefully. Appropriate amendment on the Food Safety Plan can be made if necessary.

Handling customer complaints Customer complaints should be handled carefully because they help reflect possible problems that may be overlooked by the owner during food production. Depending upon the results of investigation, appropriate amendments to the FSP should be made where necessary.

2. 3.7 Cleaning and sanitation program

Effective cleaning and sanitizing remove food residues and dirt and hence minimize the risk of food contamination and food poisoning. A cleaning program should be developed to ensure that cleaning is conducted in a systematic and regular manner. A well-planned cleaning program should include the following:

- frequency of cleaning required for each item
- the specific standard procedure sanitation .
- equipment and methods to be used
- chemicals or systems to be used
- the staff responsible for each task
- areas and equipment to be cleaned

2.3.8 Giving introduction and practices to food handlers

A better understanding of how food can become contaminated, and how food borne illnesses can be avoided through proper food handling procedures. Examples of basic knowledge of food hygiene: Skills and significance of maintaining good personal hygiene practices Knowledge and skills of cleaning and sanitizing Pest control It is a good practice for a business to identify the training needs of each staff member s It is also a good practice to keep training records of every staff member .

Self- check #2	Written test

Answer the following questions

1. What is responsibilities to everyone keep food safe (2 pts)

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.....

2. What is waste disposal? (3 pts)

……

……

3. How Customer Complaint Record (2 pts)

……..

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4. What is personal hygiene practices? (2pts)

……

……

5. What is cleaning (2pts)

……

Note: **Satisfactory rating -10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Information Sheet-3	Food handling, storing and disposal task according to instruction

3.1. Food handling

is any activity that involves the handling of food (including preparing, cooking, thawing, serving, displaying food), so it is important these notes are read in conjunction with other food safety information provided. General requirements in relation to maintaining the safety of food while it is being handled, processed or prepared include**.**

Food handlers should avoid directly touching food whenever possible. Utensils like tongs, spoons and scoops act as barriers between your hands and the food. Napkins or sheets of waxed paper can be used to pick up foods like muffins, donuts, cookies, bread, and ice cream cones without directly touching the food with your hands.

Remember, glove use
doesn't eliminate the need for hand washing.
Be sure to wash hands before an

Fig1.5. Food handlers should avoid directly touching food

Disposable plastic gloves can be used instead of bare hands, but gloves will pick up microorganisms the same way hands do. Make sure you wash your hands before and after using gloves, and always use a new pair of disposable plastic gloves when you change tasks or after any potential contamination. Throw away the used ones.

“No-touch” techniques are especially important when handling any food that isn’t going to be heated or cooked after you touch it. If you touch a ready-to-eat food with dirty hands, then whatever is on your hands will get on the food and then in someone’s mouth. Remember, no one wants your fingers in their mouth!

Figure1.6. Avoid touching food with the bare hand

3.2 Hygiene for septic areas

Hygiene procedures are required for all areas of the in domestic hose. These proceduresvaryaccordingtothetasksrequiredandthebusinesspolicystandards.Someexampleso fspecificpracticesforspecific areas include:

- **Kitchen/food preparation areas** – correct hand washing and food safety procedures should always be followed
- **Food service areas** – gloves should be used for handling food and for food preparation
- **Storage areas** – cooked and uncooked foods should be stored at the correct temperatures.
- **Garbage storage and disposal** – correct handling and hand-washing procedures should be observed when disposing of kitchen and accommodation garbage.
- **All other house hold areas**

3.3. Protecting food being prepared from contamination – this includes preventing Contamination from:

- **Physical sources** – such as hairs, broken glass, dead flies, dirt, dust, airborne contamination
- **Chemicals** – such as fly spray or the introduction of cleaning chemicals into the food
- **Microbiological contamination** – which may be caused by leaving potentially hazardous food in the Temperature Danger Zone for too long while it is being processed or failing to cook food at the correct temperature? High risk food should reach an internal temperature of 75°C which should be verified with a thermometer.
- **Ensuring all fruit and vegetables are washed** in a sanitizing solution before being prepared .Excluding unhealthy people from food handling/processing activities
- **Using clean equipment and utensils that** have also been sanitized and are in proper working order – any piece of food equipment not working properly either raises OHS risks for staff or presents the possibility the food processing job it was intended to do (such as to cook food to a certain temperature, or store/display food at a certain temperature) may not be achieved thereby introducing the potential for food poisoning
- . **Ensuring** chemicals are kept separated from food and food utensils and equipment during processing – it is a requirement that all chemicals are stored separately from food
- Keeping **individual** batches of processed food separate – batches of prepared food should never be mixed together (e.g. in a Bain Marie) as this can give rise to situations where food may remain able to be served even though it has passed its safe food date/time. Mixing batches of food also causes problems if an internal food recall is needed
- **Avoiding** touching food with the bare hands where that food will not be subsequently cooked – it is best practice to wear disposable gloves or to use utensils to handle all food
- **Using color**-coded chopping boards to reduce the likelihood of cross contamination. For examples the following color for boards could be used as follows:
  - ✓ **White** – for dairy products only

- ✓ **Red** – for raw meat only
- ✓ **Blue** – for seafood only
- ✓ **Yellow –** for poultry only
- ✓ **Brown** – for cooked meat only
- ✓ **Green** – for fruit and vegetables only

Figure1 .8. Using color-coded chopping boards

Note: After use all boards should be scraped with a flat metal scraper and washed. Wooden boards are not the preferred option but if they are used, they should be washed with hot soapy water, rinsed and sanitized. All chopping boards must be replaced regularly to guard against the problems associated with cross contamination

- Discarding any food dropped on the floor – never use any food after it has been dropped on the floor
- Washing and sanitizing any food handling tool, implement or utensil that has been dropped on the floor before re-using it
- Avoiding coughing or sneezing over food or food preparation utensils, equipment or surfaces
- Using a tasting spoon to taste dishes – never use any utensil to taste food and then replace it in the dish/pot, or use it for stirring.

3.4 Thawing food

Frozen food must be thawed before use (also known as „defrosting). There are only three acceptable ways to thaw food:

- **In a refrigerator/cool room** – large pieces of meat may take two to three days to defrost so planning ahead is vital: this is the preferred method of thawing as the food is always out of Temperature Danger Zone
- If pressed for time, use a microwave to defrost, moving pieces of food during the procedure food should be immediately cooked once taken from the microwave after defrosting
- Run the item under cold water (less than 20°C) – only suitable for small portions/items, and unsuitable where the item is breaded/crumbed.
- All meats should be cooked immediately after thawing

3.5 Storing food

All food items have recommended storage procedures that look at temperature, shelf life and place of storage. Time and temperature are important when storing food because if food items that are held before service or stored at the incorrect temperatures, they could spoil causing your owner to suffer from food poisoning.

Incorrect storage of foods will also impact on food hygiene. Foods such as chicken, eggs, pork, dairy products and sauces are all high-risk foods that quickly spoil and can lead to cross-contamination of other foods if not stored properly.

Table-3 Tips

WHAT	HOW	WHY
Harmful Bacteria	• Store different food types in different areas of the fridge, e.g. cooked meat above raw meats. • Wrap or place food items on trays or in containers. • Clean up spills or drips immediately.	• Cross-contamination can occur if food is stored unwrapped or in same containers. Blood from raw products can drip onto cooked items.
Dangerous Substances	• Remove all cleaning products and chemicals from food storage areas. • Always rinse surfaces and equipment after cleaning using water to remove cleaning residue.	• Chemicals can contaminate food if residues or products have not been removed from storage areas.
Physical Contamination	• Remove food items from cardboard boxes, paper and hessian bags and place them in clean plastic tubs or food containers. • Remove damaged packaging and replace with cling wrap or in a sealed food container.	• Food spoilage can occur when bacteria is passed from the packaging of one food item to another, e.g. potatoes in hessian bags to fruits.
Pests	• Keep food covered above floor level and at correct temperatures. Keep areas clean and free from rubbish or food scraps.	• Pests are attracted to food scraps and rubbish. Any food products at ground level are at risk of infestation. Pests harbour deadly bacteria on their legs and bodies.

Unsuitable Temperatures	• Frozen food should be stored in the freezer at –15°C. Perishable food should be refrigerated at 0°C to 5°C. Those foods which are dry, canned, preserved or require room temperature should be stored at 10 – 20°C.	• Food that is not stored at the correct temperature will spoil. Spoilage occurs when bacteria grow to high levels. Food poisoning can occur once bacteria reach these high levels.
Excessive humidity or dryness	• Ensure proper ventilation (either natural or mechanical) and adequate lighting (not direct sunlight) to your storage area.	• Humidity can lead to sugar becoming lumpy, bread mouldy and fruit not ripening properly. Direct sunlight can cause deterioration of coloured food ingredients.

All items — food, beverage, linen, uniforms, paper goods, chemicals, stationery, crockery, glassware, cutlery, etc — used in a domestic environment need to be stored correctly to maintain quality, prevent damage and prevent cross-contamination. Poor storage of non-food items such as straws, paper packaging and linen can also pose either food specific hygiene hazards or general workplace hygiene risks.

Incorrect storage temperatures will result in food spoilage or the growth of food poisoning bacteria. Dirty environments can cause pest infestations, which can lead to cross-contamination from these pests.

Storing foods with chemicals will result in chemical contamination of the food, particularly for dry goods or foods stored in plastic containers, as the chemical fumes will seep into food containers.

Food Safety and General Requirements requires the safety and suitability of food be maintained by ensuring food is stored in an appropriate environment and protected from contamination. High-risk foods must be stored under specific temperatures to minimize the opportunity for bacterial growth.

3.6 The three main principles of safe storage

- Temperature control for perishable food items;
- Time control
- Prevention of contamination
- **Temperature control for perishable food items**;
  Temperature control is essential for perishable foods. Practices related to this principle are to:
  - ✓ Ensure refrigeration units operate at or below 5°C;
  - ✓ Move deliveries of high-risk foods, e.g. meat, poultry, seafood and dairy goods to cold storage as quickly as possible;
  - ✓ Frozen foods must be kept frozen at –18*C or less;

- ✓ Do not overload storage areas and ensure air can circulate;
- ✓ Limit the amount of time refrigerator doors are left open;
- ✓ Make sure refrigeration units are well maintained and calibrated;
- ✓ Do not place hot foods directly in the cool room;
- ✓ Measure temperatures with a thermometer; and
- ✓ Do not re-freeze foods that have thawed or partially thawed.

- Time control; and Practices related to this principle are to:
  - ✓ **Rotate stock** — first-in-first-out — and make sure all food is used before its use-by date.
  - ✓ **Poor storage conditions:-** will reduce the shelf life of food and beverages. Shelf life reflects the period from the time of manufacture until the time the food item is no longer fit for human consumption. The expected shelf life, and therefore the 'use-by date', is assessed on the assumption that the food item is stored und appropriate conditions. If food is removed from the original packaging, ensure the use-by date is recorded on new packaging or container.

- **Prevention of contamination**:- Practices related to this principle are to:
  - ✓ Cover or wrap, label and date all foods. It may be appropriate to write the number of serves on prepared foods;
  - ✓ Do not store food on the floor in storerooms, cool rooms or freezers;
  - ✓ Store raw and cooked foods or prepared raw foods separately. Never store raw foods above cooked or prepared raw foods as they may contaminate it;
  - ✓ Store open foods in sealed containers;
  - ✓ Control pests;
  - ✓ Clean storage areas regularly, including cool rooms and freezers.
  - ✓ packaging food
  - ✓ Foods may be packaged for self-service, later use or freezing.
  - ✓ Practices for safe packaging
  - ✓ Label and date all food
  - ✓ Package high-risk food in small batches for refrigeration and return to refrigerated storage as soon as possible (within 20 minutes)
  - ✓ Store packaging products in a clean environment and protect from contamination.

3.7. The standard safe food handling requirements in relation to food storage are:

- Use food grade materials to store food susceptible to contamination – such as stainless steel
- Cover food in storage – to protect it from contamination
- Rotate stock to ensure it is used in the correct sequence – the method used for most food is called „First In, First Out" :any food exceeding its use-by date must be thrown out
- Keep all storage areas and equipment clean.
- Never store food (including packaged food) directly on the floor – use shelves
- Ensure pests and rodents are excluded from food storage areas – conduct a regular (at least weekly inspection to check this, and take appropriate action when evidence of pests or rodents is discovered).

3.8. Basic storage methods:

There are three basic storage methods:

- Dry goods storage
- Refrigerated goods storage
  Frozen goods storage
- Dry goods store
  The dry goods store is a non-refrigerated store where canned and dried food is kept. It may be room-size, a variety of cupboards and/or a pantry. Shelves are commonly used to store dry food goods.

Figure 6. Dry good storage

- ✓ The area is fly- and vermin-proof – to minimize contamination by pests.
- ✓ It is well ventilated and lit – to deter pests and to allow staff to see what they are doing and identify and remedy spillages and vermin
- ✓ It is never overstocked – excess stock costs money, clutters things up, and increases the chance of out-of-date stock
- ✓ It is fitted with doors making a proper fit when fully closed – to help exclude pests
- ✓ The lowest shelf is sufficiently far enough above floor level to enable air circulation around goods, and allow mops and brooms to get under the shelves when cleaning is required
- ✓ Bulk food containers are made from food grade materials and have tight-fitting lids – plastic garbage bins are not permitted to be used for food storage as they are liable to splitting, do not have a smooth internal surface to facilitate cleaning and do not protect sufficiently against mice and rats
- ✓ Food storage containers are cleaned and sanitized before being re-used/re-filled – to guard against batch-mixing
- ✓ Any canned, tinned or bottled food must be transferred to an appropriate container and refrigerated once the container has been opened – it is not acceptable (for example) to open a can, use half the contents and then return the open can to dry

storage. The food must be transferred to a plastic or stainless steel (or other appropriate) container and then placed in the refrigerator.

3.9 Refrigerated goods storage

Refrigerated storage is used for fruit and vegetables, dairy products, meat and all other potentially hazardous foods. Refrigerated storage may occur using cool rooms, under-counter refrigeration units or domestic refrigerators.

Fig. 6 Refrigerated goods storage

- **Refrigerated storage**
  - ✓ Food items that are stored in refrigerated conditions generally have a short shelf life and are highly perishable. All food items should be kept between 0 – 5°C. Temperatures outside this range promote spoilage of food and high bacteria growth leading to possible food poisoning outbreaks.
  - ✓ Items that require refrigerated storage include uncooked food such as meat, seafood, dairy products, poultry, eggs and cooked or prepared foods. Also vegetables and some fruits should be refrigerated.
  - ✓ Refrigerators should be cleaned and sanitised on a regular basis.
  - ✓ Maintain correct temperature (use internal thermometer to crosscheck temperature).
  - ✓ Ensure all products are raised above floor level on suitable shelving that allows air to circulate and cool all products.
  - ✓ Prevent cross-contamination by providing item specific storage areas, e.g. dairy section, raw meat section, seafood section.
  - ✓ Food should be cooled as rapidly as possible to prevent food spoilage before being refrigerated.
  - ✓ Label and date all food items to aid in correct stock rotation.
  - ✓ Always observe use-by dates.

- **Frozen storage**
  - ✓ Highly perishable and short shelf life food products can be stored in a freezer to extend their shelf life.
  - ✓ Freezers should be maintained at a temperature of –18°C or below. Food items such as meat, poultry, seafood and cooked or prepared foods can be frozen.
  - ✓ Items stored in paper, cardboard or tin should not be stored in a freezer, as defrosting will cause paper products to breakdown and become soggy and tins to corrode.
  - ✓ Freezers should be cleaned and sanitised on a regular basis.
  - ✓ Maintain correct temperature of freezers. Use thermometers to crosscheck operating temperature.
  - ✓ All food items should be adequately chilled prior to freezing.
  - ✓ All items should be completely covered or wrapped in cling wrap to prevent freezer burn. Freezer burn is caused by moisture being drawn out of exposed or incorrectly wrapped items by subzero temperatures, resulting in food spoilage.
  - ✓ When meat and poultry products are defrosted or thawed, they should be covered and refrigerated and never re-frozen.
  - ✓ Food products should be thawed overnight in a refrigerator.
  - ✓ Meat, poultry and fish products should be handled as little as possible after defrosting/thawing.

3.10 Points to remember when freezing food

Frozen meats will not keep indefinitely.

- Beef will keep 9 – 12 months at minus 18°C.
- Veal & Lamb will keep for 6 months at minus 18°C.
- Poultry will keep for 4 – 6 months at minus 18°C.
- Pork will keep for 4 months at minus 18°C.
- Thaw frozen meat carefully under refrigeration.
- Frozen poultry should be tightly wrapped in cling wrap and stored at minus 18°C.
- Frozen fish should be tightly and individually wrapped and stored at minus 18°C.
- Never freeze spoiling meat, poultry or seafood, rather consult your supervisor and dispose of item.

3.11 The Stock Rotation System (F.I.F.O.)

- F.I.F.O. stands for First In – First Out.
- Mark a date on all newly received goods.
- Goods that are newly received into stock must be packed behind or underneath stock items already in stock. This is to ensure that older stock is used first.
- Pack all stock above floor level to reduce the likelihood of pest infestation.
- The purpose of this system is to make sure that no stock is ever allowed to spoil. This would be waste. Waste means higher costs and lower profits.
- Check use-by dates of products – and store them so the nearest date is at the front so it will be used first.

3.12. Internal disposal of rubbish and waste food refers to the removal of these items from inside the premises.

In practice this means emptying bins located in the

- Kitchen
- Food preparation areas
- Dish washing areas
- Back-of-house food areas

3.13. Safe Waste Disposal

Waste: - Any product, packaging or materials that are unwanted and intended to be disposed of and removed from a food area or premises.

Garbage & waste areas provide the perfect environment for bacteria to breed and multiply, and hospitality establishments produce a lot of waste everyday!

The following guidelines will help prevent the spread of bacteria in the garbage area.

- Waste and rubbish bins must be clearly identifiable from storage containers
- .Waste disposable bins are to have tight fitting lids and should be durable fly-proof and rodent proof containers that do not leak or absorb odors.
- Place waste disposable bins conveniently around the work area of the premises
- Use plastic liners in waste disposal bins
- Empty waste disposal bins on a regular basis to avoid overfilling.
- Clean and sanitize bins daily and drain overnight
- Regularly clear waste pits or grease traps of any build up
- Provide a separate area for garbage storage and ensure regular collection of refuse.
- Contaminated food must be disposed promptly and in the appropriate bins to lower the risk of cross contamination with other food staff.
- Wash your hands after handling garbage

3.14. Safe Food Disposal

There will always be some waste products that cannot be utilized, not matter how cost conscience a business may be. These include product packaging, rotted foodstuffs, fats and some trimmings.

These waste products need to be disposed of in a safe and environmentally responsible manner to prevent pests, unwanted odors and bacterial growth.

- Dispose of food items as quickly as possible.
- Ensure food to be disposed is not exposed to or stored with uncontaminated food; for example in the same area of the fridge or in food preparation areas.
- Place food items in the appropriate lined rubbish bin or disposal area such as a food recycling container for later composting, food disposal units or incinerators
- Remove any packaging which may tear bin liners, hurt staff when removing rubbish bags or cannot be processed by the designated disposal method (for example a waste disposal unit).
- When appropriate, label foods ‘Not fit for human consumption’; for example if food past its use-by date must be stored for a period of time before disposal

3.15 Types of food to dispose

The following types of food need to be disposed:

- Food which has been contaminated by physical, chemical or biological contaminates.
- Food held for too long in the temperature danger zone and falls outside the two hour four hour rule.
- Items leftover from the service period which cannot be reused, stored, refrigerated or sold.
- Reheated food items which cannot be re-refrigerated.
- Food with damaged packaging.
- Food which has passed it's 'use-by' or 'best before' dates.
- All garbage bins must be in good condition and must be fitted with tight-fitting lids which must be kept in position so as to provide protection against vermin gaining access to the rubbish.
- They must be regularly cleaned using brushes and utensils dedicated solely to that task, and using some form of degreaser to cut through the grease, and a deodorant to control smells

Figure 9 Garbage & waste

Self- check #3	Written test

Part I. Answer the following questions correctly and briefly:

1. What types of food need to be disposed? (2pts)

……
……
……
……..

2. What is F.I.F.O.? (2 pts)

……
……
……..

3. Refrigerated goods storage? (3 pts)

Note: **Satisfactory rating -7 points** **Unsatisfactory - below 7 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet- 1	techniques of food handling, storing and disposal task according to instruction

Techniques of packing and storing food.

Steps 1- Wear PPE

Steps 2- Keep high-risk food at 5 °C or below or above 60 °C to avoid the temperature danger Zone.

Step 3- Store raw foods below cooked foods

Step 4- Store food in suitable, covered containers.

Step 5- Check and observe the use-by dates on food products.

Step 6- Take special care with high-risk foods.

LAP Test	Practical Demonstration

Name: _____ Date: _____
Time started: _____ Time finished: _____
Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 1 hour.

Task 1 Show steps of packing and storing food

List of references

1. The Complete Restaurant Management Guide by Robert T Gordon &Mark H Brzezinski
2. The food and beverage manager by Paul Cullen M-3, Asoka Apartment commercial complex, Ramjet Nagar New Delhi-110 008
3. Food and beverage service –seventh edition by Dennis Lilli rap and John Cousins Food safety in the hospitality industry

Domestic Work
Level-II

Learning Guide-24

Unit of Competence: Follow Basic Food Safety Practices

Module Title: Following Basic Food Safety Practices

LG Code: LSA DWR2 M07 LO2-LG-23

TTLM Code: LSA DWR2 TTLM 0419v1

LO 2: Maintain personal Health and hygiene

Instruction Sheet	Learning Guide #23

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Maintain appropriate personal protective equipment (PPE)
- Fallow personal hygiene practices.
- Common health issues in the workplace which may affect work and responsibilities

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to

- Select and wear appropriate Personal Protective Equipment (PPE) and clean clothes.
- Identify and follow correct personal hygiene practices relevant to handing and storing food
- Report and participate any personal health issue likely to cause hygiene risk participation in food handling and storing until the risk.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 1 to 2.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and ”.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and ” in page -38-40, 42-45, 47 and 50 respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, ” in page 52.
6. Do the “LAP test” in page – 53 (if you are ready).

Information Sheet-1	Maintain appropriate personal protective equipment (PPE)

1.1. Personal Protective Equipment (PPE)

Personal Protective Equipments (PPE) is equipments and clothing items designed to protect the user from potential hazards or injuries whilst doing a task at work. PPE: includes

- Face masks
- Gloves and apron
- Hairnets
- Protective shoes

- Uniforms – Wear a clean uniform every day and only put it on at the workplace
- Aprons – Different full aprons should be worn at different prep stations (e.g. seafood and vegetables)
- Gloves – Different disposable gloves to be used when handling raw and cooked food
- Shoes – Wear only non-slip, full covered shoe

1.2. Safe work practices:

Personal protective equipment (PPE): Personal protective equipment must be worn as protection from potential injury. Common examples of PPE in hospitality workplaces include:

- goggles or glasses - eye protection
- aprons - body protection
- hairnets - hair protection and containment
- safety boots - foot protection
- masks - fumes, infection protection

- towels- hand protection working in a kitchen

When working in a kitchen or hospitality situation, ensuring safety of all workers is a priority. You need to know the risks, any dangers (hazards) and how to work safely in what can be busy, noisy situations.

1.3. Food Processing Personal Protective Equipment

Product contamination not only has a major impact on food quality and shelf life, it is also of consequence to both image and costs. That's why Pont is a first choice of operational personnel and visitors for limited-use protective garments.

In the food processing industry, product contamination and infection risks stemming from the people employed in the manufacturing process are very high. Even the notorious "hair in the soup" is undoubtedly sufficient grounds for complaint.

1.4. Hazards in the domestic workplace

A hazard is any item, condition, event or situation that could lead to a potential accident or harm. Some of the hazards commonly found in hospitality workplaces such as kitchens, food and beverage service areas and customer service areas can pose a significant threat to safety. They require careful management, safety awareness, strict work procedures and safety equipment to reduce the risk of harm. Before starting work, make sure you know the potential hazards and are familiar with ways of reducing any risk of harm to yourself or other.

Table 2 Types of Hazard in Work Place

Types of hazards	Common hazards in the hospitality workplace
Physical	heat, cold, sharp objects, heavy or bulky loads, spills, slips, trips, falls, noise, broken glass, poor lighting, slippery surfaces, steam
Biological	infectious diseases, food contamination
Chemical	cleaning chemicals, pest control chemicals, oil, gas, dust, fumes
mechanical/ electrical	electrical appliances, slicers, grinders
psychological	stress, fatigue, personal security, cash handling and financial responsibility, aggressive and angry customers or colleagues

- You can reduce the risk of harm to yourself or others by:
- eliminating the hazard altogether
- replacing the hazard with a safer option
- repairing the hazard (if it is faulty, unclean or unsafe)
- adapting work tasks to make it safer when dealing with the hazard
- using protective equipment such as guards, signs, gloves
- Training all staff in safe work practices

Self- check #1	Written test

Part I. Answer the following questions correctly and briefly:

1. What is PPE? (3pts)

……
……

2. Common examples of PPE in domestic workplaces include:(7 pts)

……
……
……

Note: **Satisfactory rating 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Seet-2	Fallow personal hygiene practices.

2.1 Personal hygiene practices: may include,

- Correct way of washing hands regularly
- Drinking and using water from safe sources
- Maintaining personal grooming including clean nails, clean and covered hair, wearing clean clothing
- Sanitary requirements
  Personal hygiene as a food safety regulation in domestic does not only govern hand washing but also the covering of hair and cuts on the body, wearing clean clothing to work, and covering the mouth and nose when sneezing or coughing and then washing the hands again. Personal hygiene:-
- Wash hands thoroughly with soap and water and dry them at each of these times: before starting to prepare food; after touching raw meat, including poultry; after touching raw eggs; after going to the toilet; after touching the bin and after touching pets or other animals
- Cover or tie back hair and wear a clean apron/cloth whenever you are going to prepare food
- Avoid touching face or hair while preparing food
- Keep fingernails clean and short
- Do not cough or sneeze over food
- Avoid wearing rings, earrings or watches when preparing food
- Cuts and wounds should be covered with a waterproof dressing
- A person who has been ill, especially with food poisoning, should not work with food or be in the food preparation area.

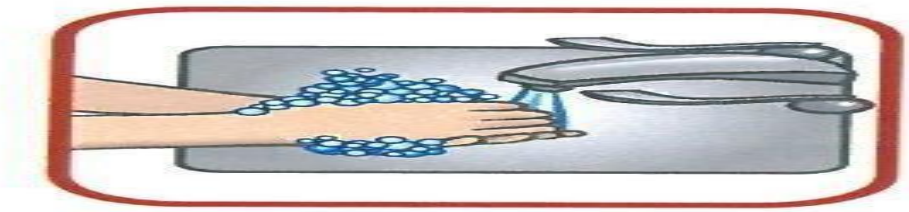
Wash your hands often when working with food and drinks - this gets rid of germs that can make people sick. Wash your hands for approximately 20 seconds with warm running water and soap, and then dry them with clean paper towels, or an air dryer.

- **Double Hand washing**
  It is necessary to wash your hands a second time:
  - ✓ After you go to the restroom (use the
  - ✓ toilet) and wash hands again when you return to the kitchen
  - ✓ After you eat or drink an open beverage
  - ✓ After you blow your nose, cough or sneeze, because your hands have touched your nose or mouth
  - ✓ After smoking or using tobacco products

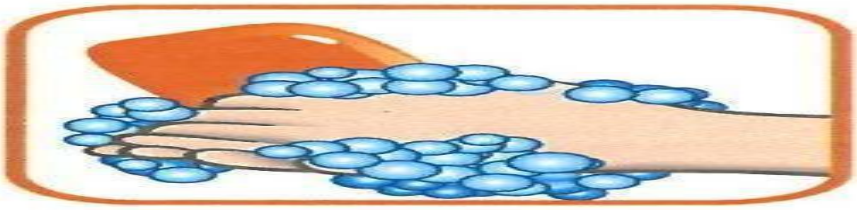
Germs such as bacteria and viruses are everywhere. Think of your hands and fingernails as easily "contaminated." Just because they look clean does not mean they are clean. Germs are too tiny to see with your eyes. If you do not wash your hands in the right way and keep your fingernails trimmed short, your hands can put germs in food that will be eaten by your customers. They may get sick from these germs. This is called "food borne illness" or "food poisoning."

2.4 **Hands washing Procedures**

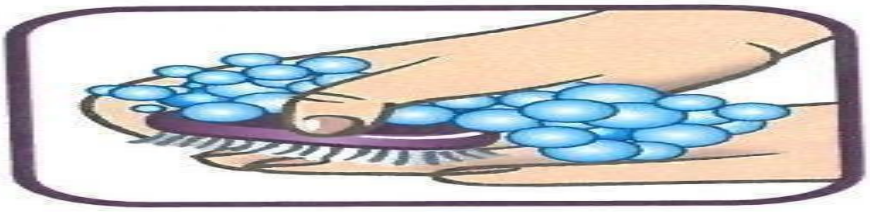
Health authorities believe that the single most important aspect in preventing food poisoning outbreaks is for food handlers to wash their hands as set out by the regulations. For your information, this is what the regulations state:



1. Hands are only washed in the basin provided.

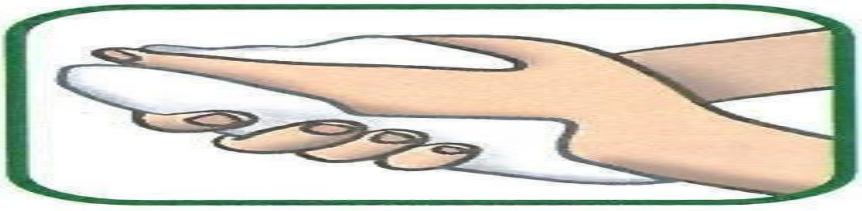


2. Use soap to work up a lather.



3. Wash palms, fingers, thumbs, nails and wrists

4. Rinse off soap by washing hands under running hot water.



5. Dry with paper towel.

◊ The recommended method of hand washing is to use warm running water (40°C is the recommended temperature), a nail brush, and antibacterial soap (bars of soap can pass on bacteria to the next user) coupled with an air dryer or disposable paper towels for drying.

You can easily see dirt, but you can't easily see germs.
Are they clean? No obvious sign of dirt, but what about germs? Just because you can't see germs doesn't mean that they aren't there. They are invisible to the naked eye Take a magnifying glass and look at your hands. Is the skin smooth or can you see tiny cracks and lines?

Can you see where germs might hide? You really need to rub your skin well with soapy water & rinse them in clean water to get rid of them.

What about under your fingernails – could they hide there?
Germs are all around us; most of them are harmless. Some can make us sick, especially if we let them hitch a ride from our hands onto the food we eat.

How do germs get onto your hands?
Everything you touch is capable of transferring germs onto your hands - but especially dirty items, sores, pets, used handkerchiefs and tissues and the things you touch when you go to the toilet.

Self- check #2	Written test

Part I. Answer the following questions correctly and briefly:

1. Personal hygiene practices? (2 pts)

……..

……..

2. What Hands washing Procedures? (3 pts)

……

……

3. When must you wash your hands? (2 pts)

……

……

4. What is a double hand wash? (3 pts)

Note: **Satisfactory rating 10points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Common health issues in the workplace which may affect work and responsibilities

3.1Common health issues in the workplace which may affect work and responsibilities

Personal health issue include:

- Air-borne diseases
- Cuts, bruises and open wounds
- Food-borne diseases
- Infectious disease
- Muscle strains and back pain
- A major cause of food poisoning is the lack of personal hygiene practiced by food handlers. Food handlers must be aware that they themselves, their actions, their health and their personal habits have a great impact on the wholesomeness of food served to the domestic house.
- As with many aspects of control in other areas, all personal hygiene requirements and regulations must be abided by: failure to follow just one rule can (and has) led to massive outbreaks of food poisoning causing not only loss of trade and jobs at the venue, but also deaths in the community especially among the very young, the very old, and the very weak.

3.2.Employees are required to reportto the Employer:-

When ill with any of the diseases listed below, or they live in the same household as a person with one of these diseases. An employee that has diarrhea, vomiting, jaundice, and sore throat with fever must also report this information to the. Foodservice employees must report any illnesses that are transmissible through food, including the date of the onset of the following illnesses:

It is imperative that all workers follow work place safety procedures and it is also a legal requirement that the procedures be issued to each workers. The following are the most common injuries to workers in the House holed settings are: burns, eats, falls, strains, chemical accidents out electrical shocks.

3.3. Types of common injuries

Burns:-can be caused by comeliness Such as:- Taking the lied off a pot steam. Brushing against an open flown Picking up a pot up handle without towel and other similar items .Preventive measure of burns include

- Wearing the correct uniform, including ling sleazes out safety shoes.
- Wearing cotton clothing
- Working carefully
- Avoiding save pan too high
- Avoiding tiredness and preoccupation –

3.3.1. Cuts:- The second most common injury in the kitchen - caused by:

- Using wrong knife.

- Using a blunt knife
- Not handling items for cutting correctly
- In attention.

Preventive measure of Cuts:- include

- ✓ Using the correct knife for the job /not too small, not to big
- ✓ Using sharp knife
- ✓ Establishing the items being cut (e.g. Text site dawn)
- ✓ Using appropriate cutting board
- ✓ Keeping the finger gaps out of the way
- ✓ Paying attention

3.3.2. Falls and strains: This kind of accident can happen is the following ways.

- Slipping onset or slippery floors.
- Picking up items which are unusually heavy
- Bending and stretching incorrectly to pick up heavy items.

Preventive Falls and strains:- include

- Food lighting
- Non –slip floors
- Wearing rubber –soled shoes
- Bending from the knee, keeping the back straight

3.4. Chemical related injuries: can be indifferent

Forms; They may be manufactured or naturally occurring. They are classified according to whether they are harmful to person's health. i.e. hazardous substance Or whether they pose a safety risk such as fire or explosion.

They should be used is well untitled area, or if, this is not possible, masks should be worn. Chemicals should not be used near a naked flame or a cigarette. Care and concentration are most important when dealing with chemical.

3.5. Equipment related injuries

Manufacturer instruction should be followed careful attention should be paid to safety feature to avoid, for example, getting fingers hair caught in machines.

Appliances should be turned off before disconnection and cords, and plugs should be kept in good condition

3.5.1. Preventing of Equipment related injuries include

The most important contributions employee can make to safety in the work place are

- Good housekeeping (keeping the work place tidy)
- Wearing the correct uniform and shoe ,

- Avoiding tired news caused by too many (eight nights, too may shifts or too few breaks:-
- Depending on the information collected, employers will need to provide some or all of the following.
- first aid kits – these should be clearly identifiable and well stocked, and the contents, number and location of kits should be determined having regard to the above factors in the workplace
- first aid rooms – these must be easily accessible, well lit, ventilated and temperature controlled, contain a sink or wash basin and a supply of hot and cold running water, as well as a means of boiling water, and should not be used for any other purposes
- First aid policies and procedures – which have been developed in consultation with staff.
- Trained first aiders - the number of first aiders and training needs will vary between workplaces. As a general rule, persons designated as first aid officers
- Your floor warden cans provide you with details of where the assembly point is for your area.

Self- check #3	Written test

Part I. Answer the following questions correctly and briefly:

1. What are Preventive measure of burns include (2 pts)

……

……

2. Preventive measure of Cuts (3 pts)

……

……

……

3. Equipment related injuries (2pts)

……

4. Falls and strains (4pts)

……

5. first aid kits (2 pts)

……

Note: **Satisfactory rating - 15 points** **Unsatisfactory - below 15 points**

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet- 1	steps of appropriate personal protective equipment (PPE)

1.1. steps how to use appropriate PPE

Steps 1- Identify hazards & manage risk. Gather the necessary PPE
Step 2- Put on gloves .
Step 4 - Put on Face masks and eye protection
Step 5.- Avoid contamination of self, others & the environment.
Step 6 - Put on a gown
Step 7- Perform hand hygiene.
Step 8. - Ready for Lab.
Step 9- - Enter Lab

LAP Test	Practical Demonstration

Name: _____ Date: _____
Time started: _____ Time finished: _____
Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 20:min

Task 1 Identify and wear appropriate clothing and PPE

Domestic Work
Level-II

Learning Guide-25

Unit of Competence: Follow Basic Food Safety Practices

Module Title: Following Basic Food Safety Practices

LG Code: LSA DWR2 M07 LO3-LG-24

TTLM Code: LSA DWR2 TTLM 04 19v1

LO 3: Prepare and store food safely

Instruction Sheet	Learning Guide #21

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Health and safety hazards,
- Contamination and cross-contamination of food
- Procedures to report hazards and apply appropriate measures
- Packaged and storage of cooked and un-cooked food items
- Maintain work areas regularly

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

- Identify possible hazards that may affect health and safety relevant to food handling and storing.
- Report and measure Hazards where necessary, in consultation with employer.
- Avoid Contamination and cross contamination of food by application of hygienic work practices.
- Pack and store various cooked and un-cooked food items are appropriately.
- Clean and maintain work area i.e. food preparation, serving and storage areas are regularly.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 1 to 2.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4 ,Sheet 5
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4 Sheet 5 in page 56-62, 53-65, 68-74 and 76-80, 82-91,respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, Operation Sheet 2 ” in page 95,96 respectively
6. Do the “LAP test” in page – 95,97 (if you are ready).

Information Sheet-1	Health and safety hazards

1.1. Health: the state of being well and free from illness in body or mind. **Safety** is the condition of being safe from undergoing or causing hurt, injury or loss. Such as fire prevention, fire protection, and condition that provide for freedom from injury and damage to property

1.2. Health and safety hazards

Hazards Types Hazards refer to conditions or contaminants in foods that can cause illness or injury.

- Food Safety Hazard=A biological, chemical or physical agent in, or condition of food with the potential to cause an adverse health effect.
- Biological=Bacteria +Viruses +Parasites Hazards
- Hazardous Chemicals=chemical contaminants
- Foreign Materials=physical contaminants

1.3. Biological

Bacteria +Viruses +Parasites may cause a food borne illness (bacteria, viruses, fungi, parasites, biological toxins) Examples:

- Sea food toxins
- Mushroom toxins
- Clostridium Botulinum
- Salmonella bacteria

1.4. Preventing Biological=Bacteria +Viruses +Parasites Hazards

- Purchase foods only on reputable supplier
- Do not use wild mushrooms
- Maintain good personal hygiene
- Observe proper hand washing
- Clean and sanitize equipment
- Maintain clean and sanitize facilities
- Control pests
- Cooking does not destroy toxins

1.5. Physical Hazards

- Any foreign object that can be accidentally found its way into food. (Any potentially harmful extraneous matter not normally found in food.)
- Generally cause problems for relatively few consumers per incident.
- Typically result in personal injuries that are not life-threatening.
- Like: Broken tooth, cut mouth, choking, etc.
- Hair, Staple wire, Dust, Metal shavings, Nails, Glass fragments/ particles,Insects, Extraneous vegetable matter, stones, Earrings, clips, Plastics, metal fragments, Bone fragments (meat & poultry).

1.6. Preventing Physical

It is happened in the following 3 ways:

- **Simple physical measurement**
  - ✓ Wear hair restraint
  - ✓ Avoid wearing jewelry when preparing, cooking and holding foods (ring, earrings, watch, bandages and hair accessories)
  - ✓ Do not carry pencil or pen
  - ✓ Do not wear nail polish or artificial nails when working with foods
  - ✓ Clean can openers regularly
  - ✓ Remove staple wire in the receiving area
  - ✓ Place shields on lights

- **Preventive maintenance program**
  - ✓ Routine inspection and maintenance of equipment is an important component of a physical hazard prevention program.
  - ✓ Screens and filters in liquid processing equipment or lines must be inspected on a routine basis.
  - ✓ The presence of metal screws or other foreign materials on these screens should be a cue to inspect upstream equipment.

- **Employee Practices**
  - ✓ Education, prevention and strong company policies are essential!
  - ✓ No metal above the waist"/avoid jewelry is a common company policy to control potential for physical hazards to fall into food.
  - ✓ Personal jewelry typically is limited to a single plain wedding band.

1.7. Chemical Contaminant

- a chemical substance that can cause food borne illness. Substances normally found in restaurant
- Toxic metals ,Pesticides ,Cleaning product ,Sanitizers, Preservatives
- Toxic plant components like Solpadine and other toxins in nightshade family of plants, Mushroom toxins, Seafood toxins (e.g. fugue). Such substances are often prohibited in foods beyond a certain level.

1.8. Preventive Chemical Contaminant

- Teach employees how to use chemicals
- Store chemicals in original containers to prevent accidental misuse, as well as leakage into food
- Make sure labels are clearly identify chemical contents of chemical containers
- Always chemical according to chemical recommendation
- Always test sanitizing solution
- Wash hands thoroughly after working with chemicals
- Wash foods in cold running water
- Monitor pest control operator and make sure chemicals do not contaminate foods

- **All micro organisms need to survive the following:**
  - ✓ Moisture, found in most foods, including fruits and vegetables.
  - ✓ Nutrients, provided by most foods.
  - ✓ Warmth, especially room temperature or a little higher.

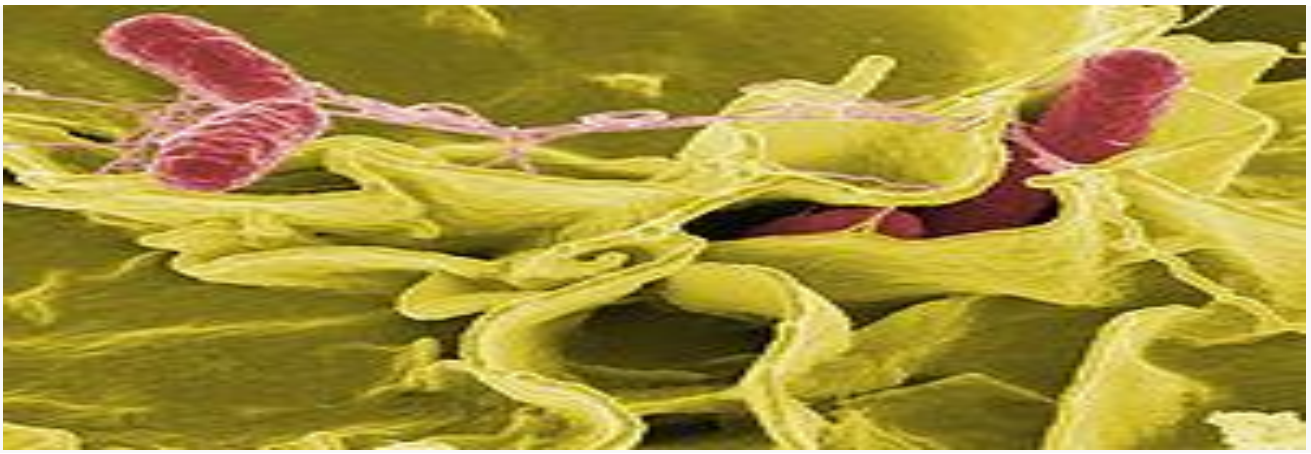


Figure.16. Preventing bacterial food poisoning

1.9. Carriers

Microorganisms can come from food, water, animals or objects. They can also be found in and on the human body. Microorganisms can be present naturally or they can get into food through a carrier.

Carriers are people or things that are carrying microorganisms which can end up in food that's not handled safely. Because microorganisms are so small, they can't be seen with the naked eye and they can be on people and on objects without you knowing it.
and parasites can't grow
People can transfer germs they have into the food they're preparing. It's possible for a person to have an infection without showing any symptoms or signs. In fact, we're always carrying some germs around. Feeling well doesn't necessarily mean you don't have any microorganisms on or in your body.
People can also pick up microorganisms from one type of food and transfer it to another type of food if they don't handle the food safely. This is called cross- contamination and will be discussed further in a later section.

Fig1.1 1**People can transfer germs**

Table 3.1 Key terms and concepts

Bacteria	Single celled micro organisms. Some bacteria when in large numbers can cause food poisoning.
Biological hazards	Hazards which are living in food. These include bacteria, yeasts, moulds, viruses and protozoa.
Chemical hazards	Hazards caused by chemical contamination. These include some fertilizers, insecticides, cleaning products and naturally occurring poisonous foods.
Clean	To remove particles of food, dust, dirt or other contaminants.

1.10. Preventing Food borne Illness

Proper food handling and storage can prevent most food borne illnesses. In order for pathogens to grow in food, certain conditions must be present. By controlling the environment and conditions, even if potentially harmful bacteria are present in the unprepared or raw food, they will not be able to survive, grow, and multiply, causing illness.

1.10.1. There are six factors that affect bacterial growth,

- Food
- Acid
- Temperature
- Time
- Oxygen
- Moisture

1.10.2. Each factors contribution to bacterial growth:

- **Food**: Bacteria require food to survive. For this reason, moist, protein- rich foods are good potential sources of bacterial growth.
- **Acid**: Bacteria do not grow in acidic environments. This is why acidic foods like lemon juice and vinegar do not support the growth of bacteria and can be used as preservatives
- **Temperature**: Most bacteria will grow rapidly between 4°C and 60°C (40°F and 140°F). This is referred to as the **danger zone** (see the section below for more information on the danger zone).
- **Time**: Bacteria require time to multiply. When small numbers of bacteria are present, the risk is usually low, but extended time with the right conditions will allow the bacteria to multiply and increase the risk of contamination
- **Oxygen**: There are two types of bacteria. **Aerobic bacteria** require oxygen to grow, so will not multiply in an oxygen-free environment such as a vacuum-packaged container. **Anaerobic bacteria** will only grow in oxygen-free environments. Food that has been improperly processed and then stored at room temperature can be at risk from anaerobic bacteria.

- A common example is a product containing harmful Clostridium botulinum (botulism-causing) bacteria that has been improperly processed during canning, and then is consumed without any further cooking or reheating.
- **Moisture**: Bacteria need moisture to survive and will grow rapidly in moist foods. This is why dry and salted foods are at lower risk of being hazardous.

Foods that have the FATTOM conditions are considered **potentially hazardous foods (PHFs).** PHFs are those foods that are considered perishable. That is, they will spoil or "go bad" if left at room temperature. PHFs are foods that support the growth or survival of disease-causing bacteria (pathogens) or foods that may be contaminated by pathogens.

Generally, a food is a PHF if it is:

- Of animal origin such as meat, milk, eggs, fish, shellfish, poultry (or if it contains any of these products)
- Of plant origin (vegetables, beans, fruit, etc.) that has been heat-treated or cooked
- Any of the raw sprouts (bean, alfalfa, radish, etc.)
- Any type of soya protein (soya milk, tofu, etc.
- Any cooked starch (rice, pasta, etc.)

1.11. Time-temperature Control

Pathogen growth is controlled by a time-temperature relationship. To kill micro- organisms, food must be held at a sufficient temperature for a sufficient time. Cooking is a scheduled process in which each of a series of continuous temperature combinations can be equally effective. For example, when cooking

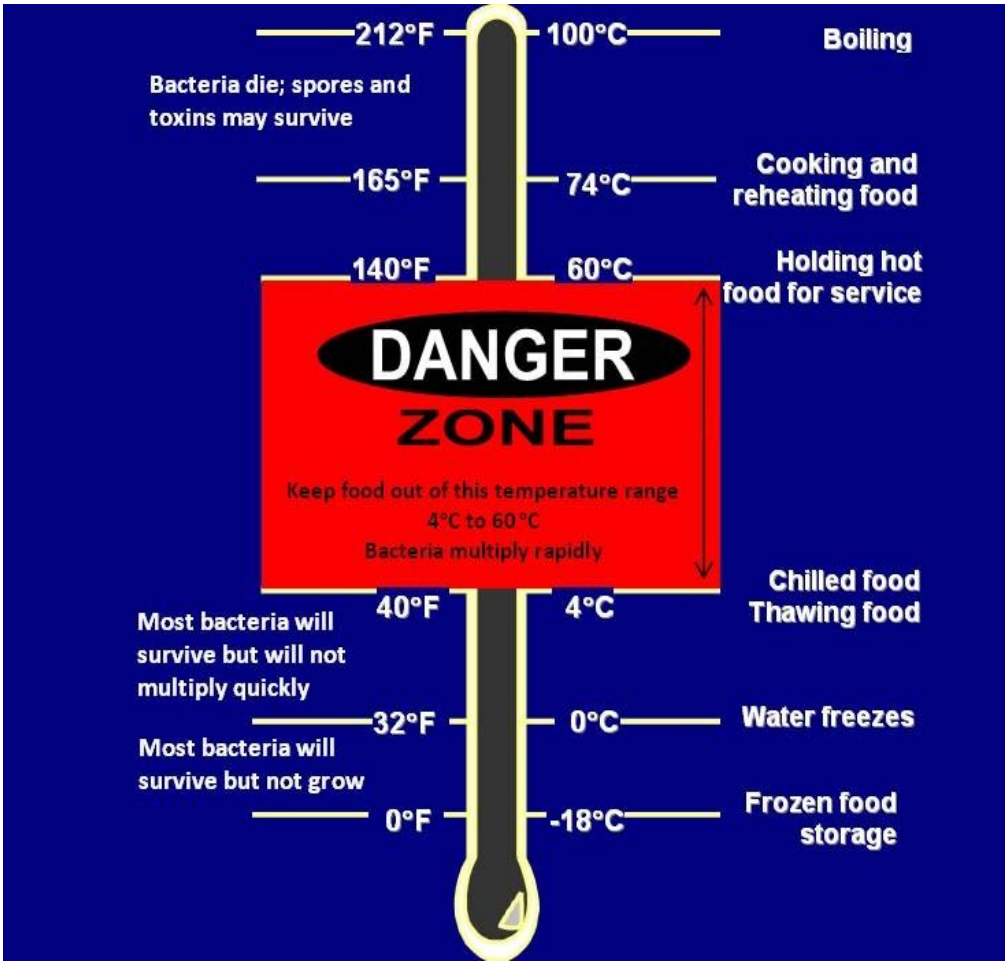


Figure 1.2. Danger Zone Chart,

Self- check #1	Written test

Part I. Answer the following questions correctly and briefly:

1. How to Prevent Biological=Bacteria +Viruses +Parasites Hazards (3pts)

……

……

2. What are types of physical Hazards ? (5 pts)

……

……

3. How to prevent chemical Hazards ? (3 pts)

……..

……

Note: **Satisfactory rating - 11 points** **Unsatisfactory - below 11 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information heet-2	Procedures to report hazards and apply appropriate measures

2.1. Hazards and preventive measures

Some items are hazardous by nature, while others only become hazardous if used inappropriately or carelessly. Often, accidents don't just happen – they are a result of workers neglecting or ignoring hazardous situations.

An example of an acute hazard is a slippery floor where there is an immediate danger of someone slipping and being injured. A chronic hazard could be workplace bullying, where the long-term impact may result in stress or other psychological injury

. A food safety risk will not fix itself, and will only get worse — so the sooner it is attended to, the better. There may be specific methods of notifying the appropriate person about a problem, but the key is to do it as quickly as possible,

- Do it in person — face-to-face, or.
- Tell them over the phone. Your report should contain as much information and detail as you can provide.

- Report any personal health issues Report any personal health issues that are likely to cause a hygiene risk.

- Policies for Reporting Illness and Injury food handlers must report health problems to the owner of the domestic house before working with food. If they become ill while working, they must immediately report their condition, and if food or equipment could become contaminated, the food handler must stop working and see a doctor. There are several instances when a food handler must either be restricted from working with or around food or excluded from working within the establishment.

- It is important for food handlers to report their health problems to their manager because: Their illness could contaminate food; Their illness could spread to customers eating the food they prepare; Their illness could cause financial loss to the business by hurting its reputation if there was a food poisoning outbreak because of their illness. Cuts, Burns and boils Any cuts, burns, boils, sores, skin infections, or infected wounds should be covered with a bandage when the food handler is working with or around food or food-contact surfaces. Bandages should be clean, dry, and must prevent leakage from the wound.

2.2. Hazards generally fall into one of six groups:

- **Physical –** Slippery floors, objects in walkways, unsafe or misused machinery, excessive noise, poor lighting, fire.
- **Chemical –** Gases, dusts, fumes, vapours and liquids.
- **Ergonomic –** poor design of equipment, workstation design, (postural) or workflow, manual handling, repetitive movement.
- **Radiation –** Microwaves, infra-red, ultraviolet, lasers, X-rays and gamma rays.
- **Psychological –** Shift work, workload, dealing with the public, harassment, discrimination, threat of danger, constant low-level noise, stress.

- **Biological –** Infection by bacteria, virus, fungi or parasites through a cut, insect bite, or contact with infected persons or contaminated object.
- Report incidents of food contamination that have resulted from the personal health issue Handling employee illness. If Then The food handler has one of the following symptoms: Fever , Diarrhea, Vomiting, Sore throat with fever, Jaundice (a yellowing of the skin and, eyes) Restrict them from working with or around food. Exclude them from the establishment if you primarily serve a high-risk population The food handler has been diagnosed with a food-borne illness, Exclude them from the establishment and notify the local regulatory agency. Owner must report employee illnesses resulting from the following pathogens to the local health department: Salmonella typhi¬ Shebelle spp.¬ Shiga toxin-producing E -coli¬ Hepatitis A virus¬ The manager must work with the local regulatory agency to determine when the food handler can safely return to work.

Self- check #2	Written test

Part I. Answer the following questions correctly and briefly:

1 What are Physical Hazard (5 pts)

……

……

2 What are Chemical Hazards ? (3 pts)

……

……

3 Psychological – Hazards ?(4 pts)

……..

……

Note: **Satisfactory rating - 12 points** **Unsatisfactory - below 12 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	contamination and cross-contamination of food

3.1. Food cross-contamination and contamination

Previously safe food can spoil when it gets contaminated by bacteria from another food in a process known as cross- contamination. For example, it may occur when raw and cooked meat are cut on the same board or when fruits and vegetables are cut on a board previously used for cutting meat on but which was not cleaned. The main carriers of bacteria and causes of cross-contamination are:

- Humans
- Rubbish
- Pets and other animals
- Food, e.g. raw meat or poultry

In order to avoid cross-contamination:

- Do not let raw meat drip onto other food and keep raw meat separate from other food
- Never use the same chopping board for raw meat and ready-to-eat food without washing the board (and knife) thoroughly in between
- Maintain personal and environmental hygiene at all times. For example, always wash hands, chopping boards and utensils before starting food preparation
- All individuals carry bacteria in their intestines, nose, mouth and on their hands. These micro-organisms can easily be passed on to food when individuals do not maintain good hygienic practices, such as washing hands before cooking and after using the latrine.

3.2 General tips for preventing food contamination and spoilage:

- **Food hygiene**
  - ✓ Keep raw and cooked meats separate to avoid cross- contamination
  - ✓ It is useful to have a separate chopping board for raw meat. Do not put ready to eat food, such as bread, salad or fruit on a worktop or chopping board that has been touched by raw meat, unless it has been washed thoroughly first
  - ✓ Cook eggs, meat, fish and poultry thoroughly to kill bacteria
  - ✓ Thaw frozen meat and poultry thoroughly before cooking
  - ✓ Cool and cover leftovers
  - ✓ Preheat leftovers until piping hot to ensure that all bacteria are destroyed
  - ✓ Wash fruits and raw vegetables before eating
  - ✓ Prior to consumption, rinse fresh fruits and vegetables to remove possible pesticide residues, soil, and/or bacteria

3.3. Personal hygiene

- Wash hands thoroughly with soap and water and dry them at each of these times: before starting to prepare food; after touching raw meat, including poultry; after touching raw eggs; after going to the toilet; after touching the bin and after touching pets or other animals

- Cover or tie back hair and wear a clean apron/cloth whenever you are going to prepare food
- Avoid touching face or hair while preparing food
- Keep fingernails clean and short
- Do not cough or sneeze over food
- Avoid wearing rings, earrings or watches when preparing food
- Cuts and wounds should be covered with a waterproof dressing.
- A person, who has been ill, especially with food poisoning, should not work with food or be in the food preparation area People are one of the major sources of microorganisms that cause food borne illness.
- There are microorganisms on and in the body (e.g., on hands, face, hair) and on clothes. These microorganisms are there all of the time, not just when a person is feeling ill. They could make another person very sick if they're transferred through food. This could happen even if the microorganisms don't make the person carrying them feel sick.
- A person may carry a pathogen and not show any symptoms. That is why it is important that people who handle and prepare food follow good personal hygiene practices. This will make it less likely for you to transfer microorganisms from yourself to the food you're handling. It is something over which you have control. You must take it seriously. Even a small amount of a microorganism could be deadly to some people.

3.4 Proper Work Attire

A food handler's attire plays an important role in the prevention of food-borne illness. Dirty clothes may harbor pathogens and give customers a bad impression of your establishment. Therefore, managers should make sure food handlers observe strict dress standards.

- **Food handlers should**:
  - ✓ Wear a clean hat or other hair restraint. A hair restraint will keep hair away from food and keep the food handler from touching it. Food handlers with facial hair should also wear beard restraints.
  - ✓ Wear clean clothing daily. The type of clothing chosen should minimize contact with food and equipment, and should reduce the need for adjustments. If possible, food handlers should put on work clothes at the establishment.
  - ✓ Remove aprons when leaving food-preparation areas. For example, aprons should be removed and properly stored prior to taking out garbage or using the restroom.
  - ✓ Wear appropriate shoes. Wear clean, closed-toe shoes with a sensible, nonslip sole.
  - ✓ Remove jewelry prior to preparing or serving food or while around food-preparation areas. Jewelry can harbor microorganisms, often tempts food handlers to touch it, and may pose a safety hazard around equipment. Remove rings (except for a plain band), bracelets (including medical information jewelry), watches, earrings, necklaces, and facial jewelry (such as nose rings, etc.).

- **Ensure that no clothing or other items worn contaminate food.**
  - ✓ An outbreak of food poisoning traced back to you is no laughing matter. The personal hygiene rules are:
  - ✓ No jewelers to be worn on hands and wrists: food can lodge in the jeweler, deteriorate and then fall back into food. There is also a chance that stones/gems may fall out into the food providing a physical food contaminant. If you simply must wear a ring, then cover it using a glove or band-aid.
  - ✓ Facial hair must be kept neat and controlled: hair should either be covered or sprayed to keep it controlled in such a way that hairs do not fall into food, long hair must be tied back (this is applicable to waiting staff as well as food preparation and food service staff), and beards should also be covered.
  - ✓ Fingernails must be short (use a nail brush to clean under them as bacteria love hiding here),
  - ✓ Clean and free of polish: cracked fingernails and chipped nail polish can harbor bacteria and may also flake off into food - this applies even to clear nail polish.
  - ✓ Clothing must be clean: a minimum requirement is for clean clothes for each shift with further
  - ✓ Changes as spillages and 'working dirt' dictate. It is not permitted to wear your 'food handling clothes to and from work.

  - ✓ Cuts and sores must always be covered: a proper, colored, waterproof dressing must be applied and a finger stall used where necessary.
  - ✓ Food handlers in the acute state of a common cold must not handle food.
  - ✓ Food handlers with any communicable disease must not deal with food until they receive certificate from a doctor stating that they are cleared to work with food.

3.5 Microbiological contamination

Microbiological contamination is the spread of harmful microorganisms to food that doesn't naturally contain those microorganisms. As discussed in the Microorganisms section, some foods naturally have microorganisms in them, like Salmonella in raw poultry. If Salmonella is transferred from raw poultry to another food, this is called cross-contamination. There are also other sources of microbiological contamination. Viruses, like Hepatitis A, can be transferred to food from an infected person who is handling the food. Other sources of microbiological contamination include poor cleaning, poor personal hygiene or dishes that haven't been cleaned and sanitized properly. There are simple things you can do as a food handler to make sure food doesn't get contaminated.

3.6 Cross-contamination happens in three ways:

- **Food to Food:**
  Raw food or juices come in contact with ready-to-eat food.
- **Equipment to Food:**
  The same equipment is used with raw and ready-to-eat food without cleaning and sanitizing in between.

- **People to Food** :
  Hands that have touched raw food then touch ready-to eat food without being washed.

3.7 Refrigerator

When food is stored in a refrigerator, it's important to place the food in a way that avoids cross-contamination. Keep raw meat, poultry and seafood on the bottom shelves. Cooked and ready-to-eat foods should go on the upper shelves. Raw fruits and vegetables and foods that will be re-heated belong in the centre. If there's a lot of refrigeration space, store each food group in a separate area of the refrigerator.

Make sure that all stored foods are covered to avoid cross- contamination from drippings or juices from other foods, and to keep out other contaminants like dust or objects.

3.8. Serving Food

Microbiological contamination can also happen when food is being served to customers. To keep from contaminating food as it's being served, you should follow these tips:

- Use single-use disposable plastic bags, wax paper or disposable gloves to give out food.
- Cover cutlery (forks, knives and spoons) and keep glasses upside down if they're out but not in use.
- Use trays to serve.
- Don't touch the surfaces of dishes or utensils that come into contact with mouths or food – like insides of glasses, straws or eating ends of cutlery.
- Don't put your thumb on top of a plate to hold it. Hold plates underneath with your thumb on the rim.

3.9 Food Display

Old food should never be mixed with new food. The old food may spoil faster than the new food, contaminating the new food. Additionally, microbiological contamination is another reason not to mix old food with new food. Keeping them separate keeps any contaminants that could have gotten into the old food from getting into the new food.

Each time a pan of food is replaced, the pan and all utensils used with it should be sent for dishwashing. Clean and sanitized utensils should go out in their place. "Sneeze guards," which are the protective shields that sit between a person's face and the food on display, should always be used. The handles of utensils used to serve out the food should never come in contact with the food.

3.10. Tasting Food

Food handlers often need to taste food as they prepare it.

- **Do:**
  - ✓ Use a clean regular spoon
  - ✓ Food handler during cooking must use testing spoon and after the first tasting clean and sanitize for the second testing.
  - ✓ Ladle food into a cup, tasting bowl or s another spoon. Use a second spoon to taste the food – that way, the first utensil goes in the food, the second goes in your mouth, and the two never touch.

- **Don't:**
  - ✓ Dip your fingers into the food then into your mouth.
  - ✓ Put a spoon that has been in your mouth back into the food.

3.11 Hand Maintenance

In addition to proper washing, hands need other regular care to ensure that they will not transfer microorganisms to food. To keep food safe, make sure food handlers follow these guidelines:

- Keep fingernails short and clean. Long fingernails, false fingernails, and acrylic nails should not be worn while handling food since they may be difficult to keep clean and can break off into food. Some jurisdictions allow false nails if single-use gloves are worn. Check your local requirements.
- Do not wear nail polish. It can disguise dirt under nails and may flake off into food.
- Cover all hand cuts and sores with clean bandages. If hands are bandaged, clean gloves or finger cots, a protective covering, should be worn at all times to protect the bandage and to prevent it from falling off into food. You may need to move the food handler to another job, where he or she will not handle food or touch food-contact surfaces, until the injury heals.

3.12 Kitchen hygiene

Cleaning the kitchen and all areas, surfaces and utensils used for food preparation is important to keep food safe and prevent bacteria from spreading. Avoiding the build-up of refuse also leads to better hygienic conditions in a kitchen. One must ensure that the area and utensils that have been used for food preparation are cleaned before doing anything else. 'Clean as you go': This provides a clean environment for other food preparations.

- The following should be noted:
- Ideally, the kitchen should have adequate lighting and ventilation.
- Ensure having adequate supply of water and cleaning materials
- Always wash worktops/chopping tables and utensils before food preparation begins
- Regularly disinfect and change kitchen cloths as these are an ideal breeding ground for bacteria

- Use separate cloths for kitchen (dishes) and bathroom (hands and body)
- Keep kitchen been covered, empty daily and disinfect once a week
- Disinfect worktops regularly
- Keep pets and all domesticated birds and animals out of the kitchen at all times-including night
- Sweep kitchen floor daily and wash and disinfect regularly
- Wipe up any spoilt foods straight away
- Sanitize worktops/chopping tables and utensils thoroughly (with detergent) after they have been touched by raw meat, including poultry or raw eggs
- Always ensure using clean utensils for serving food as this prevents the spread of bacteria

3.13 Environmental hygiene

The environment in which we live has a big impact on the safety and hygiene of the food that we eat. For this reason, proper environmental hygiene should be maintained in our households, in the markets from where we buy household food, in homestead gardens where vegetables are grown and in all public and private areas and water sources.

We have sufficient supplies of water, soap and other disinfectants .Food contact surfaces can be readily cleaned and sanitized**.** Example: Any article or equipment that comes in direct contact with food is of sound and tight construction, kept in good repair, suitable for their intended purpose, and made of material that can be readily cleaned and sanitized.

Self- check #3	Written test

Part I. Answer the following questions correctly and briefly:

1. What is Proper Work Attire (6 pts)

   ……

   ……

2. Distinguish between high risk and low risk foods (8 pts)

……

……

3. Define the term cross contamination and state how it occurs (5 pts

……

……

4. Name the common food poisoning bacteria. (4 pts)

Note: **Satisfactory rating - 3 and 5 points** **Unsatisfactory - below 3 and 5 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-4	Packaged and storeage of cooked and un-cooked food items

4.1 Introduction

All food items have recommended storage procedures that look at temperature, shelf life and place of storage. Time and temperature are important when storing food because if food items that are held before service or stored at the incorrect temperatures; they could spoil causing your customers to suffer from food poisoning.

Incorrect storage of foods will also impact on food hygiene. Foods such as chicken, eggs, pork, dairy products and sauces are all high-risk foods that quickly spoil and can lead to cross-contamination of other foods if not stored properly.

4.2. Correct packing and storing procedures for different types of food :

Cooked and un-cooked food items, may include

- Bread items, cakes, biscuits
- Dry food
- Eggs and dairy products
- Fruits and vegetables
- Meat, poultry and fish
- Rice, cereal and pulses
- Packing and storing May include:
- Packing in cans, jars, containers, bags, packets, crates, sacks
- Food that is at room temperature, chilled or frozen, pickled

4.3. Group of foods

Foods are divided into three groups for the purpose of storage; they are**:**

- **Perishable foods** include: meat, poultry, game, fish; dairy produce and fats; vegetables and fruit.
- **Frozen foods** must be placed immediately into a deep freeze a temperature of - 2°C (28°F).
- **Dry foods** include: cereals, pulses, sugar, flour, etc.; bread, cakes; jams, pickles and other bottled foods; canned foods; cleaning materials.

4.3.1. Storage of Perishable Foods.

- **Vegetables:**
  - ✓ Most fresh vegetables may be stored up to 5 days in the refrigerator. Removing air (oxygen) from the package, storing the vegetables at 40°F refrigerated temperatures, and
  - ✓ Maintaining optimum humidity (95 to 100%) may extend shelf-life of fresh vegetables.
  - ✓ Always wrap or cover fresh leafy vegetables in moisture-proof bags to retain product moisture and prevent wilting.

- ✓ Root vegetables (potatoes, sweet potatoes, onions, etc.) and squashes, eggplant, and rutabagas should be stored in a cool, well-ventilated place between 50°F and 60°F.
- ✓ Tomatoes continue to ripen after harvesting and should be stored at room temperature.
- ✓ Removing the tops of carrots, radishes, and beets prior to refrigerator storage will reduce loss of moisture and extend shelf-life.
- ✓ Palatability of corn diminishes during cold storage due to elevated starch content. Corn and peas should be stored in a ventilated container.
- ✓ Lettuce should be rinsed under cold running water, drained, packaged in plastic bags, and refrigerated. Proper storage of fresh vegetables will maintain quality and nutritive value.
- ✓ Canned vegetables can be stored in a cool, dry area below 85°F (optimum 50°F to 70°F) for up to one year. After one year, canned vegetables may still be consumed. However, overall quality and nutritional value may have diminished. Discard badly dented, swollen, and/or rusty cans.

4.3.2. Frozen foods must be placed immediately into a deep freeze a temperature of -2°C (28°F).

- **Meats, Poultry, Fish and Eggs**

Meat, poultry, fish, and eggs are highly perishable and potentially hazardous due to their high moisture and high protein content. Generally, fresh cuts of meat contain spoilage bacteria on the surface that will grow, produce slime, and cause spoilage after 3 days of refrigerator storage in oxygen-permeable packaging film. Ground meat products are more susceptible to spoilage due to possible contamination during manufacturing process and increased surface area of the product. Bacteria in ground meats are distributed throughout, providing rapid growth in the presence of air. Ground meats should be stored on the lower shelf of the refrigerator and used within 24 hours of purchase. Refrigerator storage slows bacterial growth; however, the product will eventually spoil. Optimum storage temperature of refrigerated meats, including ground beef, is 33°F to 36°F.

- Freezing inhibits the growth of bacteria. Whole cuts of meat may be stored in the freezer ranging from 4 to 12 months, whereas ground meat may be stored for 3 to 4 months. For maximum storage, wrap meats in moisture-proof, gas impermeable packaging to prevent freezer burn.

- Cured meats, such as bacon, should be stored in their original packaging in the refrigerator. Cured meats have a tendency to become rancid when exposed to air. Therefore, rewrap cured meats after opening the package. Expect approximately a 1-week shelf-life for cured meats. Vacuum packaging (removal of air) and modified atmospheric

• Packaging (partial removal of air) extends shelf-life of meats and meat products (i.e. luncheon meats). The shelf-life of vacuum-packaged meats and gas-flushed meats is 14 days and 7 to 12 days, respectively.

• Poultry should be prepared within 24 hours of purchase or stored in the freezer. Poultry may be stored in the freezer (0°F) for 12 months. Thaw poultry in the refrigerator, under

• Cold running water, or in the microwave. Cook poultry parts (i.e. breast and roast) and whole poultry to an internal temperature of 170°F, and 180°F, respectively. Leftovers stored in the refrigerator should be consumed within 3 days and reheated to 165°F prior to consumption. Poultry broth and gravy should not be stored more than 2 days in the refrigerator and reheated to a full boil (212°F) before consuming.

• Fresh fish, shrimp, and crab stored in the refrigerator (slightly above 32°F) should be consumed within 1 to 2 days. Never store fresh fish in water due to leaching of nutrients, flavor, and pigments. Frozen fresh lean fish and seafood (except shrimp) may be stored for 3 to 6 months at 0°F. Shrimp may be stored for 12 months at 0°F.

• Eggs should be purchased refrigerated and stored in the refrigerator (33°F to 37°F) in their original carton. Storage of eggs in the original carton reduces absorption of odors and flavors from other foods stored in the refrigerator. Use eggs within 3 to 5 weeks of the "pack date" listed on the carton (1 to 365 representing pack date day within the year). Leftover egg yolks and egg whites may be stored in the refrigerator covered for 2 and 4 days, respectively. Cover egg yolks with water. Hard-boiled eggs may be stored in the refrigerator for 1 week, whereas pasteurized liquid eggs may be stored in the refrigerator for 10 days. Egg whites and pasteurized eggs may be stored at freezer temperatures for one year. Shell eggs should never be stored in the freezer. Dried eggs may be stored in tightly closed containers in the refrigerator for one year.

4.3.3. Dry foods include: cereals, pulses, sugar, flour, etc.; bread, cakes; jams, pickles and other bottled foods; canned foods; cleaning materials

- **Breads, Cereals, Flour and Rice:**
- Bread should be stored in the original package at room temperature and used within 5 to 7 days. However, bread stored in the refrigerator will have a longer shelf-life due to delayed mold growth and may be firmer. Expect a 2- to 3- month shelf-life of bread stored in the freezer. Refrigerate cream style bakery goods containing eggs, cream cheese, whipped cream and/or custards for no longer than 3 days.

- Cereals may be stored at room temperature in tightly closed containers to keep out moisture and insects. Whole wheat flour may be stored in the refrigerator or freezer to retard rancidity of the natural oils.

- Store raw white rice in tightly closed containers at room temperature and use within one year. Brown and wild rice stored at room temperature will have a shorter shelf-life

(6 months) due to the oil becoming rancid. Shelf-life of raw white and brown rice may be extended by refrigeration. Cooked rice may be stored in the refrigerator for 6 to 7 days or in the freezer for 6 months.

4.3.4. Storage Guidelines

For best results in maintaining product quality, practice the rule, First In, First Out (FIFO). This means the oldest products should be used first and the newest products later. A good practice is to place the newly purchased products in back of the same products already on the shelf. Follow recommended storage times for the refrigerator, freezer.

Self-Check -4	Written Test

Directions: Answer all the questions listed below.

1. What are Perishable foods? (5 pts)

……..

……

2. What are Dry foods ?(4 pts)

……

……..

3. What are Frozen foods?) (8 pts)

……

……

4. What is refrigerator? **(2** pts**)**

……..

……

5. What are Points to remember when freezing food (4 pts)

……

……

Note: **Satisfactory rating -23 points** **Unsatisfactory - 23 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Information Sheet-5	Maintain work areas regularly

5.1. Maintain a Clean Environment.

- **Cleaning and Sanitizing in** House holed must maintain their premises at a high standard of cleanliness and hygiene. This includes the fixtures, fittings and equipment, as well as those parts of vehicles that are used to transport food. The standard of cleanliness must ensure that there is no accumulation of garbage, recycled matter, food waste, dirt, grease or other visible matter.

- **Cleaning** is the physical removal of visible soil and food from a surface. It is a two - way process that occurs when a cleaning compound such as a detergent is put in contact with a soiled surface.

- **Sanitizing**:- is a process that reduces the number of microorganisms to safe levels on food contact surfaces such as tableware, equipment and work surfaces. Sanitized surfaces are not necessarily sterile, which means to be free of microorganisms.

- **Microorganisms are almost everywhere**. They are in our food, water, and air. Even dust carries them. Many live in our bodies as well. Some help our bodies function. Others can cause illness and even death. Harmful microorganisms are often called **germs**. Controlling harmful microorganisms is what sanitation is all about.

5.2. Factors affecting cleaning process

Many influences can affect the effectiveness of the cleaning process. These factors are:-

- **Type of water**

Minerals in hard water can reduce the effectiveness of some detergents. Hard water can cause lime deposits or leave a scales, especially on equipment where hot water is used, such as in dish machines and steam tables.

- **Water temperature**

Generally, the higher the temperature of the water used for cleaning, the faster and more efficient the action of the detergent; however ≤ 120ºF is recommended as higher temperatures can result to burns.

- **Surface**

Different surfaces, especially metals, vary in the ease with which they can be cleaned.

- **Type of cleaning compound**

Soap can leave a greasy film. Abrasives such as scouring powders cans scratch soft surfaces. Many cleaning agents are formulated for specific cleaning problems.

- **Type of soil to be removed**

Soils tend to fall into one of three categories: protein (eggs), grease or oils (butter) or water-soluble (sugar). Stains tend to be acid or alkaline (tea, fruit juice). Ease of clearing

depends on which category the soil is from and the condition of the soil (e.g. fresh, baked-on, dried or ground-in).

5.3. Cleaning of utensils

The cleaning of utensils may be done using the three compartment sink shown in Figure 1. The soil may be loosened from the utensils by scraping and then soaking them in one compartment of sink (well-filled with hot water, previous to the time of washing). After the surface soil has been removed from the utensils, the sink is drained and refilled with hot water to which a washing compound is added.

- The utensils are:
- washed in hot detergent solution in the first compartment
- rinsed in the second compartment
- the outlet or inlet of which are adjusted so as to keep the water level constant if hot water is kept running throughout the process; and
- Sanitized in the third compartment.

There are several methods for sanitizing utensils. One recommended method is by immersing them for at least one minute in a lukewarm chlorine bath containing a minimum of 50 parts per million of available chlorine. Utensils must be thoroughly cleaned for a chlorine rinse to be an effective germicidal treatment. Another method of sanitizing utensils is the immersion in clean soft water of at least 170°F for 1 minute.

Utensils may also be successfully sanitized by subjecting them to live steam in an enclosed cabinet after washing. The hot utensils should be air dried before being stacked upside down on racks or hung for storage.

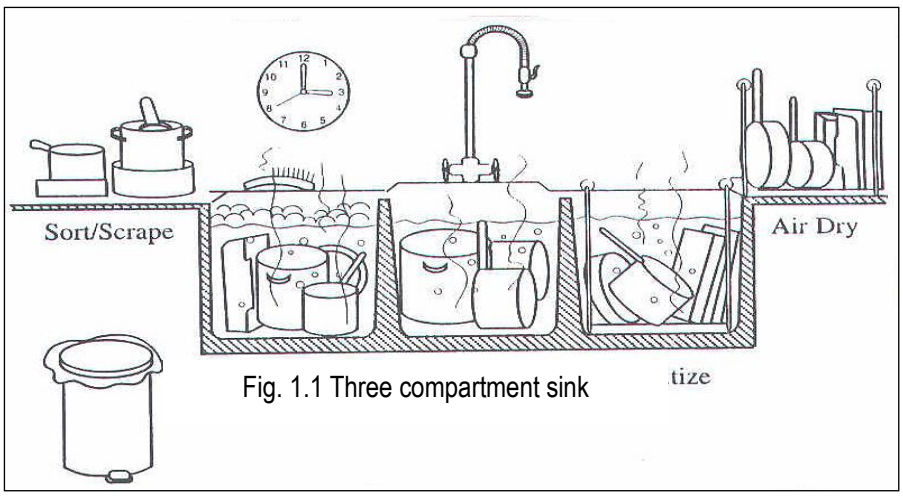


Fig. 1.1 Three compartment sink

5.4. Cleaning equipment:

While each piece of equipment has different cleaning requirements, there are some basic principles that are common to all equipment but should follow a standardized procedure in cleaning and sanitizing. The fundamental principles of cleaning equipment include:

- ensure power is turned off and power cords are disconnected;
- gas equipment should have the gas turned off and the pilot lights extinguished;
- correct chemicals should be used;
- protective clothing, gloves, goggles, and other protective tools should be used;
- ventilation should be provided;
- stainless steel surfaces should not be cleaned with scourers;
- All food contact equipment shall be properly cleaned daily or after each use;
- Cleaned equipment shall be free of milk stone, grease and adhering product particles, detergent residue and brush bristles;
- Undersides of equipment shall be kept clean;
- All equipment even if not food contact equipment shall be kept clean;
- Worn seals, gaskets, O-rings are to replaced; and
- Proper gasket on pumps and pipes should be replaced daily.

5.5. Proper Steps in Cleaning and Sanitizing a Food area:

- Removal of visible dirt and other large debris (sweeping and scraping)
- Cleaning must start with the initial removal of all dirt and debris by sweeping (e.g. floor), scraping (e.g. cutting board and equipment), picking up and others. This is done to remove all solid wastes which will interfere in the subsequent wet cleaning procedure. Such solid wastes for example will clog drains and more importantly, will reduce the effectiveness of disinfectants which are used in cleaning to reduce the microbial population of the cleaned surfaces.

- Wetting and removal of surface soil by hosing

  Hosing is the removal of surface soil and dirt by the use of water under pressure. The removal of the soil is more effective with water under pressure especially when cleaning corners of equipment. It is advised to use non-shredding brushes to remove stubborn areas instead of using water to save on water usage.

  Hot/warm water must not be used if the level of the surface is high, as the heat can cause baking of the residues. It is advised to use non-shedding brushes to remove stubborn areas instead of using water to save on water usage.

- Removal of remaining soil and dirt by application of detergent

  Detergent are surface active agents which release soil/dirt and fats which are easily wash off with plain water even under pressure. Detergents are generally applied at different concentrations, depending on the manufacturer's instructions, to water

contained in a bucket or any suitable container. It is then applied by scrubbing a surface using scrubbing brushes.

The use of detergent directly without making a solution first is difficult to control and can result in high wastage. Scrubbing brushes when not adequately cleaned can add to contamination. If brushed can no longer be effectively cleaned, they must be thrown away.

- Rinsing off the detergent using potable water
  Detergent with soil, dirt, fats and other undesirable matter entrapped is rinsed off from surfaces with warm water. In rinsing, one must be careful not to contaminate previously rinsed areas.

- Application of disinfectant or hot water to reduce further microbial population
  Any microorganisms remaining on the visibly clean surface can be reduced through the use of hot water or chemical disinfectants (sanitizing agents). With regard to the choice of chemical disinfectants, food processing plants can make their own choice provided it is on the approved list of regulatory authorities. The chemical selected will depend on the cleaning program.
  Disinfectants are chlorine solutions and alcohol, etc. are a chemical compound that kills bacteria.

Adequate tie must be allowed to lapse for the chemical disinfectants to act on the bacteria on the surface. This contact time varies depending on the characteristics of the disinfectants and its corrosiveness. Disinfectants that are chlorine based requires a contact time of 3-5 minutes. Chlorine is corrosive and must be used only on the stainless steel equipment. Non-corrosive disinfectants can be left on the food contact surface equipment.

The most common mistakes in the use of disinfectants is that they are prepared in an incorrect manner. It is imperative that full written instructions are provided for their preparation, especially if the personnel involved are unskilled

5.6. Cleaning and Sanitizing Glassware, Cutlery and Crockery:

Most commercial dishwashers have a dispenser to ensure correct levels of detergents, rinse aide and sanitizers are used for each load. To clean and sanitize glassware, cutlery and crockery using a commercial dishwasher:

- Scrape – to remove all visible waste from the items.
- Pre-rinse – cold water pre-wash to remove excess grime and soften other grime.
- Wash – at or above 66ºC to 71ºC for 60 seconds to complete removal of all food from items being cleaned.
- Rinse – at 77ºC to 82ºC for 10 seconds to complete the sanitizing process. Rinse aid is usually added at this stage.
- Dry – heat generated by the machine enables dishes to dry.

- To clean and sanitize glassware, cutlery and crockery by hand-washing:
- Scrape – to remove all visible waste from the items.
- Pre-rinse – cold water pre-wash to remove excess grime and soften other grime.
- Wash – at 45ºC to complete removal of all food from items being cleaned.
- Rinse – at 77ºC for 30 seconds to sanitize all items being cleaned.
- Air Dry

5.7. Points for cleaning and sanitizing

When planning your cleaning and sanitizing program, remember the following:

- Start at the back and work towards the front. Start high and work your way down
- Single-use paper towels are better than cloths. If you use cloths, they must be washed in hot (not warm) water and allowed to dry after every use
- Use the right size brush for each task, so it can reach all areas
- Use food-grade detergents and sanitizers. Always follow the manufacturer's instructions
- Clean as you go, to minimize the time period that bacteria are not in temperature control
- Keep cleaning chemicals away from food storage areas, to avoid chemical contamination of food
- Disassemble equipment such as the meat slicer before starting to clean it
- A dishwasher will sanitize most small equipment, cutlery, plates and glasses
- < Drip-dry equipment or use clean tea towels where this is not possible
- Educate staff on correct cleaning and sanitizing procedures
- Provide regular checks on cleaning carried out and instruct staff where required
- Make sure the containers for garbage and recycled matter are large enough for the amount of waste you produce, are emptied regularly and are capable of being easily cleaned
- Ensure that all equipment used for cleaning (eg mops, buckets, cloths, brooms etc) are also kept clean.

5.8. Six steps to proper cleaning

- Pre-clean: Scrape, wipe or sweep away food scraps and rinse with water.
- Wash: Use hot water and detergent to take off any grease and dirt. Soak if needed.
- Rinse: Rinse off any loose dirt or detergent foam.
- Sanitize: Use a sanitizer to kill any remaining germs.
- Final Rinse: Wash off sanitizer (read the sanitizer's instructions to see if you need to do this).
- Dry: Allow to drip-dry.

5.9. Clean & Maintain the food Premises regularly

Keep the kitchens looking its best by cleaning it regularly. Cleaning your kitchen regularly is important not only to keep it looking its best, but also to remove all of the germs and bacteria

that accumulate regularly in the kitchen area. There are several surfaces around the kitchen, and by making a homemade versatile cleaning solution, you can easily clean most of the surfaces with one basic mixture of household ingredients that are probably already in your kitchen cupboards. Materials needed:

- Broom
- Cleaning rags
- Bucket
- Water
- White vinegar
- Dish soap
- Spray bottle
- Baking soda
- Bowl

Table 1: food area cleaners

Food area cleaners		
Illustration	**Types**	**Use**
	• Mop	To be used for manual floor mopping Clean water must be retained in one bucket.
	• Cleaning rags	It is used for drying kitchen walls and floor tiles after they are cleaned
	• Bucket with Water	Buckets and mops are used for cleaning floors, walls
	• White vinegar	It is a chemicals used for cleaning in kitchen

	• Dish soap	**dish detergent** and **dish soap**, is a detergent used to assist in dishwashing
	• Spray bottle	Bottles can be filled with a cleaning solution that is sprayed on items to be cleaned.
	• Baking soda	• The versatility of baking soda makes it a great kitchen cleaner. Not only can it remove tough stains, it also helps eliminate foul odors. (eg. Oven)
	• Hand scrub	For scrubbing, for cleaning painted surfaces in kitchen
	• Rubber Gloves	Protect hands from being exposed to hot and warm water,
	• **Dust pan**	It holds dirt and debris swept in them by a brush or broom. If a dustpan's edges become bent, it will not pick up dirt or debris well

 	• **Floor squeegees**	This is needed to remove excessive water from the surface and corners. It also speeds up the drying process. .

Self-Check -5	Written Test

Directions: Answer all the questions listed below.

1. What is Broom (3 pts)

……

……..

2. What is Cleaning rags (4 pts)

……

……

3. What is Bucket (3 pts)

……

……

4. What is White vinegar (6 pts)

……

……

5. What is Dish soap (3 pts)

……

……

Note: **Satisfactory rating - 23 points** **Unsatisfactory - 23 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet-1	Techniques of Maintain work areas regularly

1.1. Techniques of maintaining personal hygiene and work area

Step 1- Wet hands with warm water.
Step 2- Apply liquid soap and lather for at least 20 to 30 seconds.
Step 3- Scrub backs of hands, wrists, all fingers, and under nails
Step 4- Rinse under running water, pointing down toward the drain.
Step 5- Dry with a paper towel.
Step 6- Turn off taps and open bathroom door using the paper towel

Operation Sheet-2	Practical demonstration

Procedures to report hazards and apply appropriate measures
Select and apply a range of preventive and corrective measures.
Step 1- Identify hazards, i.e. anything that may cause harm
Step 2- Decide who may be harmed, and how.
Step 3- Assess the risks and take action.
Step 4- Make a record of the findings.
Step 5- . report the problem to your boss

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 4 hours and 45 min.

Task 1 Show how to maintain personal hygiene and work area

Task 2 Select and apply a range of preventive and corrective measures

Domestic Work
Level-II

Learning Guide-26

Unit of Competence: Follow Basic Food Safety Practices
Module Title: Following Basic Food Safety Practices
LG Code: LSA DWR2 M07 LO4-LG-26
TTLM Code: LSA DWR2 TTLM 04 19v1

LO 4: Dispose food and garbage Safely

Instruction Sheet	Learning Guide #25

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Proper waste disposal
- Safety precautions in garbage disposal

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

- Keep foodstuffs identified for disposal in a marked area or container.
- Clean or keep their waste and spoilage in appropriate containers for disposal.
- Dispose food stuffs and garbage of promptly and safely.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 1 to 2.
3. Read the information written in the information “Sheet 1, Sheet 2, .Accomplish the “Self-check 1, Self-check t 2, ” in page 100-102 104-105, respectively.
4. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet ” in page 107.
5. Do the “LAP test” in page – 108 (if you are ready).

Information Sheet-1	Proper waste disposal

1.1. Identifying food stuffs for disposal May include:

- Expired or rotten --- An expiration date on food.
- Not suitable for human consumption –- contaminate foods.
- Single use items - --a product designed for a single use.(ones)
- Unsafe or suspected of not being safe--- potentially hazardous or unsafe foods are not consumed.

Food and drink establishments produce organic wastes such as food remains, and liquid wastes as a result of hand and kitchenware washing. These wastes need to be handled properly without contaminating or polluting the immediate environment. In practice this means emptying bins located in the.

- Kitchen
- Food preparation areas
- Dish washing areas
- Back-of-house food areas.

Fig.1. Waste Disposal container

1.2. Proper Waste Disposal

Garbage & waste areas provide the perfect environment for bacteria to breed and multiply, and hospitality establishments produce a lot of waste everyday!

The following guidelines will help prevent the spread of bacteria in the garbage area:-

- Waste and rubbish bins must be clearly identifiable from storage containers
- Waste disposable bins are to have tight fitting lids and should be durable fly-proof and rodent proof containers that do not leak or absorb odors.
- Place waste disposable bins conveniently around the work area of the premises
- Use plastic liners in waste disposal bins
- Empty waste disposal bins on a regular basis to avoid overfilling.
- Clean and sanitize bins daily and drain overnight

- Regularly clear waste pits or grease traps of any build up
- Provide a separate area for garbage storage and ensure regular collection of refuse.
- Contaminated food must be disposed promptly and in the appropriate bins to lower the risk of cross contamination with other food staff.
- Wash your hands after handling garbage
- Bacteria grows readily on humans, therefore it is paramount staff and workers practice exceptional personal hygiene.

1.3. Safe Food Disposal

There will always be some waste products that cannot be utilized not matter how cost conscience a business may be. These include product packaging, rotted foodstuffs, fats and some trimmings.

These waste products need to be disposed of in a safe and environmentally responsible manner to prevent pests, unwanted odors and bacterial growth.

- Dispose of food items as quickly as possible.
- Ensure food to be disposed is not exposed to or stored with uncontaminated food; for example in the same area of the fridge or in food preparation areas.
- Place food items in the appropriate lined rubbish bin or disposal area such as a food recycling container for later composting, food disposal units or incinerators
- Remove any packaging which may tear bin liners, hurt staff when removing rubbish bags or cannot be processed by the designated disposal method (for example a waste disposal unit).
- When appropriate, label foods 'Not fit for human consumption'; for example if food past its use-by date must be stored for a period of time before disposal

1.4. Types of food to dispose

The following types of food need to be disposed:

- Food which has been contaminated by physical, chemical or biological contaminates.
- Food held for too long in the temperature danger zone and falls outside the two hour four hour rule.
- Items leftover from the service period which cannot be reused, stored, refrigerated or sold.
- Reheated food items which cannot be re-refrigerated.
- Food with damaged packaging.
- Food which has passed it's 'use-by' or 'best before' dates.

1.5. When should it be done?

Some premises have policies and procedures about when bins need to be emptied, but most do not, instead relying on staff common sense to determine when this needs to be done.

It is a standard requirement waste never is allowed to accumulate. Common times for emptying bins include:

- **When they are nearly full** – never wait until they are full as this encourages over-filling which results in waste/food falling out of the bins and onto the floor

- At the end of a service session – such as „after lunch", „after dinner"
- At a specific time of the day – „at 2:00PM", „at 10:00PM"s
- After a nominated time has elapsed – „every 30 minutes", „every hour".

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write Types of food to dispose (3 pts)

……

……

2. Write Common times for emptying bins (3 pts)

……

……..

3. Where emptying bins located (4 points)

……

……..

Note: **Satisfactory rating 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Safety precautions in garbage disposal

4.2. Safety precautions in garbage disposal

Waste attracts pests and can cause cross-contamination of food that is being served to customers.

Food House Holed must have the proper equipment in place to manage both liquid and solid waste, and have strict procedures for waste management, including regular garbage collection. Garbage and wastes, including liquid wastes, shall be collected and removed from a food premise as often as is necessary to maintain the premise in a sanitary condition

Let's take a look at Some rules you need to follow for effective waste disposal:

- Remove food scraps from the kitchen daily – or more frequently if required.
- Arrange regular garbage collection. Most food businesses require garbage collection at least twice a week.
- Do not allow garbage containers to overflow. Move overflowing waste to other containers.
- Regularly hose down and clean garbage containers.
- Always use a garbage liner for garbage containers. This is a good way to ensure that the garbage container is kept as clean as possible and that harmful bacteria do not have time to grow on the inside of the unit itself.
- Keep lids tightly closed on all garbage containers when in use.
- Use special containers to dispose of dangerous items such as syringes. Talk to your supervisor or manager if you are unsure of how to dispose of dangerous items.
- Never use garbage containers to transfer food or ice.
- In warm climates – refrigerate food scraps to prevent bacteria growing to harmful levels quickly – but always use a separate refrigerator to one that contains food intended for human consumption.
- Finally, always wash your hands after handling garbage and garbage containers no exceptions!

  Rules for proper waste disposal are only one part of a robust Food Safety Plan. Food safety best practices and monitoring techniques are critical at every stage of the food production process, from delivery to service. Your Food Safety Plan should document the specific rules for disposal of food waste and the safe handling of food — especially potentially hazardous foods such as meat, eggs or dairy.

Figure .1. Waste disposal

Self-Check -2	Written Test

Directions: Answer all the questions listed below.

1. What is the importance of cleaning & maintenance?(8 pts)

……

……

2. What **is** cleaning schedule (6 pts)

…………

…………

3. Write Internal disposal (5 pts)

……

……

Note: Satisfactory rating - 14 points **Unsatisfactory - below 14 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Short Answer Questions

Operation Sheet -1	Practical demonstration

1.1. Procedures for proper waste disposal

Steps 1- Pre-clean - remove excess food waste by sweeping, wiping.
Step 2- Main clean - loosen surface waste and grease using a detergent.
Step 3- Rinse - remove loose food waste, grease and detergent
Step 4- Remove waste from a container.
Step 5- Disinfection - kill the bacteria with disinfectant or hot water
Step 6- Final rinse - remove the disinfectant
Step 7- Drying - remove all moisture.

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 12 hours.

Task 1: Identify and use hygienic working methods

List of Reference Materials

1. WHO. Food safety and health: a strategy for the WHO African Region (AFR/RC57/4). World Health Organization Regional Office for Africa, Brazzaville, 2008.